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A SUBSIDIARY OF SEABRIDGE GOLD INC.

KSM Project

KSM Biodiversity Program: 2022-2023

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KSM Project

KSM Biodiversity Program: 2022-2023

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EXECUTIVE SUMMARY

The KSM Project (the Project) is a proposed gold, copper, silver, and molybdenum mine located in the coastal mountains of northwestern British Columbia (BC), approximately 950 km northwest of Vancouver, 65 km northwest of Stewart, and 35 km northeast of the BC-Alaska border. The Project successfully completed the Provincial and Federal environmental assessment processes, and was issued an environmental assessment (EA) certificate by the British Columbia Environmental Assessment Office (BCEAO) and given approval in a decision statement by the Canadian Environmental Assessment Agency in 2014. The Project is subject to the Nisga'a Final Agreement (NFA; Government of Canada, Province of British Columbia and Nisga'a Nation 1999). Comprehensive baseline studies have taken place for the Project for since 2008, and results from baseline studies were utilized as part of the environmental assessment process. Baseline studies have continued following the issuance of the EA certificate, resulting in the Project having comprehensive environmental baseline data spanning from 2008 to present.

Deoxyribonucleic acid (DNA) enters the aquatic environment from shedding of skin cells, hair, scales, reproductive products, feces, and decomposition of any organism that lives in or interacts with water. Water samples from streams and rivers around KSM were collected and filtered, and the DNA residues on the filters were compared to libraries of genetic data in a process called metabarcoding. This process identified the species with genetic material in or interacting with the surface water environment at KSM.

Environmental DNA (eDNA) results can be used to determine the presence or absence of an organism but cannot detect abundance of species. Additionally, genetic sampling is sensitive and can detect genetic material present in an area even if the species is not. For example, genetic material can be transferred directly or indirectly by predators, or it may be introduced through contamination of sampling equipment if sterilization is not completed properly. Unexpected positive results can be further verified with a body of evidence (e.g., scientific and traditional knowledge, presence of barriers, habitat quality, and results from other eDNA testing), or through additional sample collection. Species identification is also dependent on the quality and quantity of eDNA present within the sample and the completeness of the database of known/sequenced species the samples are run against.

The application of eDNA methods is still largely preliminary due to the inherent complexity. However, the complex nature of a fulsome biodiversity assessment demands the use of multiple methods to collect and analyze data, integrate results and draw inferences, and eDNA can be an invaluable ecological and conservation tool when used in concert with other sources of data (e.g., survey methods, Indigenous perspectives). This biodiversity study was designed to validate the results of historical baseline studies, and to compare the efficacy and utility of eDNA sampling to traditional sampling methods.

This report presents the results of the 2022 and 2023 biodiversity program. The biodiversity program was iterative in nature in order to respond to issues in methodology and to address questions that arose during early data analysis; sampling methods and sites were adjusted over time to achieve the best and most consistent results. Sites were chosen upstream (US) and downstream (DS) of key confluences in areas where Project infrastructure is proposed in the Processing Plant and Tailing Management Area (PTMA) and Mine Site. In 2022, 23 sites on streams and rivers around KSM were sampled; two (2) sites were added to the program in 2023 to collect additional data in the Mine Site area. Samples were collected at four (4) time points in 2022 (June, September, October, and November), with sampling timing aimed to give an overview of biodiversity throughout the open water season, as well as to encompass Pacific salmon spawning seasons. Samples were collected at three (3) time points in 2023 (July, August and September) to further evaluate biodiversity and species distributions through the summer and early fall within the Project area. In addition to water samples collected for eDNA metabarcoding analysis, a variety of other samples were collected to contribute to and clarify biodiversity results. These included bulk samples of invertebrates, which were homogenized and subjected to metabarcoding analysis, kick net samples of invertebrates, which were submitted for traditional taxonomic identification, water samples

that were collected for quantitative polymerase chain reaction (qPCR) analysis of eDNA, and fish voucher specimens which were submitted for genetic identification.

eDNA samples from the water column provided the highest yield of aquatic invertebrate species richness, favouring soft-bodied species and likely represented invertebrate community composition from a larger geographic area due to downstream drift of DNA. Bulk tissue sample metabarcoding and Canadian Aquatic Biomonitoring Network (CABIN) taxonomy produced largely similar family-level community composition data to each other and were more representative of localized benthic invertebrate community assemblage patterns. Findings of meiofauna within the bulk tissue samples represented an unexpected improvement over morphological identification approaches in the assessment of invertebrate food webs; however, CABIN methods provide finer resolution at the genus and species level. The integration of metabarcoding results with morphological identification techniques, expert knowledge and ecological context can contribute to improving the accuracy and reliability of biodiversity assessments, especially as invertebrate genome sequencing advances to provide better genus and species level identification.

Metabarcoding detections for vertebrate species were comparable to the results of traditional baseline studies. Species richness was higher in the PTMA compared to sites in the Mine Site. Sites on the Bell-Irving River (Bell US Treaty and Bell DS Treaty) had the highest vertebrate species richness in both 2022 and 2023, with the greatest number of species detections noted in September and August, respectively, with the majority of detections attributed to mammals followed by fish. The mean number of detections per site ranged from 5.0 to 9.9 in 2022 and from 2.0 to 14.1 in 2023. Fish species richness was highest in the Bell-Irving River, Unuk River, Teigen Creek, and South Teigen Creek. Three Pacific salmon species were detected in Treaty Creek including Chinook salmon, coho salmon and sockeye indicating all three species inhabit the lower reaches of Treaty Creek and may be present upstream of Todedada Creek. Dolly Varden was concluded to be the only fish species present within the tailing management facility (TMF) footprint.

In 2022, 29 mammal species, three (3) herptile species, and 13 species of birds were detected in the Project area, and 24 mammal species, three (3) herptile species and 19 bird species were detected in 2023, consisting mainly of animals having greater interactions with aquatic environments, and provided evidence of novel watershed-level presence for some species that are otherwise difficult and time-consuming to detect through baseline sampling methods (e.g., western toads). Several mammal species were detected in this study including American ermine, American mink, North American river otter, snowshoe hare, long-tailed vole, western heather vole and deer mouse which were thought likely to be present in the study area; however, baseline sampling methods did not detect these species – in part, because they were not specifically targeted by baseline surveys. Confirmation of their presence in the Project area better aligns baseline biodiversity data with accounts from Indigenous groups on species distributions. All likely species of herptiles with some aquatic component of their life cycle were detected through eDNA sampling of streams, and were detected to a greater extent than through traditional baseline monitoring methods.

In summary, eDNA metabarcoding detected a wide variety of organisms in the KSM Project area, and demonstrated that eDNA sampling and metabarcoding can be a useful tool in identifying potential species distributions across a wide geographic area. However, these detections must be carefully examined within the context of existing species accounts, scientific, and traditional knowledge in order to determine the likelihood of actual species presence in the environment. Since eDNA sampling can only determine the presence of genetic material and not living organisms, there remains potential to falsely attribute species presence if alternative sources of eDNA are not ruled out (e.g., transfer of genetic material by predators or by humans). Furthermore, the libraries used to identify genetic material must be robust and geographically relevant in order to avoid false identification of closely related species. This biodiversity program, combined with the field data collected over previous years, provides a comprehensive summary of baseline biodiversity and supports scientifically sound decisions on conservation and management for the KSM Project area and the wider region.

CONTENTS

EXECUTIVE SUMMARY I
ACRONYMS AND ABBREVIATIONS VI
1. INTRODUCTION 1-1
1.1 Project Proponent 1-1
1.2 Project Location 1-1
1.3 Project Overview 1-1
1.4 Biodiversity Background 1-4
1.5 Study Objectives 1-6
2. METHODS 2-1
2.1 Sample Locations and Timing 2-1
2.2 Field Data Collection 2-3
2.2.1 eDNA Water Sampling 2-3
2.2.2 Benthic Invertebrate Sampling 2-5
2.2.3 Fish Tissue Voucher Specimens 2-5
2.3 Laboratory Analysis 2-6
2.3.1 Metabarcoding 2-6
2.3.2 qPCR Analysis of Water Samples for Bull Trout DNA 2-6
2.3.3 Genetic Analysis of Fish Voucher Specimens 2-6
2.3.4 Benthic Invertebrate Taxonomy 2-7
2.4 Data Processing 2-7
2.4.1 Statistical Analysis 2-7
3. RESULTS 3-1
3.1 Aquatic Invertebrates 3-1
3.2 Vertebrates 3-9
3.2.1 Fish 3-9
3.2.1.1 PTMA 3-20
3.2.1.2 Mine Site 3-26
3.2.2 Herptiles 3-27
3.2.3 Birds 3-31
3.2.3.1 Raptors 3-33
3.2.3.2 Terrestrial Breeding Birds 3-33
3.2.3.3 Water-Dependent Birds 3-34
3.2.4 Mammals 3-35
3.2.4.1 Moose and Deer 3-37
3.2.4.2 Mountain Ungulates 3-38
3.2.4.3 Furbearers 3-38
3.2.4.4 Grizzly Bear 3-39
3.2.4.5 Hoary Marmot and Arctic Ground Squirrel 3-40
3.2.4.6 Small Mammals 3-40

4. SUMMARY 4-1

5. REFERENCES 5-1

APPENDIX A BIODIVERSITY SAMPLE SITES, 2022 AND 2023

APPENDIX B EDNA FIELD DATA

APPENDIX C AQUATIC, SEMI-AQUATIC AND TERRESTRIAL INVERTEBRATE TAXA DETECTIONS PER SAMPLE (2022 AND 2023)

APPENDIX D NATURE METRICS RAW METABARCODING RESULTS

APPENDIX E SPECIES DETECTIONS THROUGH METABARCODING ANALYSIS

APPENDIX F BUREAU VERITAS: ENVIRONMENTAL DNA – CERTIFICATE OF ANALYSIS

APPENDIX G CRAMER FISH SCIENCES: GENETIC ANALYSIS REPORT

List of Tables

Table 2.1-1: Summary of Sample Collection, 2022 and 2023 2-1

Table 3.1-1: Standardized Aquatic Taxa Richness (%) Values for eDNA, Bulk Benthic Invertebrate and CABIN Samples, 2013 to 2023 3-4

Table 3.1-2: Statistical Differences Between Aquatic Invertebrate Community Composition as Identified by Taxonomic Methods from all Sample Sites in 2023 3-6

Table 3.1-3: Aquatic Invertebrate Taxa Most Indicative of Taxonomic Method, 2023 3-8

Table 3.2-1: Summary of Fish Species Detections, 2022 and 2023 3-19

Table 3.2-2: Fish Species Detections Throughout Treaty Creek and the Bell-Irving River, 2022 and 2023 3-21

Table 3.2-3: Fish Species Detection in TMF Watercourses (North Treaty Creek/South Teigen Creek), 2022 and 2023 3-23

Table 3.2-4: Summary of Targeted (qPCR) eDNA Analysis Results, August 2023 3-24

Table 3.2-5: Fish Species Detections throughout the Unuk River, 2022 and 2023 3-28

Table 3.2-6: Summary of Amphibian Detections, 2022 and 2023 3-29

Table 3.2-7: Summary of Bird Detections, 2022 and 2023 3-32

Table 3.2-8: Summary of Mammal Detections, 2022 and 2023 3-36

List of Figures

Figure 1.2-1: KSM Project Location 1-2

Figure 1.3-1: KSM Project Layout 1-3

Figure 2.1-1: Biodiversity Sampling Locations, 2022 and 2023 2-2

Figure 3.1-1: Summary of Invertebrate Taxa Detections Throughout the Mine Site, 2022 to 2023 3-2

Figure 3.1-2: Summary of Invertebrate Taxa Detections Throughout the PTMA, 2022 to 2023 3-3

Figure 3.1-3: Multivariate Ordination of Taxonomic Composition of 2023 Aquatic Invertebrate Samples as Identified to the Family Level in Molecular and Microscopic Taxonomy Methods 3-7

Figure 3.2-1: Fish, Amphibian, Bird and Mammal Species Richness at Sites within the Mine Site Area, 2022 and 2023 3-10
Figure 3.2-2: Fish, Amphibian, Bird and Mammal Species Richness at Sites within the PTMA Area, 2022 and 2023 3-11
Figure 3.2-3: eDNA Sampling Results, June 2022 3-12
Figure 3.2-4: eDNA Sampling Results, September 2022 3-13
Figure 3.2-5: eDNA Sampling Results, October 2022 3-14
Figure 3.2-6: eDNA Sampling Results, November 2022 3-15
Figure 3.2-7: eDNA Sampling Results, July 2023 3-16
Figure 3.2-8: eDNA Sampling Results, August 2023....3-17
Figure 3.2-9: eDNA Sampling Results, September 2023 3-18

List of Photos

Photo 2.2-1: Grab Sample Filtering Setup....2-4
Photo 2.2-2: Sample Collection using the Field-Filter Method (Smith-Root Backpack eDNA Sampler) at Site Bell DS Treaty, September 2022Benthic Invertebrate Bulk Sample. 2-4
Photo 2.2-3: Field-Filter Method (Vampire Sampler) Setup Used at all Sites Sampled in 2023. Note: The majority of 2023 samples were taken directly from the watercourse and the sample bag was only used when turbidity was high. Photo obtained from the Nature Metrics Vampire Sampler document (Nature Metrics 2023). 2-5
Photo 3.2-1: Western toad (*Anaxyrus boreas*) observed at the Glacier Creek FHOP area (July 2022). 3-30
Photo 3.2-2: White-tailed ptarmigan (June 2022). 3-34
Photo 3.2-3: Moose observed in the Bell-Irving River downstream of site Bell DS Treaty (February 2021). 3-37
Photo 3.2-4: Wolves observed in the lower Unuk River watershed near the Unuk Border site (February 2021). 3-39
Photo 3.2-5: Meadow vole (2008). 3-41
Photo 3.2-6: Common shrew (2009). 3-41

ACRONYMS AND ABBREVIATIONS

BC	British Columbia
BCEAO	British Columbia Environmental Assessment Office
CA	California
CABIN	Canadian Aquatic Biomonitoring Network
CCAR	Coulter Creek Access Road
DNA	Deoxyribonucleic Acid
DS	Downstream
EA	Environmental Assessment
eDNA	Environmental DNA
ENV	BC Ministry of Environment
EPT	Ephemeroptera, Plecoptera and Trichoptera
FHOP	Fish Habitat Offsetting Plan
GBIF	Global Biodiversity Information Facility
Km	Kilometer
LDA	Linear discriminant function analysis
NMDS	Non-metric Multidimensional Scaling
ON	Ontario
OTU	Operational Taxonomic Unit
PCR	Polymerase Chain Reaction
PERMANOVA	Permutation Multivariate Analysis of Variance
Project	The KSM Project
PTMA	Processing and Tailing Management Area
QA/QC	Quality Assurance/Quality Control
qPCR	Quantitative Polymerase Chain Reaction
rRNA	Ribosomal Ribonucleic Acid
Seabridge	Seabridge Gold Inc.
SNP	Single nucleotide polymorphism

TCAR	Treaty Creek Access Road
TWPT	Temporary Water Treatment Plant
TMF	Tailing Management Facility
US	Upstream
µm	micrometer

1. INTRODUCTION

The KSM Project baseline monitoring program began in late 2008 to characterize site-wide terrestrial and aquatic biodiversity. As such, an extensive dataset outlining the biodiversity of the area has been compiled to support the exploration and permitting requirements for the Project, which has been used to assist in project design, effects assessment mitigation, offsetting and sustainable operations.

In 2022 and 2023, a biodiversity study was completed for the KSM Project (the Project) which involved the collection and analysis of water samples for Environmental DNA (eDNA) which aimed to supplement the existing baseline dataset and confirm biodiversity information previously collected through comprehensive studies. This report presents the results of the 2022 and 2023 biodiversity eDNA monitoring report program and compares it to the existing biological baseline data from previous years (Rescan 2009a, 2009b, 2010a, 2010b, 2010c, 2010d, 2010e, 2011a, 2011b, 2012a, 2012b, 2012c, 2015; ERM 2016, 2017a, 2017b, 2017c, 2018, 2021a, 2021b, 2021c, 2021d, 2022, 2023a, 2023b). The collection of samples for eDNA analysis has not been incorporated into previous baseline studies for the Project and therefore its use and applicability will be evaluated against known biodiversity and species distribution data collected through vigorous sampling between 2008 and present day.

1.1 Project Proponent

KSM Mining ULC, a wholly owned subsidiary of Seabridge Gold Inc. (Seabridge), is the owner and proponent for the proposed Project, a gold, copper, silver, and molybdenum mine.

1.2 Project Location

The Project is located in the Coast Mountains of northwestern British Columbia (BC). It is approximately 950 kilometres (km) northwest of Vancouver and 65 km north of Stewart, within 30 km of the British Columbia–Alaska border (Figure 1.2-1).

1.3 Project Overview

The Project is a proposed mining operation that received an Environmental Assessment (EA) Certificate approval in 2014 and started limited construction activities in 2021. The Project is located in two geographical areas: the Mine Site and the Processing and Tailing Management Area (PTMA). It is proposed that these areas would be connected by twin 23 km tunnels, the Mitchell-Treaty Twinned Tunnels (Figure 1.3-1).
The Mine Site is located south of the closed Eskay Creek Mine, within the Mitchell, McTagg, and Sulphurets creek valleys. Sulphurets Creek is a main tributary of the Unuk River, which flows to the Pacific Ocean.
The PTMA is located in the upper tributaries of Teigen and Treaty creeks. Both creeks are tributaries of the Bell-Irving River, which flows to the Nass River and into the Pacific Ocean. The PTMA is located about 19 km southwest of Bell II on Highway 37.

The Project is currently accessible only by helicopter. The Mine Site will be accessed by a new road, the Coulter Creek Access Road (CCAR), which will be built from km 55 on the Eskay Creek Mine Road; the first 3 km of the CCAR was constructed between 2022 and 2023. This road will follow Coulter and Sulphurets creeks to the Mine Site. The PTMA will be accessed by a new road, the Treaty Creek Access Road (TCAR), the first 3 km segment of which is an old forest service road off of Highway 37. The Treaty Creek Access Road will parallel Treaty Creek. The first 17 km of the TCAR was constructed in 2022 and 2023 and provides access to Camp 11 located 1.5 km after the turnoff from Highway 37.

Figure 1.2-1: KSM Project Location

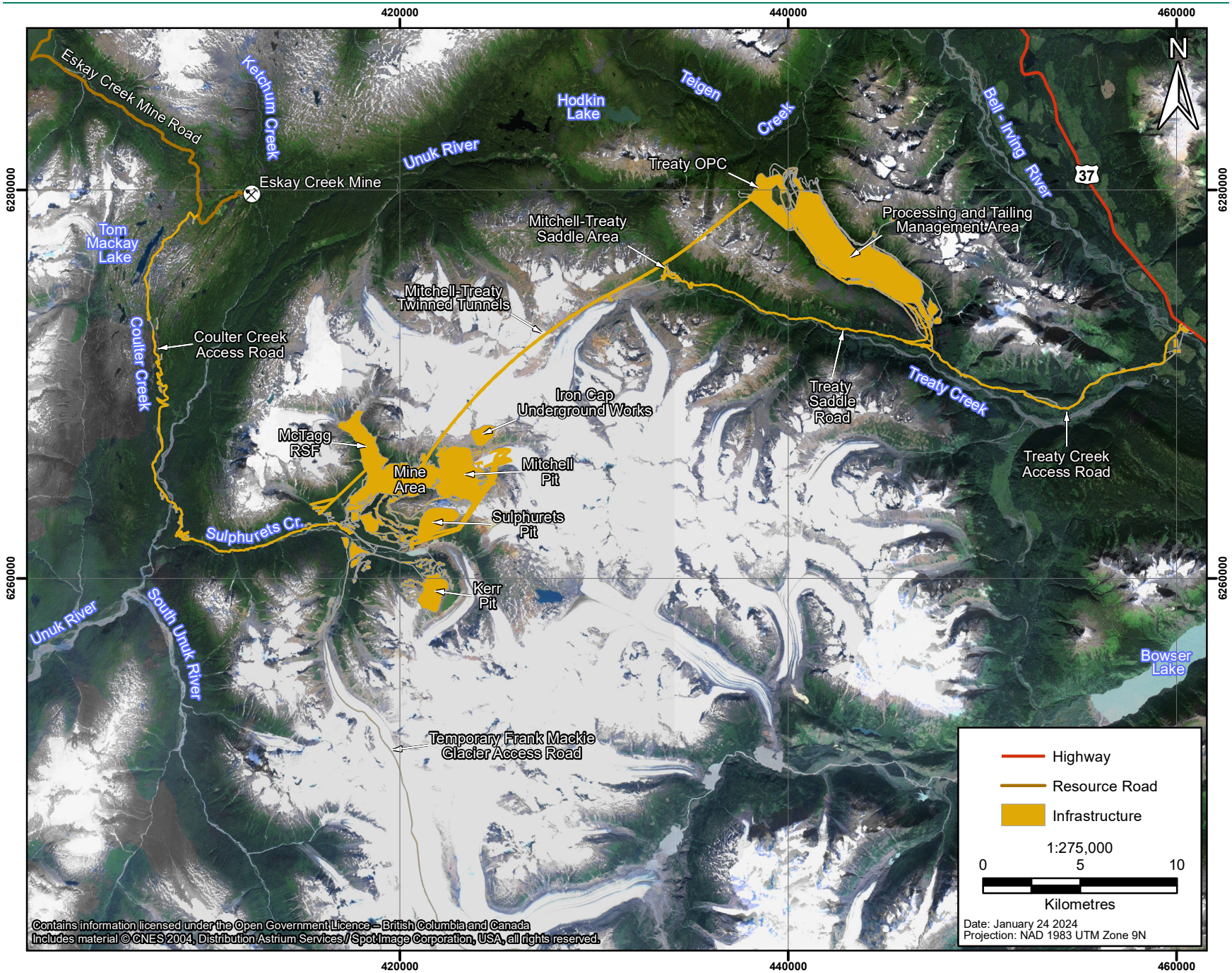


Figure 1.3-1: KSM Project Layout

Four deposits will be mined at the Project—Kerr, Sulphurets, Mitchell, and Iron Cap—using a combination of open pit and underground mining methods. Waste rock will be stored in engineered rock storage facilities located in the Mitchell and McTagg valleys at the Mine Site. The Mitchell-Treaty Twinned Tunnels will be used to transport personnel, bulk materials and electrical power transmission lines according to the EA Certificate.

The Project received an Environmental Assessment Certificate #M14-01 under the British Columbia *Environmental Assessment Act* on July 29, 2014, and a favourable Environmental Assessment Decision Statement under the *Canadian Environmental Assessment Act* on December 19, 2014. The Project is subject to the Nisga'a Final Agreement (NFA; Government of Canada, Province of British Columbia and Nisga'a Nation 1999).

KSMCo currently holds 67 provincial and 10 federal authorizations. Provincial authorizations under the *Mines Act*, *Environmental Management Act*, *Land Act*, *Transport Act*, *Park Act*, *Municipal Wastewater Act*, *Wildlife Act*, *Water Sustainability Act*, Drinking Water Regulation, *Forest Practices and Range Act* and Forest Practices Code of B.C. authorize construction activities such as TCAR, CCAR and camp construction and discharges to the environment. Federal permits under the *Fisheries Act* authorize fish habitat offsetting projects and the *Canadian Navigable Waters Act* mitigates impacts on public navigation. Other federal authorizations include a licence under the *International Waters Improvement Act* and Schedule 2 listing under the Metal and Diamond Mining Effluent Regulations.

To date helicopter-supported exploration, site investigation, environmental studies, and limited land clearing have been completed at the Project, and construction of the TCAR, CCAR, Bell-Irving River Bridge, and Glacier Creek fish habitat offsetting plan (FHOP) have been initiated.

1.4 Biodiversity Background

Baseline species and habitat assessment programs for aquatic invertebrates, fish, and terrestrial wildlife have been ongoing in the area since 2008. Specifically, the following studies have been conducted:

- 2008 Baseline Study Report. Chapter 10 – Fisheries (Rescan 2009a)
- 2008 Baseline Study Report. Chapter 9 – Aquatic Ecology (Rescan 2009b)
- 2009 Wildlife Characterization Baseline Report (Rescan 2010a)
- 2009 Fish and Fish Habitat Study (Rescan 2010b)
- 2008 and 2009 Grizzly Bear DNA Baseline Report (Rescan 2010c)
- 2009 Aquatic Resources Baseline Report (Rescan 2010d)
- 2009 Wildlife Habitat Suitability Report (Rescan 2010e)
- 2010 Fisheries Baseline Study Report (Rescan 2011a)
- 2010 Water Quality and Aquatic Resources Baseline Report (Rescan 2011b)
- 2011 Fish and Fish Habitat Baseline Study Report (Rescan 2012a)
- 2011 Fish and Fish Habitat Compensation Baseline Report (Rescan 2012b)
- 2012 Fish Bearing Status Assessment (Rescan 2012c)
- 2014 Salmon Monitoring Report (Rescan 2015)
- 2016 Mountain Goat Survey Report (ERM 2016)
- 2012 to 2016 Aquatic Resources and Fisheries Baseline Data Report (ERM 2017a)

- 2016 Moose Inventory Results Memo (ERM 2017b)
- 2013-2016 Remote Camera Study Summary Report (ERM 2017c)
- 2017 KSM Selenium Data Summary (ERM 2018)
- Fish Salvage and Transfer Plan (ERM 2021a)
- 2021 Moose Survey Report (ERM 2021b)
- 2021 Fish Salvage and Transfer Plan Data Addendum (ERM 2021c)
- 2021 Mountain Goat Inventory Results Memo (ERM 2021d)
- 2007 to 2022 Baseline Water Quality Report (ERM 2022)
- 2022 Fish Salvage and Transfer Plan Data Addendum (ERM 2023a)
- 2007 to 2022 Unuk River Watershed Baseline Characterization Report (ERM 2023b)

These studies have produced an extensive baseline database on the distribution of aquatic and terrestrial animals and their habitats. For example, extensive sampling on Sulphurets Creek has identified much of the creek contains poor habitat and a fish barrier that is located 1.5 km upstream of the confluence with the Unuk River. The sampling has confirmed fish are not present within 10 km of the Mine Site. Additionally, aquatic resource sampling in Sulphurets Creek has found low biological productivity within Sulphurets Creek, further supporting the conclusions of fish absence. On the PTMA side of the project, the historical baseline studies confirmed that Dolly Varden are the only fish species present in the Tailing Management Facility (TMF) footprint.

Environmental DNA (eDNA) sampling is an emerging technique that is efficient, non-invasive, and is a standardizable sampling approach that has been added to the toolbox of biodiversity experts to contribute to comprehensive knowledge required to form the basis of scientifically supported management decisions. Species monitoring techniques rely on labour intensive and time-consuming physical identification of species through visual surveys, morphological identification, but these can miss rare, cryptic and invasive species (Wilcox et. al 2016; Zhang et. al 2020). Since approximately 2008, eDNA sampling has been used in North American conservation studies to identify rare, cryptic and invasive species (Jerde et. al. 2011; Robbins 2017). More recently the BC Ministry of Environment (ENV) has published draft Environmental DNA Protocols for Freshwater Aquatic Ecosystems Hobbs and Goldberg 2017).

While eDNA sampling has the potential to expand our understanding of biodiversity in selected habitats, there are also numerous challenges that need to be considered when designing eDNA studies and interpreting results. Investigators must consider the purpose of their study, which species or groups of species are targeted, whether genetic databases have good quality data for the species expected, and the medium that is targeted for sampling (e.g., water, soil, etc.) (Evans et al. 2017, Ruppert et al. 2019). The geographic extent of sampling, use of reference sites and control samples, and sample replication will also affect the quality of data obtained from an eDNA survey. DNA persists in the environment, where it can be sampled and analyzed to reveal entire communities across taxonomic groups simultaneously. Species interactions with their environment results in the excretion of DNA from skin and hair cells, fish scales and slime, reproductive and waste products, and decomposition of dead animals. eDNA sampling collects this residual DNA present in environmental samples (i.e., water, soil, sediment, dust) without having to collect or observe the organisms themselves. Currently, water is the most common medium used to sample eDNA; however, advances in technology are leading to developments of eDNA sampling methods for soil, sediment, and air. In the lab, DNA is extracted from each filter and amplified. DNA sequences are

then compared to primers containing several markers (metabarcoding) or to a specific assay (quantitative polymerase chain reaction (qPCR)):

1. DNA metabarcoding compares all DNA fragments from a water sample to libraries of all sequenced known species to identify all taxa present in that sample. Markers are used to detect different types of organisms (e.g., fish, amphibians, mammals); several markers are used to determine overall biodiversity; and
2. qPCR analysis compares eDNA in a water sample to an assay containing DNA from a known species to determine if that species is present.

Several factors can affect the accuracy of eDNA results, including environmental conditions, field and/or lab contamination, and the density of organisms present in the environment (see review in Hobbs and Golberg 2017). In the field, eDNA concentrations can be diluted by heavy rainfall or freshet flows. Water temperature, ultraviolet radiation, exposure to microbes, and water quality affect the rate at which DNA degrades in the environment (Strickler et al. 2015). eDNA results are also binary – that is, they will only detect presence or absence, and cannot quantify abundance. Results cannot distinguish whether an organism is living or dead – only the presence of its DNA. Unexpected positive results can be further verified with a body of evidence (e.g., scientific and traditional knowledge, presence of barriers, habitat quality, and results from other eDNA testing), or through additional sample collection. Species identification is also dependent on the quality of eDNA present within the sample and the database of known/sequenced species the samples are run against; however, these issues are also inherent in any taxonomic assessment.

A further complication can be encountered as eDNA metabarcoding uses mitochondrial DNA sequences to identify species. Mitochondrial DNA is passed down unchanged through the maternal lineage of species; thus, it is ideal for developing primers for species identification because it remains relatively unchanged through generations. However, the use of mitochondrial DNA can lead to detections of closely related species where historical hybridization has occurred (Stewart and Taylor 2020). Nuclear DNA sequences (i.e., from DNA found in the nuclei of cells) provide a more contemporary account of species presence; however, as nuclear DNA is subject to recombination it is less ideal for metabarcoding purposes, which focuses on extremely short and highly preserved mitochondrial DNA sequences. qPCR analysis (i.e., detection of single species) uses nuclear DNA sequences to identify species and, combined with the results of mitochondrial DNA analysis, can provide insights into contemporary and historical hybridization patterns (Stewart and Taylor 2020).

The application of eDNA methods is still largely preliminary due to the inherent complexity. However, the complex nature of a fulsome biodiversity assessment demands the use of multiple methods to collect and analyze data, integrate results and draw inferences, and eDNA can be an invaluable ecological and conservation tool when used in concert with other sources of data (i.e., survey methods, Indigenous perspectives). This biodiversity study was designed to validate the results of historical baseline studies, and to compare the efficacy and utility of eDNA sampling to traditional sampling methods.

1.5 Study Objectives

The KSM Biodiversity Program was undertaken in 2022 and 2023 using eDNA metabarcoding, qPCR, genetic voucher specimen analysis and benthic invertebrate taxonomy to compare the efficacy of eDNA methods to traditional field methods in determining overall biodiversity within the KSM Project area and to determine the practicality and utility of these methods for use at the KSM Project.

2. METHODS

2.1 Sample Locations and Timing

The design of the KSM Biodiversity project was iterative in nature, with methods and sites being adjusted throughout the program to address early findings, increase eDNA detection, confirm species identifications, and compare eDNA results to the results of traditional sampling methods. Twenty-three sites were sampled in 2022, and 25 sites were sampled in 2023 (Appendix A; Figure 2.1-1). Sites were selected upstream (US) and downstream (DS) of key watercourse confluences as well as in areas where Project infrastructure is proposed in the PTMA and Mine Site. In 2022, 267 eDNA water samples and 64 benthic invertebrate bulk samples were collected over the four sampling campaigns (Table 2.1-1). In 2023, 225 eDNA water samples and 25 benthic invertebrate bulk samples were collected over three site visits (Table 2.1-1). Two sites, one each in McTagg and Gingras Creeks, were added to the sampling program in 2023 to address concerns that water quality from Mitchell and Sulphurets creeks was impacting eDNA detection in the Sulphurets watershed (Appendix A). In August 2023, Canadian Aquatic Biomonitoring Network (CABIN) samples were collected from each of the 25 sites, and targeted eDNA (qPCR) samples were collected from 6 (six) sites. Due to unsafe conditions, not all sites were sampled during each campaign (Table 2.1-1).

Table 2.1-1: Summary of Sample Collection, 2022 and 2023

Sample Year	Sample Month	Metabarcoding Sample Collected? (Y/N)	Bulk Sample Collected? (Y/N)	CABIN Sample Collected (Y/N)	qPCR Sample Collected? (Y/N)	Fish Tissue Voucher Samples Collected? (Y/N)
2022	June	Y[1]	Y[2]	N	N	N
	September	Y	Y	N	N	N
	October	Y[3]	Y[3]	N	N	N
	November[5]	Y	N	N	N	N
2023	July	Y	N	N	N	N
	August	Y	Y	Y	N	N
	September	Y	N	N	Y[4]	Y[5]

Notes:

[1] All sites were sampled with the exception of S. Teigen DS which was not accessible due to unsafe conditions.

[2] All sites were sampled with the exception of S. Teigen DS, N. Treaty US1 and N. Treaty US2, which were not accessible due to unsafe conditions.

[3] All sites were sampled with the exception of Bell US Treaty and Bell DS Treaty, which were not sampled due to heavy fog.

[4] Samples were only collected from sites within the TMF footprint (S. Teigen US2, S. Teigen US1, S. Teigen DS, N. Treaty US2, N. Treaty US1 and N. Treaty DS).

[5] Fish tissue voucher samples were collected at this time in North Treaty Creek and South Teigen Creek within the TMF footprint, but not at the specific sites used for the biodiversity program.

eDNA sample collection methods differed in 2022 between June/November (grab sample) and September/October (field-filter). All 2023 samples remained consistent in collection methods (Vampire sampler field-filter).

[5] Bulk benthic invertebrate sampling could not be completed in November 2022 due to ice build-up on the kick net.

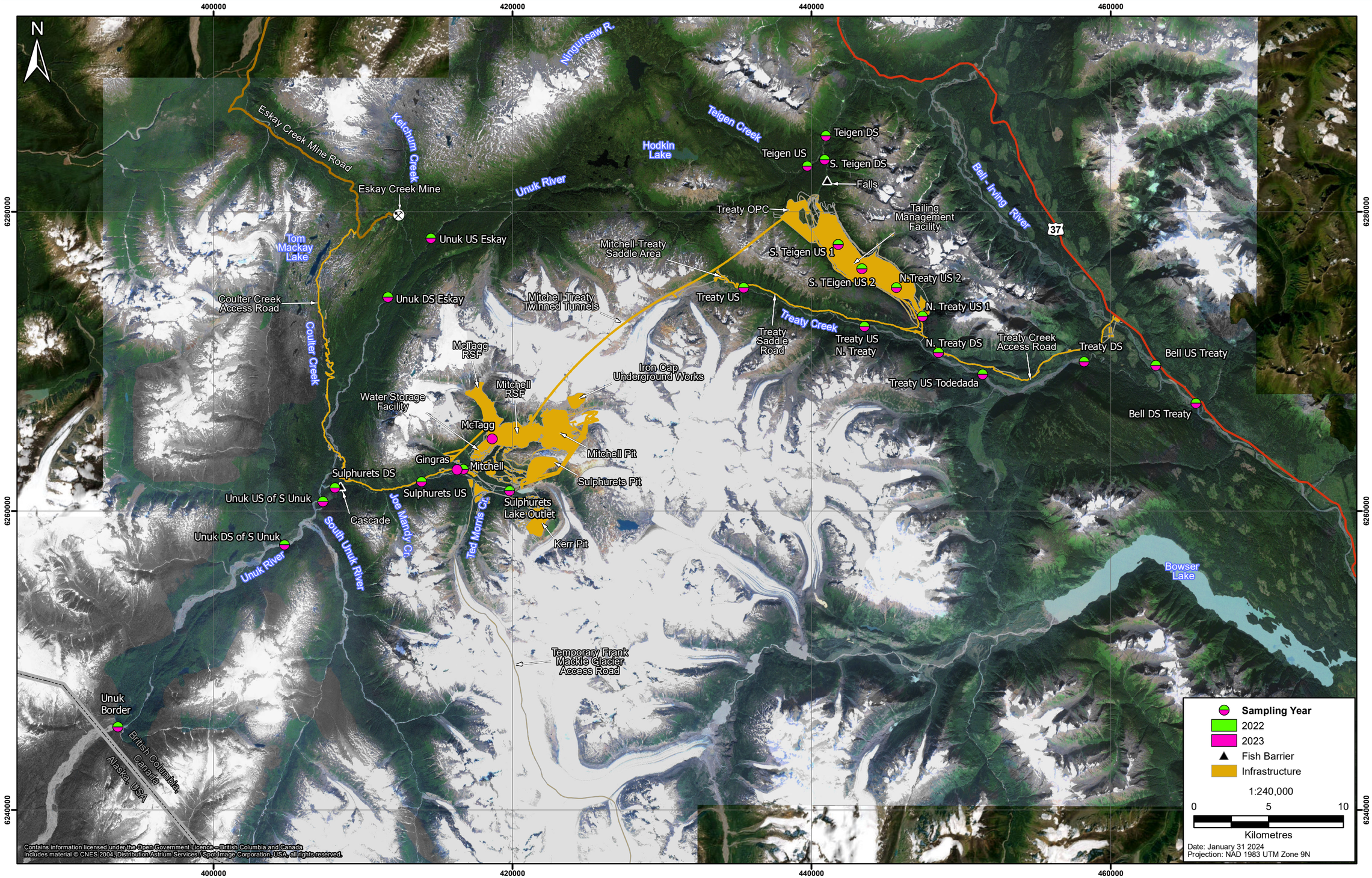


Figure 2.1-1: Biodiversity Sampling Locations, 2022 and 2023

2.2 Field Data Collection

2.2.1 eDNA Water Sampling

Water samples collected from streams for eDNA metabarcoding analysis followed the *Environmental DNA Protocol for Freshwater Aquatic Ecosystems, Version 2.2* (Hobbs and Goldberg 2017). Specific sample collection methods were adapted from this protocol and were dependent on the equipment employed. During each site visit, one of two methods was employed: grab sample method or field-filter method. Grab-sampling was used in June and November 2022, and for targeted bull trout eDNA collection in 2023. Grab-sampling involved the collection of 3 (three) replicate eDNA metabarcoding water samples in 1 L decontaminated sample bottles. Samples were then vacuum filtered at the end of each day (Photo 2.2-1). Field-filtering was completed in September and October 2022 and during all site visits in 2023 and involved filtering samples directly from the watercourse in the field using either a backpack eDNA sampler (in 2022; Smith-Root, Photo 2.2-2) or a peristaltic pump (in 2023; Vampire Sampler, Photo 2.2-3).

Sample collection followed standard clean techniques in 2022; however, this was modified in 2023 to a “clean hands, dirty hands” protocol (US EPA 1996) to address concerns about potential field contamination. Water samples were collected from the shore without entering the water, or if this was not possible the sampler stood downstream of the sample collection site. Sampling was not conducted during poor weather because heavy precipitation can dilute eDNA concentrations in streams, reducing species detections. In 2023, samplers waited a minimum of 15 minutes following helicopter activity to begin sampling and waders and boots were decontaminated with bleach to further minimize contamination. Use of the backpack eDNA sampler (in September and October 2022) followed procedures outlined in the *eDNA Sampler Instruction Manual* (Smith-Root 2022), where a minimum of 1 L per sample was filtered; however, filter volume was often reduced by water turbidity, in which case water was filtered the until minimum flow value on the unit was reached due to filter clogging. Use of a Vampire Sampler peristaltic pump for field filtering samples (2023) allowed for a minimum of 1.5 L of water to filtered per sample; however, turbidity reduced sample volume due to filter clogging, as noted in 2022 samples. When water turbidity was particularly high at any given site in 2023, water was collected in a sterile 3.5 L sampling bag and allowed to settle for up to 20 minutes prior to filtering to decrease the potential for filter clogging. Blank samples (filtered distilled water) were collected following the same methods as eDNA water sample collections in June, September and November 2022 and during all sampling events in 2023.

In 2022, self-preserving eDNA (1.2 µm) filter packs (Smith-Root) were used for all samples. Samples were frozen until analysis. In 2023, polyethersulfone filter disks (0.8 µm) were used for all samples, which were field-preserved and sealed to reduce the potential for contamination. Metabarcoding samples were analyzed by Nature Metrics laboratory (Guelph, ON). Targeted bull trout eDNA water samples were filtered using a 0.45 µm Nalgene filter funnel, stored in coin envelopes, placed in a Whirlpak bag with silica desiccant beads and stored frozen. A positive control, collected at site South Teigen DS, was used to confirm the effectiveness of the assay and primer at detecting local bull trout eDNA in water samples. Targeted bull-trout eDNA water samples (n=18) were analyzed by Bureau Veritas (Guelph, ON).

Water temperature, pH, conductivity and turbidity data as well as stream habitat data (substrate composition and stage) were recorded at the time of each sample collection. Water quality measurements were collected with a hand-held pH and conductivity tester (Oakton PCTSTestr™ 50). Turbidity was estimated visually and recorded as clear, low, moderate, or high. Dominant and sub-dominant substrate types were recorded, along with stream stage (low, moderate, or high flow).

Photo 2.2-1: Grab Sample Filtering Setup.

Photo 2.2-2: Sample Collection using the Field-Filter Method (Smith-Root Backpack eDNA Sampler) at Site Bell DS Treaty, September 2022Benthic Invertebrate Bulk Sample.

Photo 2.2-3: Field-Filter Method (Vampire Sampler) Setup Used at all Sites Sampled in 2023. Note: The majority of 2023 samples were taken directly from the watercourse and the sample bag was only used when turbidity was high. Photo obtained from the Nature Metrics Vampire Sampler document (Nature Metrics 2023).

2.2.2 Benthic Invertebrate Sampling

Benthic invertebrate community composition samples for tissue metabarcoding analysis were collected from each site during the June, September, and October 2022 field programs as well as in August 2023 (Table 2.1-1). Kick-net samples were collected following methods outlined in the *Canadian Aquatic Biomonitoring Network Field Manual for Wadeable Streams* (Environment Canada 2012). Each kick net collection was field picked to remove all visible benthic invertebrates to produce a single invertebrate community tissue sample, which was preserved with ethylene glycol. Samples collected in June 2022 could not be field-picked and were preserved whole with denatured ethyl alcohol; invertebrates were separated and remained in denatured ethyl alcohol for shipment. Benthic invertebrates community composition was determined by metabarcoding of the tissue sample by Nature Metrics (Guelph, ON).

During the August 2023 field program, an additional CABIN kick-net sample was collected from each sample site for morphological taxonomic analysis at the same time as water and tissue metabarcoding samples for the purposes of comparing species composition between sample types. All organic materials were placed in 500 mL plastic jars, preserved with 10% buffered formalin and sent to Biologica Environmental Services, Ltd. (Victoria, BC) for taxonomic analysis.

2.2.3 Fish Tissue Voucher Specimens

Caudal fin clips were collected from 51 fish captured within the PTMA footprint in September 2023, following standard animal care practices. Forceps and scissors were used for sample collection and were sterilized in a 10% bleach solution, rinsed with distilled water and dipped in ethanol prior to use and between samples. Fin clips were dried completely and placed in coin envelopes for transport and storage. Samples were analyzed by Cramer Fish Sciences in (Sacramento, CA).

2.3 Laboratory Analysis

2.3.1 Metabarcoding

Water samples for eDNA and benthic invertebrate tissue samples were sent to Nature Metrics (Guelph, ON) for analysis. Benthic invertebrate tissue samples were homogenized prior to extraction. DNA from tissue and eDNA from water were extracted using DNeasy Blood & Tissue Kit™ (QIAGEN). DNA was purified to remove polymerase chain reaction (PCR) inhibitors. Purified DNA was amplified with PCR for a hypervariable region of the 12S ribosomal ribonucleic acid (rRNA) gene to target and identify the appropriate taxonomic groups. The standard analysis included 12 replicate PCRs per sample. PCRs were performed in the presence of negative and positive control samples. Replicates were pooled after amplification and further purified to remove reagents. All purified index PCRs were pooled into a final library with equal concentrations. The final library was sequenced using an Illumina MiSeq V3 kit at 10.5 pM with a spike-in of 20% PhiX Control Library (Illumina, San Diego, CA).

Sequencing outputs were assigned taxonomy using sequence similarity searches against the NCBI nt (GenBank) reference database. Assignments were made to the lowest possible taxonomic level where there was consistency in the matches. Conflicts were flagged and resolved manually. Minimum similarity thresholds of 99%, 97%, and 95% were used for species-, genus- and higher-level assignments respectively. In cases where there were equally good matches to multiple species, public records from Global Biodiversity Information Facility (GBIF) were used to assess which were most likely to be present in Canada. Higher-level taxonomic identifications or multiple potential identifications were reported in cases that could not be resolved.

The operational taxonomic unit (OTU) table was filtered to remove low abundance OTUs from each sample (<0.025% or <10 reads, whichever is the greater threshold for the sample). Unidentified, non-target, and common contaminant sequences were removed from the final dataset.

2.3.2 qPCR Analysis of Water Samples for Bull Trout DNA

Three field replicate water samples per site (n=18) were sent to Bureau Veritas for bull trout qPCR analysis. qPCR analysis assesses samples against a specific primer designed for the species, thus providing data specifically on the presence/absence of that species' DNA. eDNA isolation was completed using a DNeasy Blood & Tissue Kit™ (QIAGEN). Extracted eDNA underwent qPCR assay against bull trout primers (eSACO3). Each sample analyzed was separated into eight technical replicates.

A series of thresholds were established based on best professional judgement to assign confidence to detections. Technical replicates with no positive detection (i.e., 0/8) were considered negative for the presence of bull trout, a single positive detection (i.e., 1/8) was considered a suspected positive result, and two or more detections (i.e., 2/8 to 8/8) were considered a positive result.

A sampling site was determined to be positive for bull trout when two or more field replicates were positive for bull trout DNA.

2.3.3 Genetic Analysis of Fish Voucher Specimens

DNA was extracted from fin tissue using a DNeasy Blood & Tissue Kit™ (QIAGEN) following manufacturers recommendations. All samples were genotyped at a panel of 264 single nucleotide polymorphisms (SNPs) developed by Bohling et al. (2021) using the Genotyping-in-Thousands by Sequencing method (GTseq; Campbell et al. 2014). The panel consists of:

- 235 neutral loci;
- 20 species-diagnostic loci;
- 8 species-diagnostic loci; and
- 1 sex identification locus.

Library preparation methods followed Campbell et al. (2014). Individuals were genotyped with a custom Perl script (GTseq_Genotyper.pl; Campbell et al. 2014), and samples were removed if they were missing data at more than 50% of loci.

2.3.4 Benthic Invertebrate Taxonomy

Benthic invertebrate taxonomic identification by microscopic morphology followed the guidelines outlined in the *CABIN Laboratory Methods - Processing, Taxonomy, and Quality Control of Benthic Macroinvertebrate Samples* (Environment Canada 2014). The minimum level of identification for each taxa was to family; however, organisms were identified to genus or species if possible.

Samples falling below 95% sorting efficiency were re-sorted. Additionally, re-sorts were performed on 10% of samples, and 10% of samples were audited through the taxonomic identification process following Environment Canada (2014) guidelines. This involved a complete re-identification and enumeration of randomly selected samples by a second taxonomist.

2.4 Data Processing

Detections of taxa far outside of the species' known distribution (e.g., European or eastern Canadian species) or having a low probability of presence in the Project area (e.g., species present in other regions, but having limited mechanisms for moving into the Project area) despite their detection through metabarcoding analysis were manually removed from the dataset. Some vertebrate DNA OTUs could not be identified to species using reference libraries; thus, species designations were manually deduced, where possible, using species lists compiled in previous baseline studies and general species distribution information. For example, Dolly Varden were not detected in any samples in 2023. A specific *Salvelinus* sp. DNA sequence was detected in 2023 but could not be speciated between Dolly Varden, white char *(Salvelinus albus*) and stone char *(Salvelinus kuznetzovi*) and an additional two identifications of Arctic char were noted within the dataset. All four species of *Salvelinus* sp. have occurrence records within Canadian databases; however, only Dolly Varden are known to occur within the Project area. Therefore, all *Salvelinus* sp. identifications in 2023 were attributed to Dolly Varden.

2.4.1 Statistical Analysis

Statistical analyses of benthic invertebrate data focused exclusively on aquatic taxa. Standardized taxa richness was calculated for each site and method (eDNA and benthic invertebrate bulk sample).
The following equation was used to calculate proportional taxa richness:

Standardized Taxa Richness (%) = (# Taxa (OTU) Detected / Total # Taxa Detected) x 100

where the total # of taxa detected represented data from all samples collected with a specific method in a given year.

Multivariate data analyses were applied to data sets from all methods used in 2023 to compare community composition between methods and assess method choice on ecological interpretations of biodiversity. Sorenson's index of similarity was used as the distance metric to produce Non-metric Multidimensional Scaling (NMDS) models with the *metaMDS* function of the "vegan" package v 2.6-4 in R (Oksanen et al. 2022). NMDS bi-plots summarized the interspecific variability of samples in relation to methods. Linear discriminant function analysis (LDA) was used to classify the taxa which best discriminated between the sampling methods (i.e., which taxa were most unique to each sampling method) using the *lda* function of the "MASS" package in R (Venables and Ripley 2002). Differences between taxonomic methods were tested using a pair-wise PERMANOVA (permutation multivariate ANOVA), n = 999, adjusted $\alpha < 0.05$,

which assumes no underlying distribution in the data, implemented using the *pairwise.adonis* function from the “pairwiseAdonis” package v 0.4 in R (Martinez Arbizu 2020). R^2 in PERMANOVA provides a measure of the strength of the group differences, and a significant R^2 indicates that the groups or factors have a significant impact on the multivariate data. The null hypothesis was that identical sampling methods should show no significant differences in the community composition.

3. RESULTS

The results are organized into a section on aquatic invertebrates and a section on vertebrates, recognizing that the genetic methods described previously apply to invertebrates and vertebrates alike. The results are also described according to their spatial locations (i.e., PTMA and Mine Site). Watercourses within the PTMA include: Treaty Creek and tributaries, Teigen Creek and tributaries, and the Bell-Irving River. These watercourses are generally low gradient with some meandering and braided sections. Watercourses within the Mine Site include: Mitchell Creek, McTagg Creek, Gingras Creek, Sulphurets Creek and the Unuk River. Glacial-fed alpine streams and rivers such as these are found in the Mine Site and tend to experience year-round low water temperatures, unstable substrates, high turbidity, acidity, highly mineralized water, and low instream productivity (basal food resources).

Field data for all water sample collections including sample collection date, sample volume, *in situ* water quality and habitat data are summarized Appendix B.

3.1 Aquatic Invertebrates

A summary of all invertebrate data obtained through metabarcoding analysis of water and bulk tissue as well as through CABIN analysis in 2023 are presented in Appendix C. Raw data obtained through metabarcoding analysis from Nature Metrics is presented in Appendix D.

The highest detections of aquatic invertebrate taxa in eDNA samples occurred in June 2022 and August 2023. The lowest detections of aquatic invertebrate taxa in eDNA samples occurred in samples from November 2022. No invertebrate eDNA was detected in samples collected in September and October 2022, which was attributed to the low sample volume collected by the backpack eDNA sampler. Bulk tissue metabarcoding samples had the highest taxa detections from August 2023 and October 2022 samples and the lowest in June and September 2022.

Sites in the PTMA had greater aquatic invertebrate taxa richness eDNA than those in the Mine Site area (Figure 3.1-1; Figure 3.1-2). Spatial patterns of relative taxa richness were consistent with previous baseline sampling programs (Table 3.1-1). Benthic invertebrate communities were dominated by Ephemeroptera, Plecoptera and Chironomidae (Diptera).

The Mine Site had the lowest aquatic taxa richness in this study. Several sites in the Mine Site (Sulphurets Lake Outlet, Mitchell, and Sulphurets US), located downstream of Sulphurets Lake, had no detectable eDNA in any water samples in 2022. CABIN samples collected from these sites also had consistently low taxonomic richness. Aquatic invertebrates detected by CABIN sampling in 2023 from sites Sulphurets Lake Outlet, Mitchell, and Sulphurets US were dominated by glacial meltwater tolerant chironomid groups Diamensae and Orthocladiinae, and smaller contributions of *Baetis* sp. (Ephemeroptera).

Two hypotheses were put forward to explain the lack of detections of eDNA in Mine Site watersheds in 2022: a) the streams, which were dominated by glacial meltwater, contained constituents that inhibited eDNA detection in samples; and b) the highly turbid water and low concentrations of eDNA in the water meant that the filters became easily clogged and not enough water was sampled to get adequate concentrations of eDNA for detection. To investigate these hypotheses, two sites within the Mine Site, Gingras and McTagg, were added in 2023 to further quantify the influence of glacial meltwater on stream invertebrate community composition observed in 2022. The sites that were selected are tributaries to Mitchell Creek. McTagg Creek originates from the McTagg East, West, and South glaciers, and Gingras Creek originates from Gingras North and Gingras South glaciers but is more influenced by groundwater discharge in the lower reaches of the creek. Overall, Gingras Creek does not experience the same degree of glacial influence as Sulphurets, Mitchell and McTagg creeks. In addition to adding sites on Gingras and McTagg creeks, field sampling methods were adjusted to collect additional water to increase concentrations of eDNA in the samples.

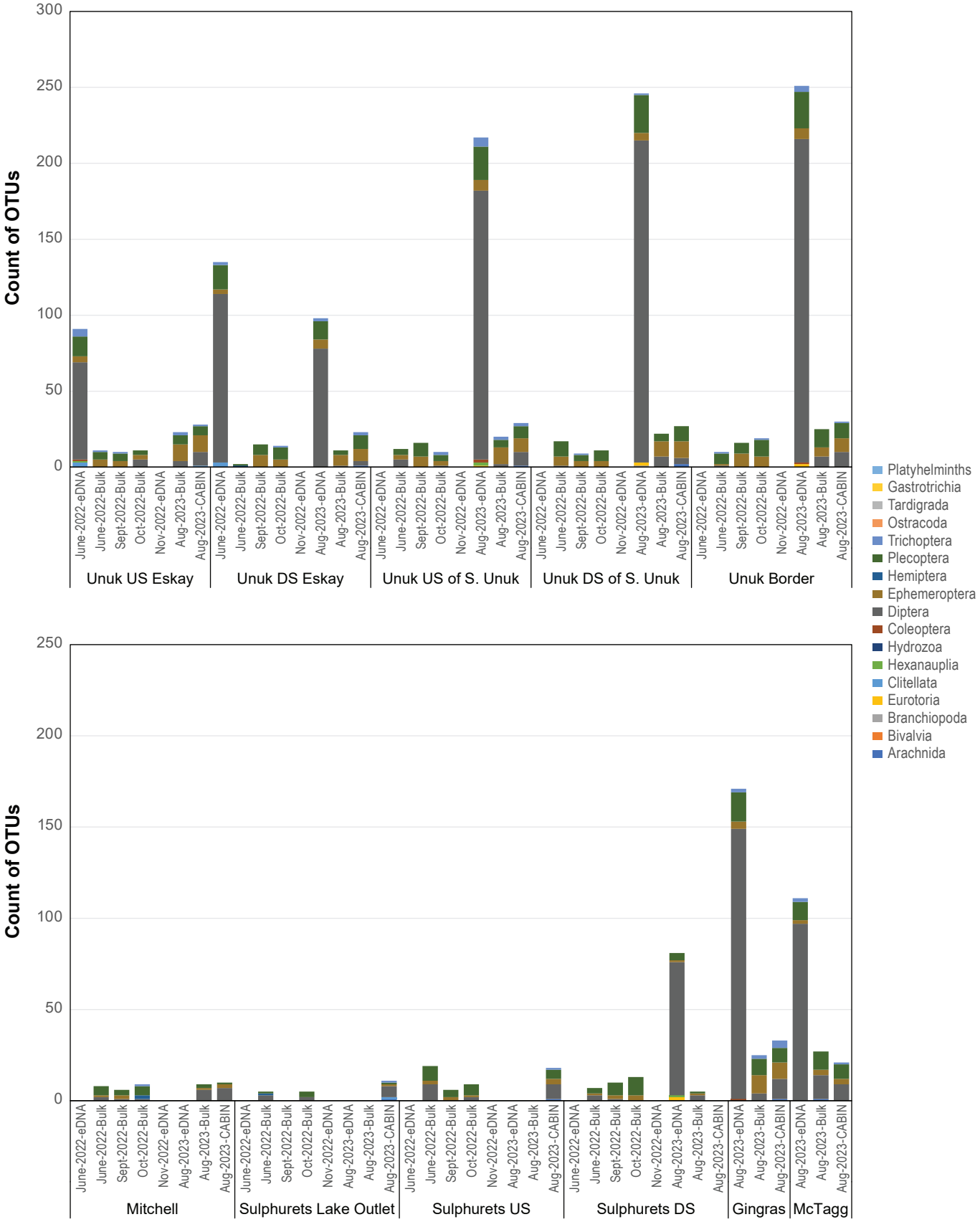


Figure 3.1-1: Summary of Invertebrate Taxa Detections Throughout the Mine Site, 2022 to 2023

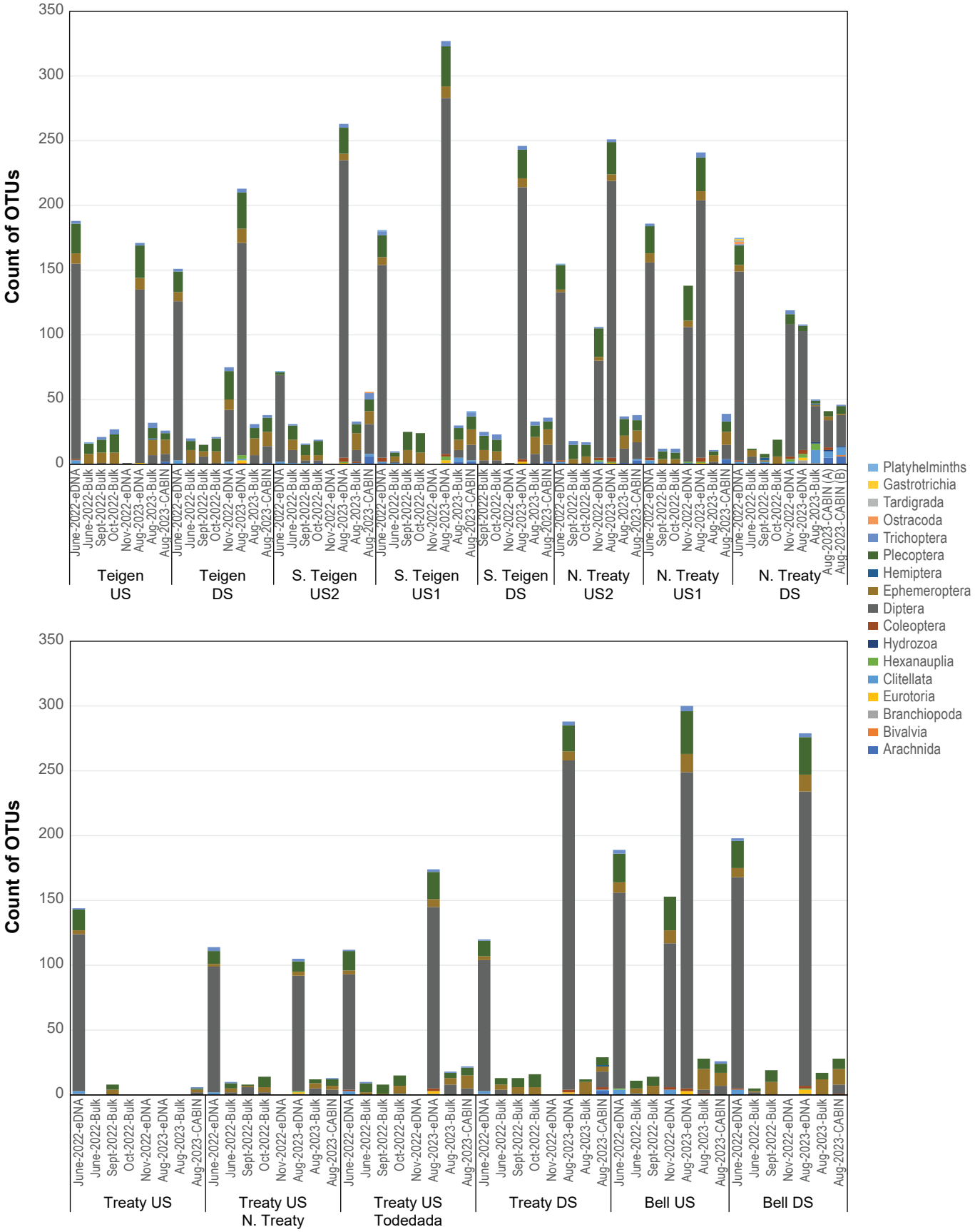


Figure 3.1-2: Summary of Invertebrate Taxa Detections Throughout the PTMA, 2022 to 2023

Table 3.1-1: Standardized Aquatic Taxa Richness (%) Values for eDNA, Bulk Benthic Invertebrate and CABIN Samples, 2013 to 2023

Watershed	CABIN Site Name (2013 - 2016)	2022-2023 Site Name	CABIN-2013	CABIN-2014	CABIN-2016	Jun-22 Bulk	Sep-22 Bulk	Oct-22 Bulk	Jun-22 eDNA	Nov-22 eDNA	CABIN-2023	Aug-23 Bulk	Aug-23 eDNA
Unuk	N/A	Unuk US Eskay				5.3	4.8	5.3	16.5	10.7	28.0	10.0	0.0
	N/A	Unuk DS Eskay				1	7.2	6.8	24.5		23.0	4.8	7.4
	UR1	Unuk US of S Unuk	31.3	38.6	36.6	5.8	7.7	4.8			29.0	8.7	16.3
	UR2A	Unuk DS of S Unuk	16.4	27.1	31.7	8.2	4.3	5.3			27.0	9.5	18.5
	UR2	Unuk Border	28.4	21.4		4.8	7.7	9.2			30.0	10.8	18.8
Mitchell/ Sulphurets	N/A	Mitchell				3.9	2.9	4.3			10.0	3.9	0.0
	N/A	McTagg Creek									33.0	11.7	8.3
	N/A	Gringas									21.0	10.8	12.8
	N/A	Sulphurets Lake Outlet				2.4		2.4			11.0	0.0	0.0
	SC2	Sulphurets US	25.4	25.7	18.3	9.2	2.9	4.3			18.0	0.0	0.0
	SC3	Sulphurets DS	17.9	41.4	19.5	3.4	4.8	6.3				2.2	6.1
South Teigen	N/A	S Teigen US2				15	7.7	9.2	12.9		56.0	14.3	19.7
	N/A	S Teigen US1				4.8	12.1	11.6	32.7		41.0	13.4	24.5
	STE3	S Teigen DS	41.8	38.6	31.7	12.1	11.1			0.3	37.0	14.3	18.5
Teigen	TEC2	Teigen US	40.3	42.9	36.6	7.7	10.1	13	61.6	0.3	27.0	13.9	12.8
	TEC1	Teigen DS	59.7	47.1	48.8	9.7	7.2	10.1		20.5	38.0	13.4	16.0
North Treaty	N/A	N Treaty US2				8.7	8.2		28	29	39.0	16.0	18.8
	N/A	N Treaty US1				5.8	5.8		33.8	37.8	39.0	4.8	18.1
	N/A	N Treaty DS				5.8	3.9	9.2	30.9	32.6	43.5	23.8	8.1

Watershed	CABIN Site Name (2013 - 2016)	2022-2023 Site Name	CABIN-2013	CABIN-2014	CABIN-2016	Jun-22 Bulk	Sep-22 Bulk	Oct-22 Bulk	Jun-22 eDNA	Nov-22 eDNA	CABIN-2023	Aug-23 Bulk	Aug-23 eDNA
Treaty	N/A	Treaty US					3.9		26.2		6.0	0.0	0.0
	TRC1B-U/S	Treaty US N Treaty	26.9	14.3	8.5	4.8	3.9	6.8	20.7		13.0	5.2	7.9
	TRC2	Treaty US Todedada	23.9	28.6	14.6	4.8	3.9	7.2	20.4		22.0	7.8	13.1
	TRC3	Treaty DS	22.4	30	15.9	6.3	6.3	7.7	21.8		29.0	5.2	21.6
Bell-Irving	BIR2A	Bell US Treaty	20.9	45.7	15.9	5.3	6.8		34.4	41.9	26.0	12.1	22.5
	BIR2	Bell DS Treaty	37.3	32.9	36.6	2.4	9.2		36		28.0	7.4	20.9
Total No. of Taxa			**67**	**70**	**82**	**207**	**207**	**207**	**550**	**365**	**100**	**231**	**1333**

Notes:

All proportions are presented as a % of total unique taxa detected during each sampling trip.

Cell colour indicates the proportion of total taxa observed for each method/sampling event at each site, with dark green signifying sites with relatively higher proportional detections, and light green signifying sites with relatively lower proportional detections.

Blank cells indicate no data available.

N/A = site was not sampled between 2013 and 2016.

Similar to 2022, eDNA samples collected from Sulphurets Lake Outlet, Mitchell, and Sulphurets US failed to produce detections of invertebrate eDNA, while bulk tissue and CABIN samples generally had low levels of taxa richness. All eDNA, bulk tissue, and CABIN samples collected from McTagg were consistent with communities observed in Sulphurets and Mitchell creeks, being largely devoid of invertebrate taxa with the exception of a few highly glacial meltwater tolerant taxa. Glacial-fed alpine stream and rivers experience low water temperatures, unstable substrates, high turbidity, acidic, highly mineralized water, low instream productivity (basal food resources) and generally not well tolerated by benthic invertebrates (Castella et al. 2001). High-altitude, glacial-fed streams are naturally harsh environments in which few specialized invertebrate communities, particularly cold-water adapted Chironomidae taxa such as Diamensinae and certain Orthocladiinae (Füreder and Niedrist 2020). Gingras Creek had higher levels of taxa richness in eDNA samples, suggesting Gingras Creek is not as glacially influenced as other streams in the Mine Site. The differences between the glacially and non-glacially influenced creeks were evident in the community composition detected through eDNA and bulk tissue samples and CABIN sampling.

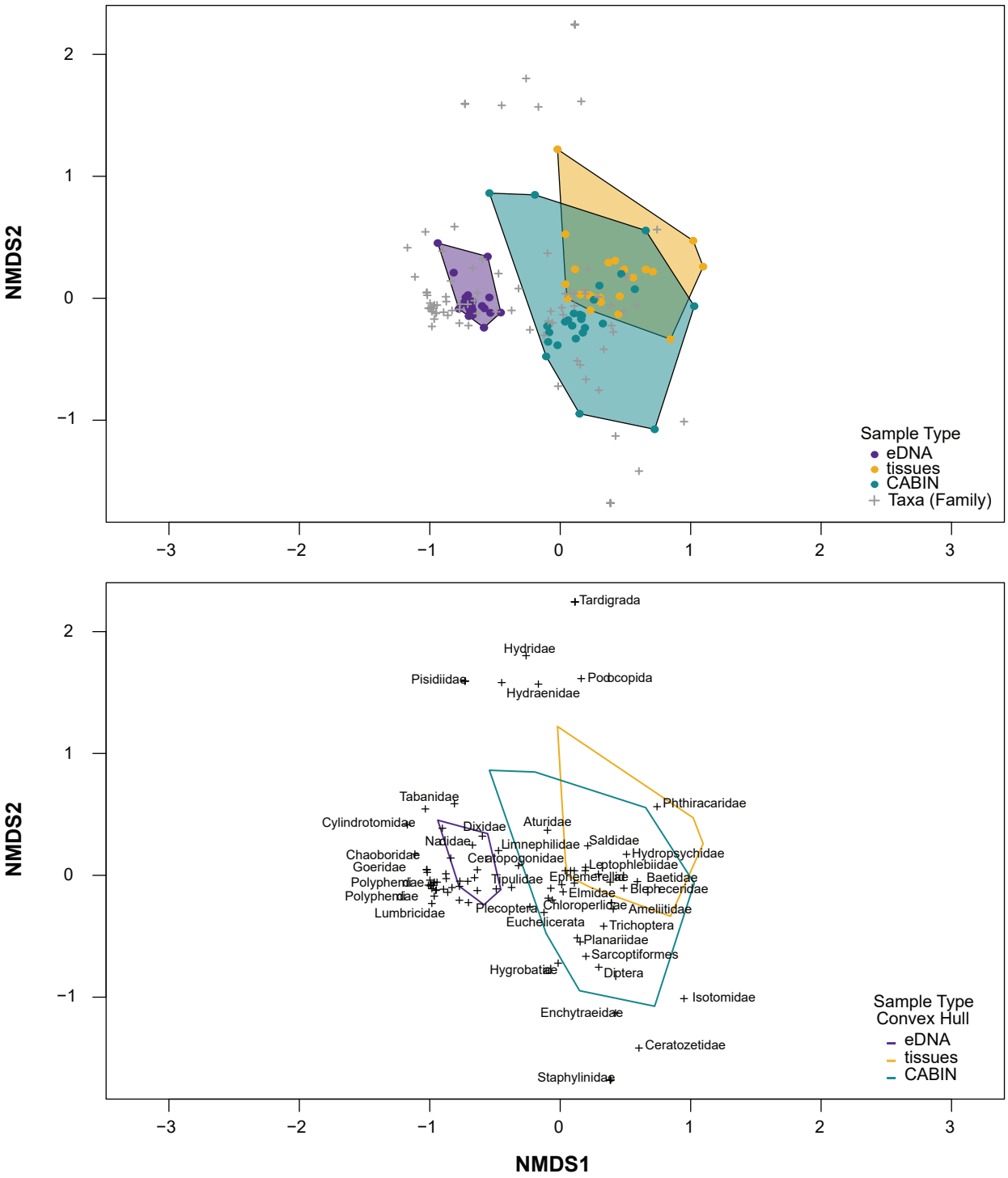
Aquatic invertebrate community composition in eDNA samples had little overlap with the communities described by bulk tissue metabarcoding samples and CABIN samples (Figure 3.1-3). Samples analyzed with morphological taxonomy using CABIN protocols produced aquatic invertebrate communities that most closely resembled bulk tissue metabarcoding samples. Although there was a statistically significant difference (PERMANOVA, p=0.003, Table 3.1-2), the difference was small (R^2=0.12; i.e., sample type grouping explained little of the variance between CABIN samples and bulk tissue metabarcoding samples); which commonly occurs when using a large number of replicates in null hypothesis significance tests. CABIN samples and bulk tissue metabarcoding samples had greater overlap indicating that the taxonomic composition of samples collected used the same CABIN field sampling methods produced more similar results to each other than samples collected from the water column, as in eDNA filter samples.

Table 3.1-2: Statistical Differences Between Aquatic Invertebrate Community Composition as Identified by Taxonomic Methods from all Sample Sites in 2023

Comparisons	DF	SS	*F* statistic	R^2	Adjusted *p*-value
eDNA vs tissues	1	3.16	40.23	0.50	0.003
eDNA vs CABIN	1	2.57	29.31	0.40	0.003
tissues vs CABIN	1	0.71	6.22	0.12	0.003

Notes:
DF = degrees of freedom, SS = sum of squares

The presence/absence of certain families of aquatic invertebrates provided indications on how eDNA sample results differed most from tissue metabarcoding and CABIN samples. Large sedentary, hard-bodied invertebrates like Hydropsychidae caddis fly larvae, Leptophlebiidae mayfly larvae, and Ostracods (seed shrimp) were easily captured by the kicknet sampling method and were most often detected in CABIN samples and tissue metabarcoding samples (Table 3.1-3). In contrast, abundant, but less easily captured soft-bodied invertebrates like blackfly larvae (i.e., Simuliidae; these tend of congregate on the vertical surfaces of boulders in areas of high flow which are not easily sampled) were most often detected in eDNA water samples. Consistent with the observations in the previous year's samples, soft-bodied organisms, particularly those which prefer areas of higher water flow, likely shed more DNA to the flowing water column than might be observed of hard-bodied organisms inhabiting pools in lower flow areas of stream (Denier and Altermatt 2014).



Notes: Overlapping polygons indicate taxonomic similarity of the method-types across all sampling sites. Taxa (+)'s located within or nearest to the polygons are those most unique to each method-type. Panel b) does not include the names of all taxa due to space considerations. Indicator taxa only are presented in areas were significant overlap of taxa occurred.
Multivariate ordination of taxonomic composition of 2023 aquatic invertebrate samples as identified to the Family level in molecular and traditional microscopic taxonomy methods. Both panels show components of the same ordination. Panel a) shows the convex hulls (polygons) enclosing all samples collected from sites (circles), grouped by taxonomic method (colours). Panel b) shows the relative orientation of aquatic taxa to the method-type convex hulls.
NMDS = Non-metric Multi-dimensional Scale.

Figure 3.1-3: Multivariate Ordination of Taxonomic Composition of 2023 Aquatic Invertebrate Samples as Identified to the Family Level in Molecular and Microscopic Taxonomy Methods

Table 3.1-3: Aquatic Invertebrate Taxa Most Indicative of Taxonomic Method, 2023

	Species	LD1-98.5% of Variation Explained	Description	Rationale
Most Indicative of Bulk tissue/ CABIN samples	Hydropsychidae	65.1910867	Caddisfly larvae	Large, sedentary, easily captured
	Planariidae	61.65801998	Flatworm	Not sequenced
	Enchytraeidae	57.85392442	Worm	Taxonomy
	Phthiracaridae	52.1303545	Mite	Taxonomy
	Podocopida	46.70169243	Ostracods	Taxonomy
	Brachionidae	43.01074263	Rotifer	Food of large inverts
	Leptophlebiidae	41.05691619	Mayfly larvae	Hard-bodied but abundant
Most Indicative of eDNA samples	Lumbricidae	-37.653774	Worm	Taxonomy
	Pediciidae	-38.091358	Cranefly larvae	Taxonomy
	Limoniidae	-41.50641683	Cranefly larvae	Taxonomy
	Cylindrotomidae	-41.59328912	Mites	Taxonomy
	Tipulidae	-50.62770289	Cranefly larvae	Taxonomy
	Lebertiidae	-67.21615822	Mites	Taxonomy
	Simuliidae	-68.93548672	Blackfly larvae	Soft-bodied, abundant

Notes:
LD1 = linear discriminant function axis 1

Systematic differences between eDNA and CABIN samples were likely due to peculiarities of sequencing and taxonomic identification. Planaria, mites and cranefly larvae occurred in both sample types (Appendix C) but were assigned to different families by barcoding versus microscopic methods, where it is likely that these belong to the same families across sample types. It is difficult to distinguish which identification technique is more accurate. The organisms highlighted here are challenging to identify microscopically unless they are in a final instar stage (Orlofske & Baird 2013). Molecular techniques can also suffer biases from primer inhibition, tag switching, chimera formation during PCR amplification, and bioinformatics errors (Zinger et al. 2019). Sample degradation and misidentification are issues common to microscopic taxonomy and metabarcoding techniques, where errors can propagate into false positives and false negatives in datasets containing understudied and rare species (Fonesca et al. 2023).

Higher rates of species detections in eDNA water samples compared to bulk sample metabarcoding and CABIN samples occurred within the Diptera (true flies) family (Appendix C, Figure 3.2-1). Of these, the majority belonged to family Chironomidae (non-biting midge larvae); with detections of Culicidae (mosquito larvae), Cylindrotomidae/Limoniidae/Tipulidae (crane fly larvae), Dixidae (meniscus midge larvae), Empididae (dance fly larvae) and Simuliidae (blackfly larvae; Appendix C) also occurring in many samples. Metabarcoding has proven highly effective in revealing the taxonomic diversity of groups, particularly those challenging to differentiate morphologically during larval stages, such as dipteran families (chironomids and simuliids), mites, Oligochaeta, and Limnephilidae. Visual identification of Diptera larvae to the species level is time-consuming and difficult to achieve, even by commercial benthic invertebrate taxonomic services.
The Chironomidae sub-order contains many undescribed or difficult to identify species (e.g., Cricotopus/ Isocladius group) that have historically been placed into morphospecies groups based on morphological characteristics, such as Cranston's recognizable taxonomic units (Cranston 1990). However, morphospecies are inherently user-defined based on visible characteristics. Morphospecies will not necessarily be aligned

with an operationally derived taxonomic unit in metabarcoding, consisting of a cluster of DNA sequences that are similar enough to each other based on predefined level of sequence similarity. Grouping criteria are based on practical approaches unique to each method, whether based on differences that can be visually assessed (Morphological Species Concept) or mathematically computed from DNA sequences, but it is not possible to know which is most accurate (Cranston 1990).

Hard-bodied aquatic larval taxa, including those in orders Ephemeroptera (mayflies), Plecoptera (stoneflies) and Trichoptera (caddisflies) (EPT), were less often detected through eDNA analysis. Bulk tissue samples collected using the CABIN kick-net method and those invertebrates large enough to be visible to the unaided eye were picked from the bulk sample in the field. This method favoured larger taxa such as the EPT, which comprised most taxon identifications in bulk tissue metabarcoding samples, but also included some microscopic meiofauna (e.g., rotifers, gastrotrichs) that were likely diet items contained within the guts of the larger taxa. The findings of meiofauna within the bulk tissue samples, represents an unexpected improvement over a morphological identification approach, where gut contents are challenging/impossible to identify. The bulk tissue metabarcoding samples likely represented a fuller picture of the invertebrate food web for the larger EPT taxa than CABIN-sample morphological identification can provide.

Generally, eDNA samples detected more taxa than bulk tissue metabarcoding samples, potentially due to downstream drift of benthic invertebrate DNA from upstream catchments. It may be that the bulk tissue metabarcoding samples were more representative of the hyper-local biodiversity of invertebrate taxa in the vicinity of sample collection, with a bias to larger hard-bodied taxa, whereas the eDNA from water samples could represent the biodiversity of the larger catchment upstream of the sampling site, with a bias to soft-bodied taxa.

3.2 Vertebrates

A summary of all vertebrate data obtained through metabarcoding analysis of water samples that has undergone quality assurance/quality control (QA/QC) review is presented in Appendix E. Raw data obtained through metabarcoding analysis from Nature Metrics is presented in Appendix D.

Results for vertebrate detections followed similar patterns in 2022 and 2023. Species detections and richness has been divided between sites located in the Mine Site (Figure 3.2-1) and the PTMA (Figure 3.2-2) areas of the Project. Species richness for all vertebrates observed during each sampling campaign in 2022 is presented in Figure 3.2-3, Figure 3.2-4, Figure 3.2-5 and Figure 3.2-6. Species richness data obtained in 2023 is presented in Figure 3.2-7, Figure 3.2-8 and Figure 3.2-9.

3.2.1 Fish

Sixteen fish species were detected through metabarcoding of eDNA samples including:

- Chinook salmon (*Oncorhynchus tshawytscha*);
- coho salmon (*Oncorhynchus kisutch*);
- sockeye salmon (*Oncorhynchus nerka*);
- pink salmon (*Oncorhynchus gorbuscha*);
- chum salmon (*Oncorhynchus keta*);
- rainbow trout (*Oncorhynchus mykiss*);
- cutthroat trout (*Oncorhynchus clarkii*);
- bull trout (*Salvelinus confluentus*);
- Dolly Varden (*Salvelinus malma*);
- coastrange sculpin (*Cottus aleuticus*);
- three-spined stickleback (*Gasterosteus aculeatus*);
- largescale sucker (*Catostomus macrocheilus*);
- longnose sucker (*Catostomus catostomus*);
- longnose dace (*Rhinichthys cataractae*);
- mountain whitefish (*Prosopium williamsoni*); and
- brown bullhead (*Ameiurus nebulosus*).

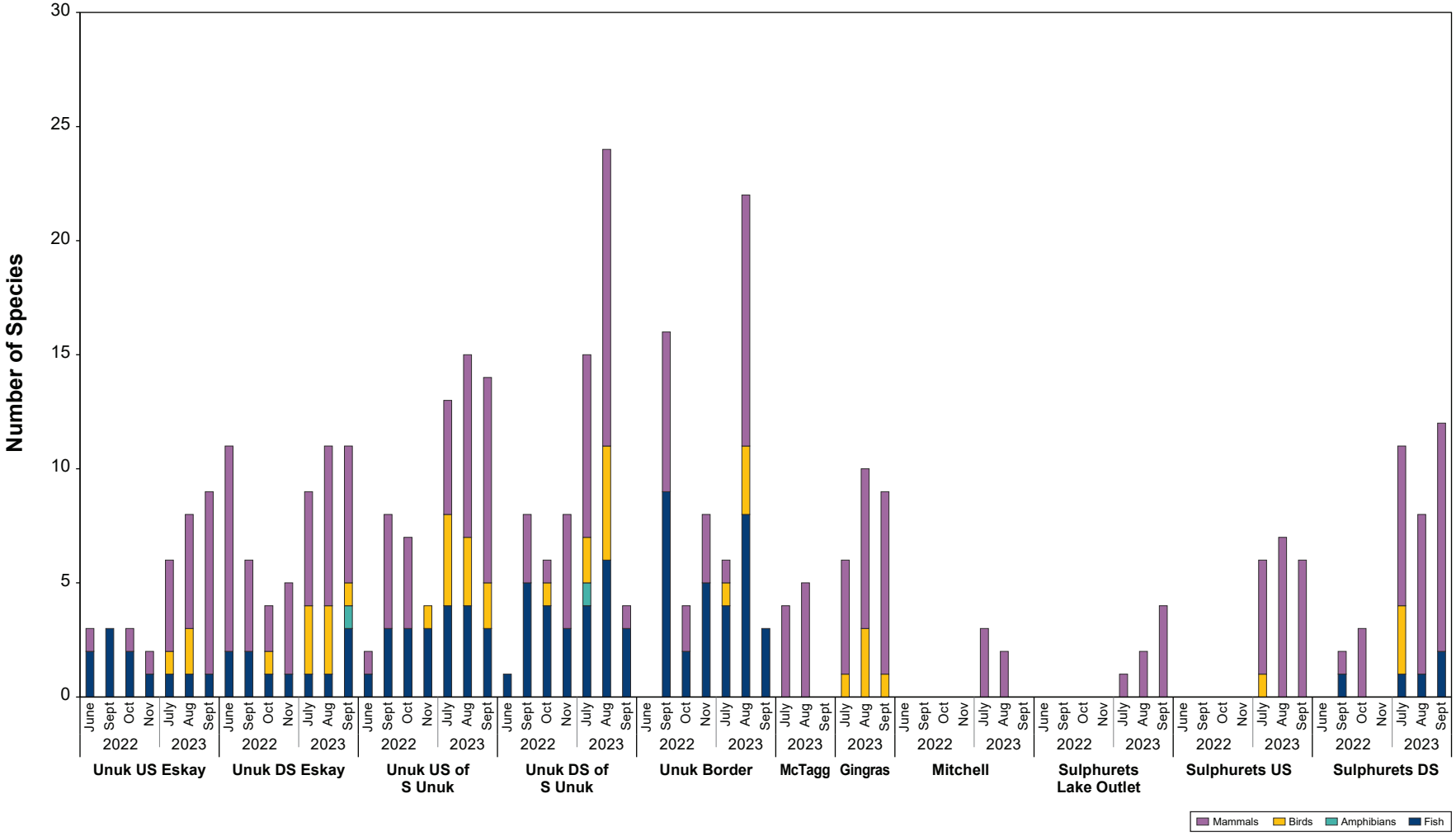


Figure 3.2-1: Fish, Amphibian, Bird and Mammal Species Richness at Sites within the Mine Site Area, 2022 and 2023

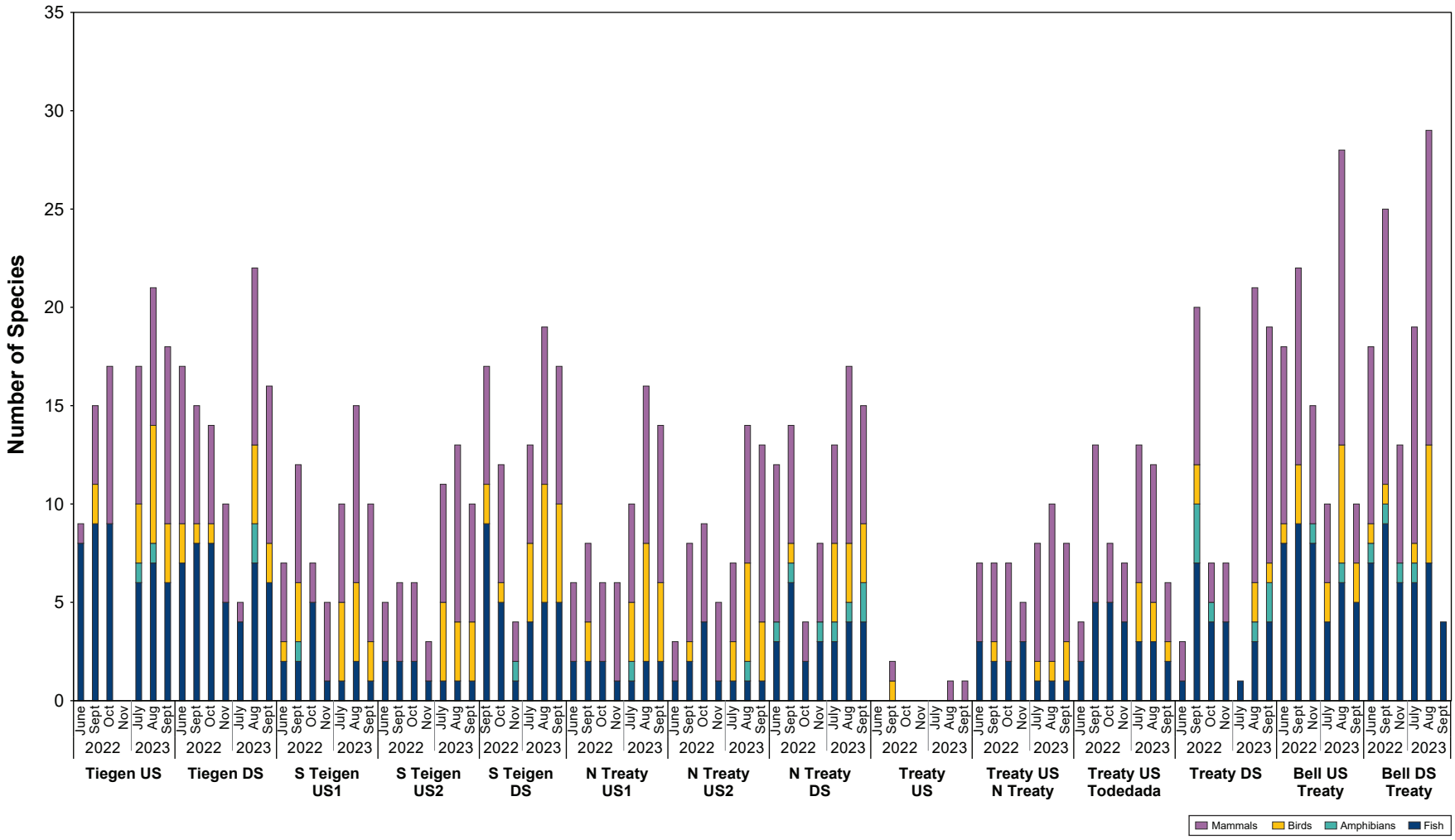


Figure 3.2-2: Fish, Amphibian, Bird and Mammal Species Richness at Sites within the PTMA Area, 2022 and 2023

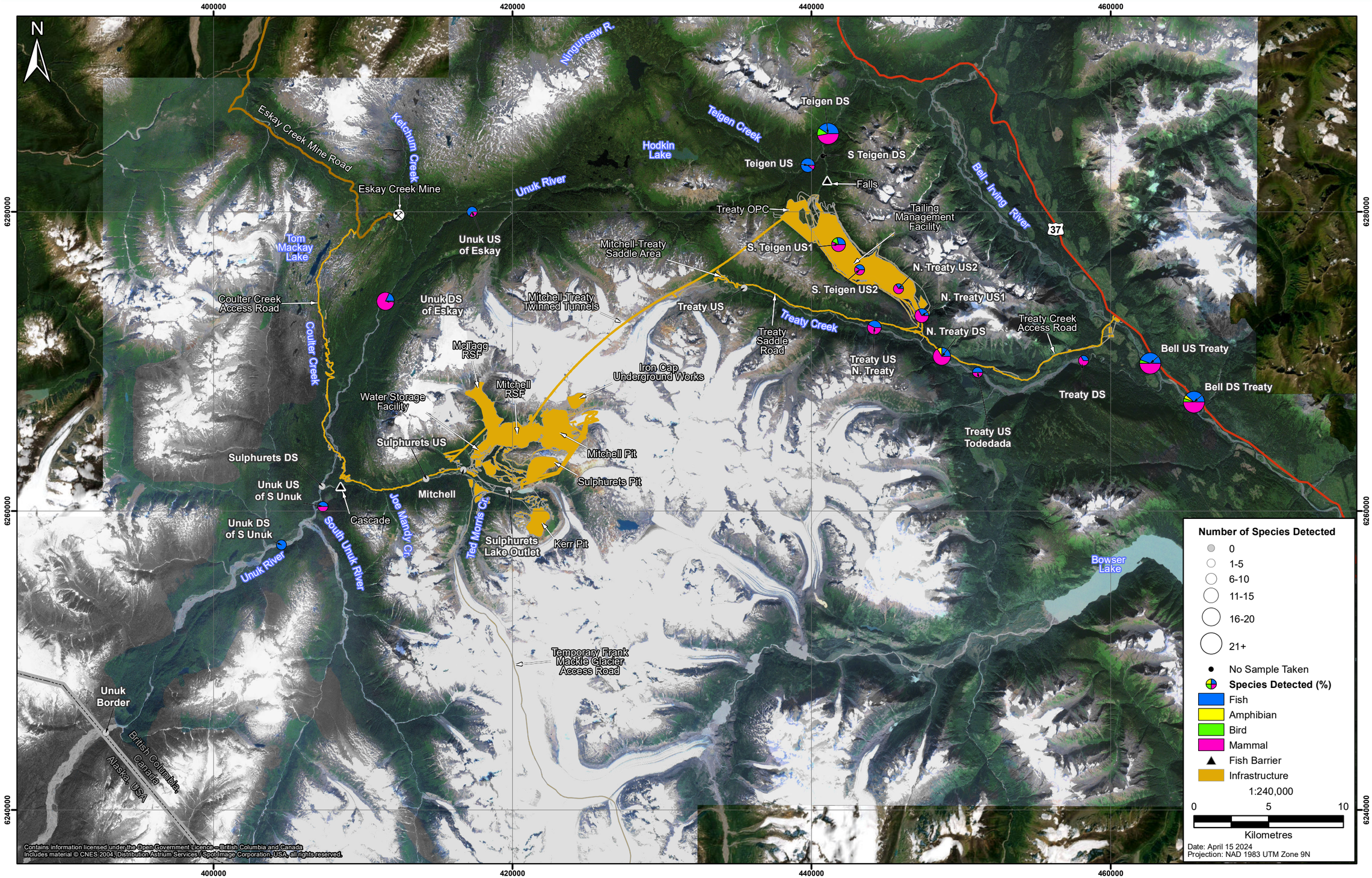


Figure 3.2-3: eDNA Sampling Results, June 2022

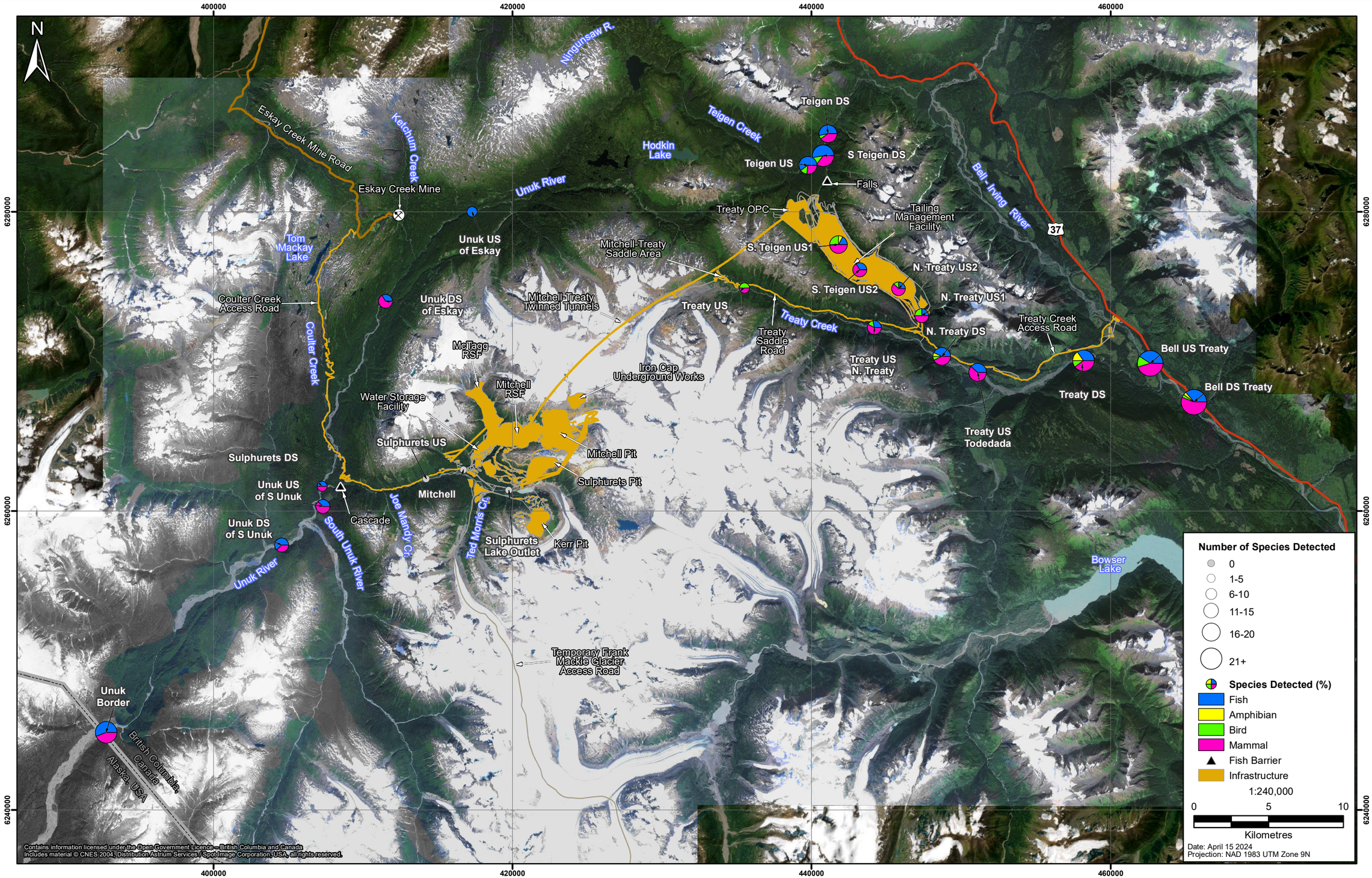


Figure 3.2-4: eDNA Sampling Results, September 2022

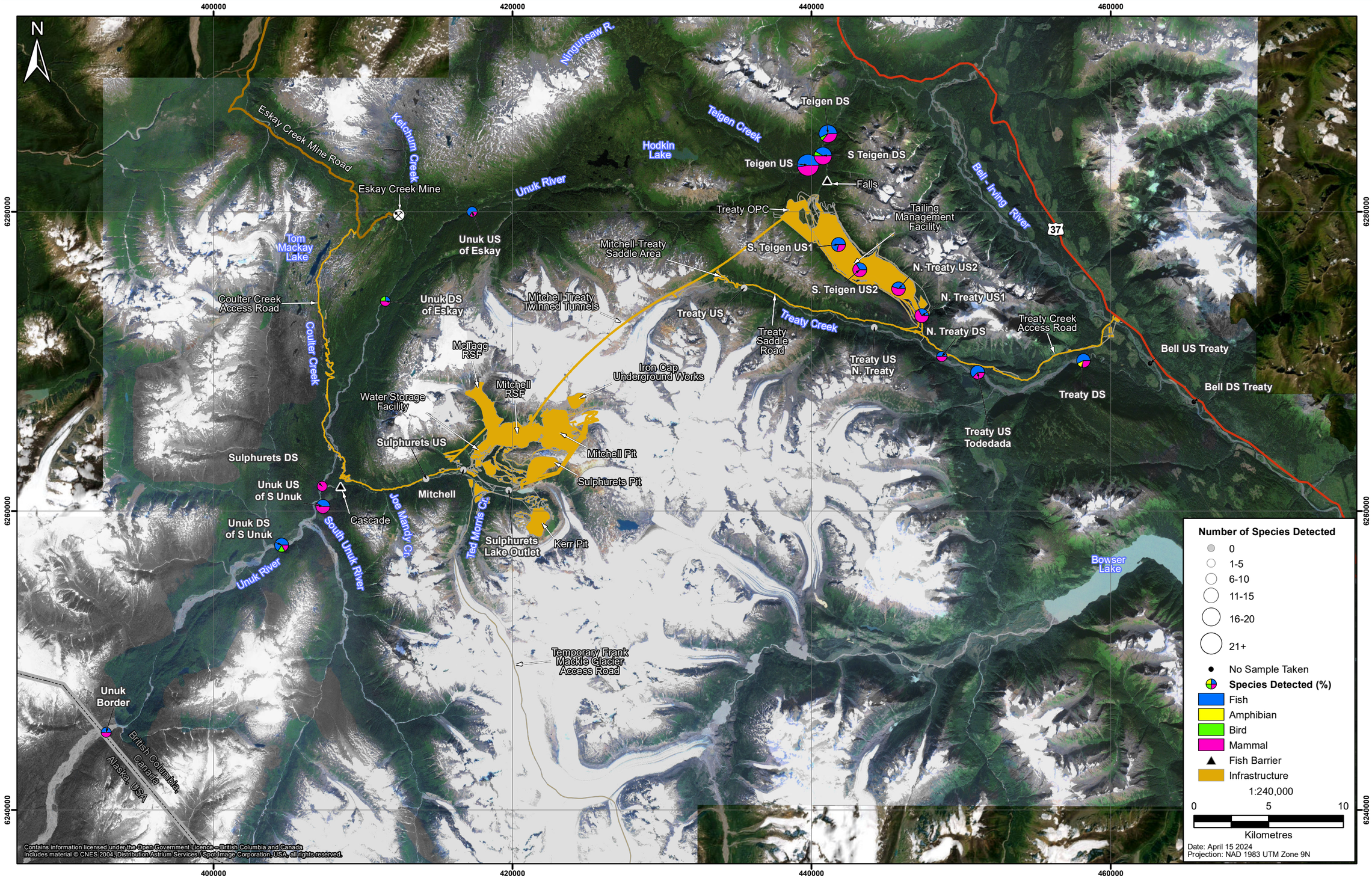


Figure 3.2-5: eDNA Sampling Results, October 2022

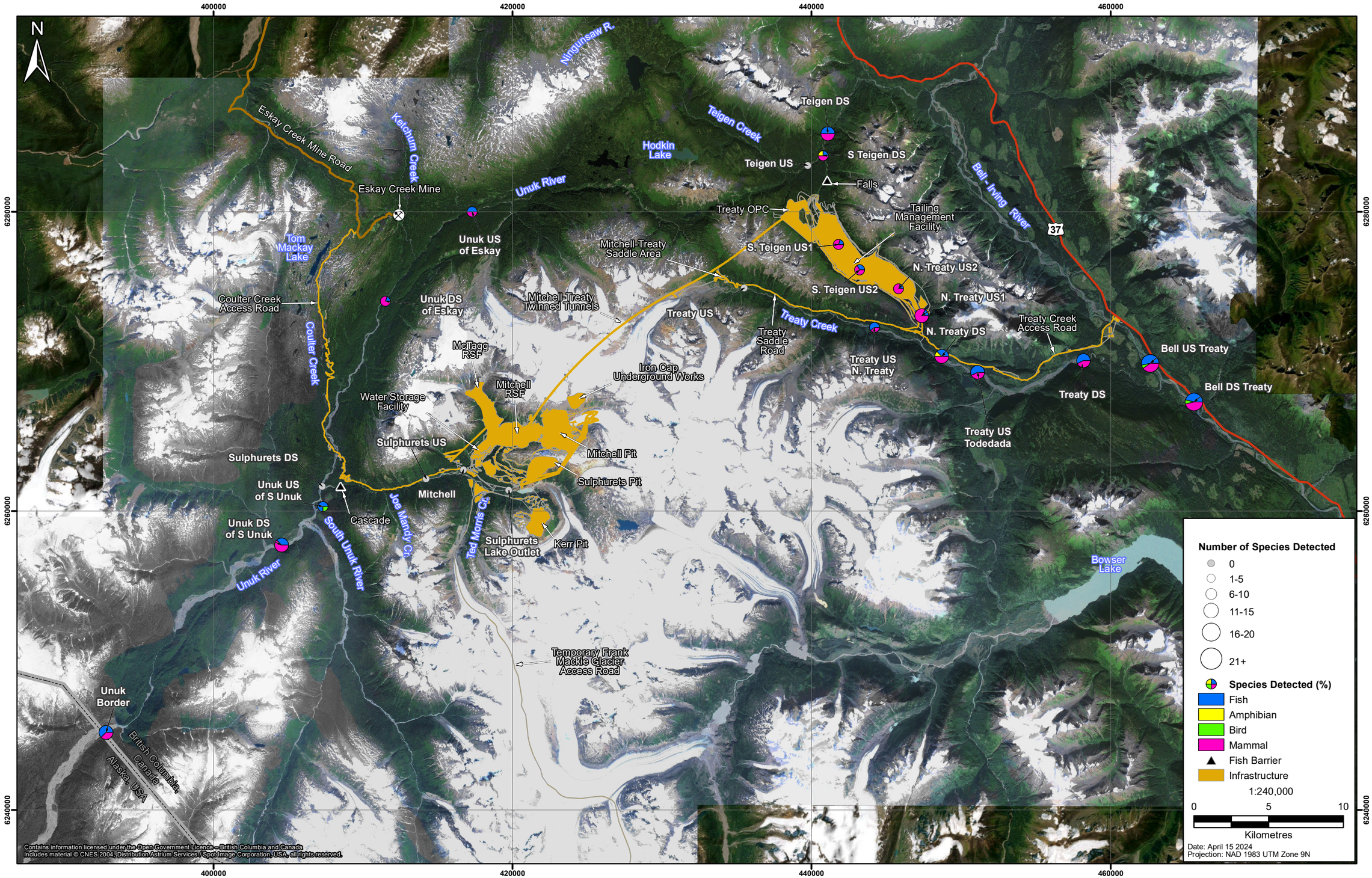


Figure 3.2-6: eDNA Sampling Results, November 2022

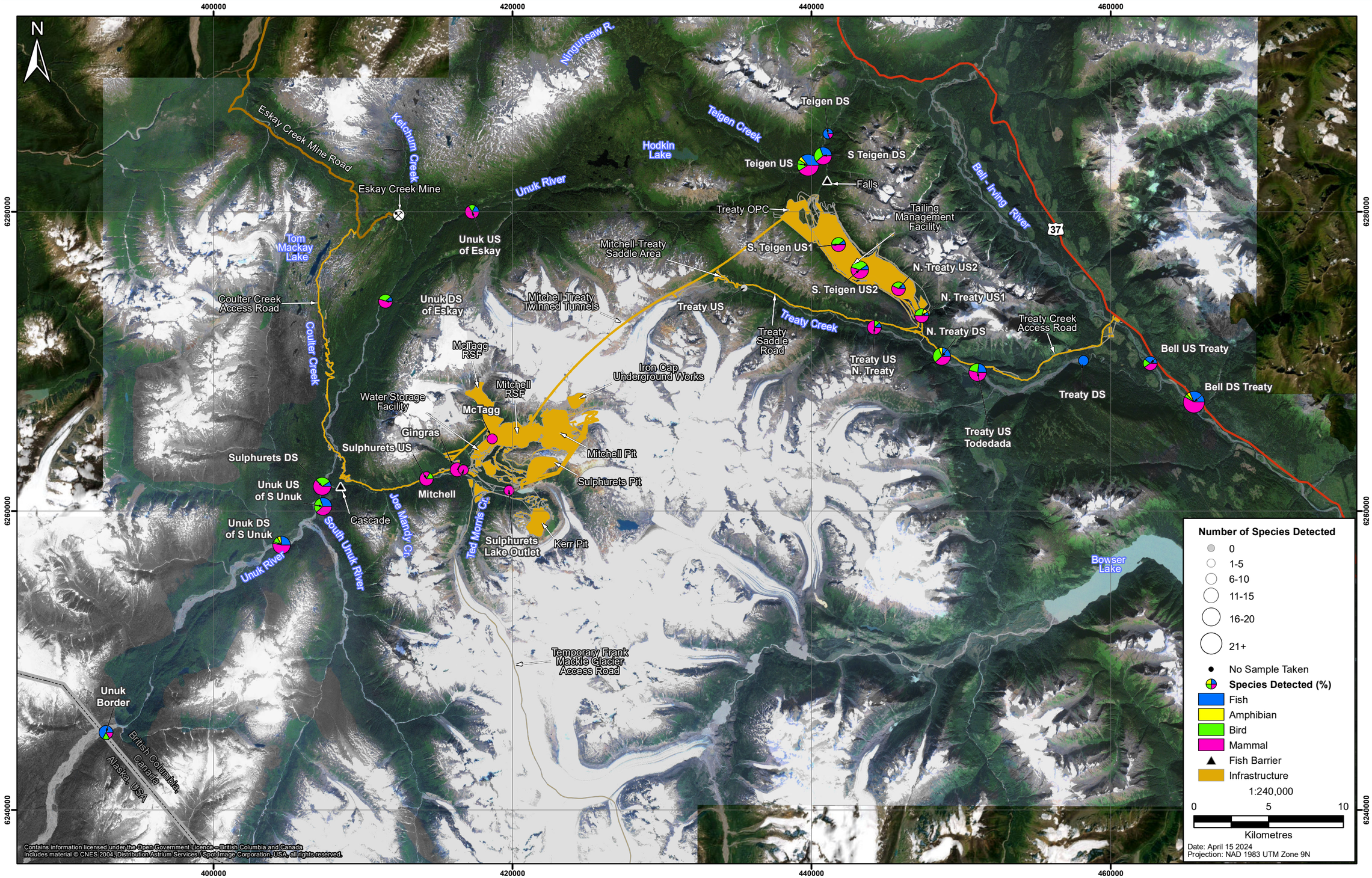


Figure 3.2-7: eDNA Sampling Results, July 2023

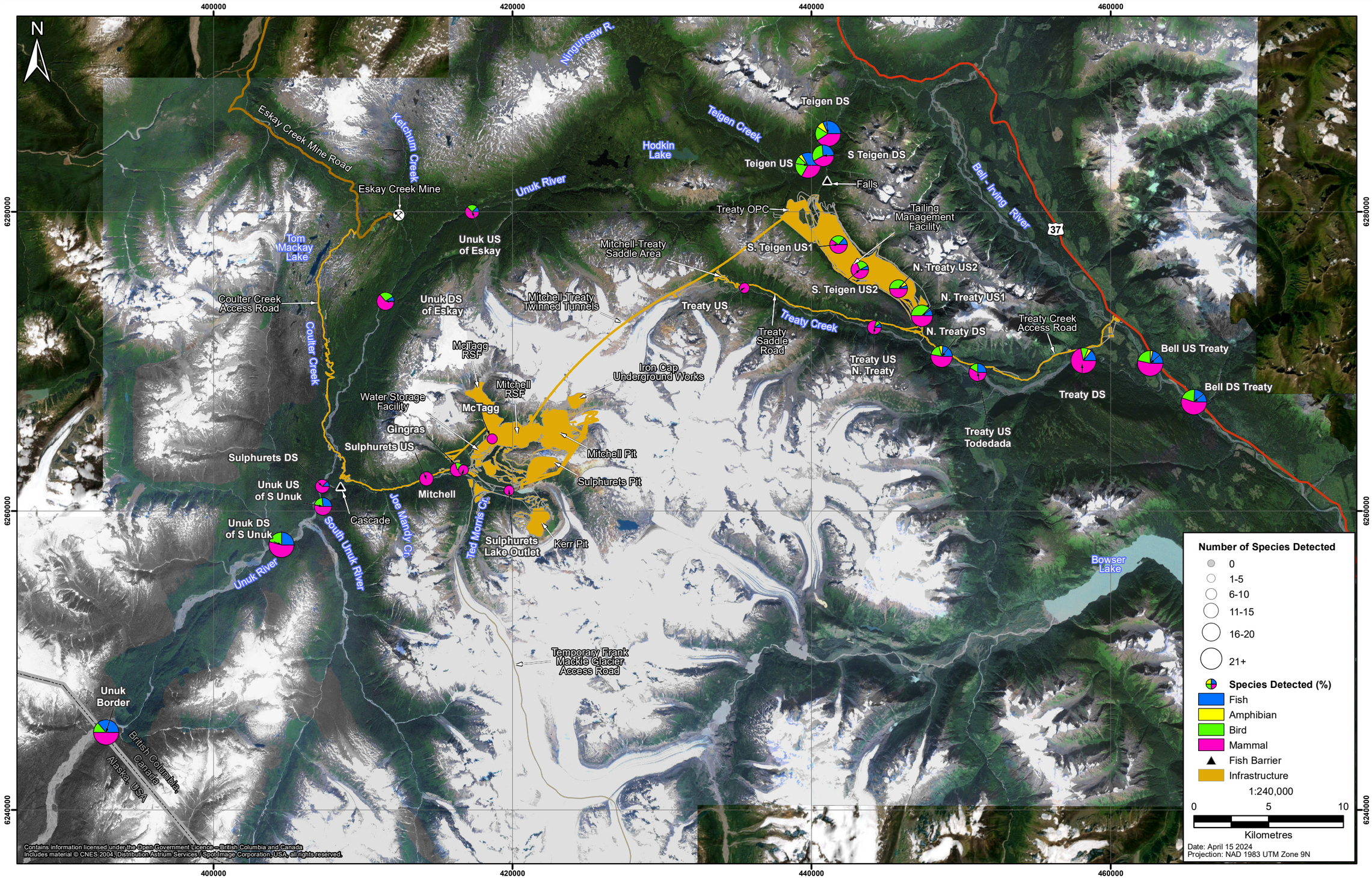


Figure 3.2-8: eDNA Sampling Results, August 2023

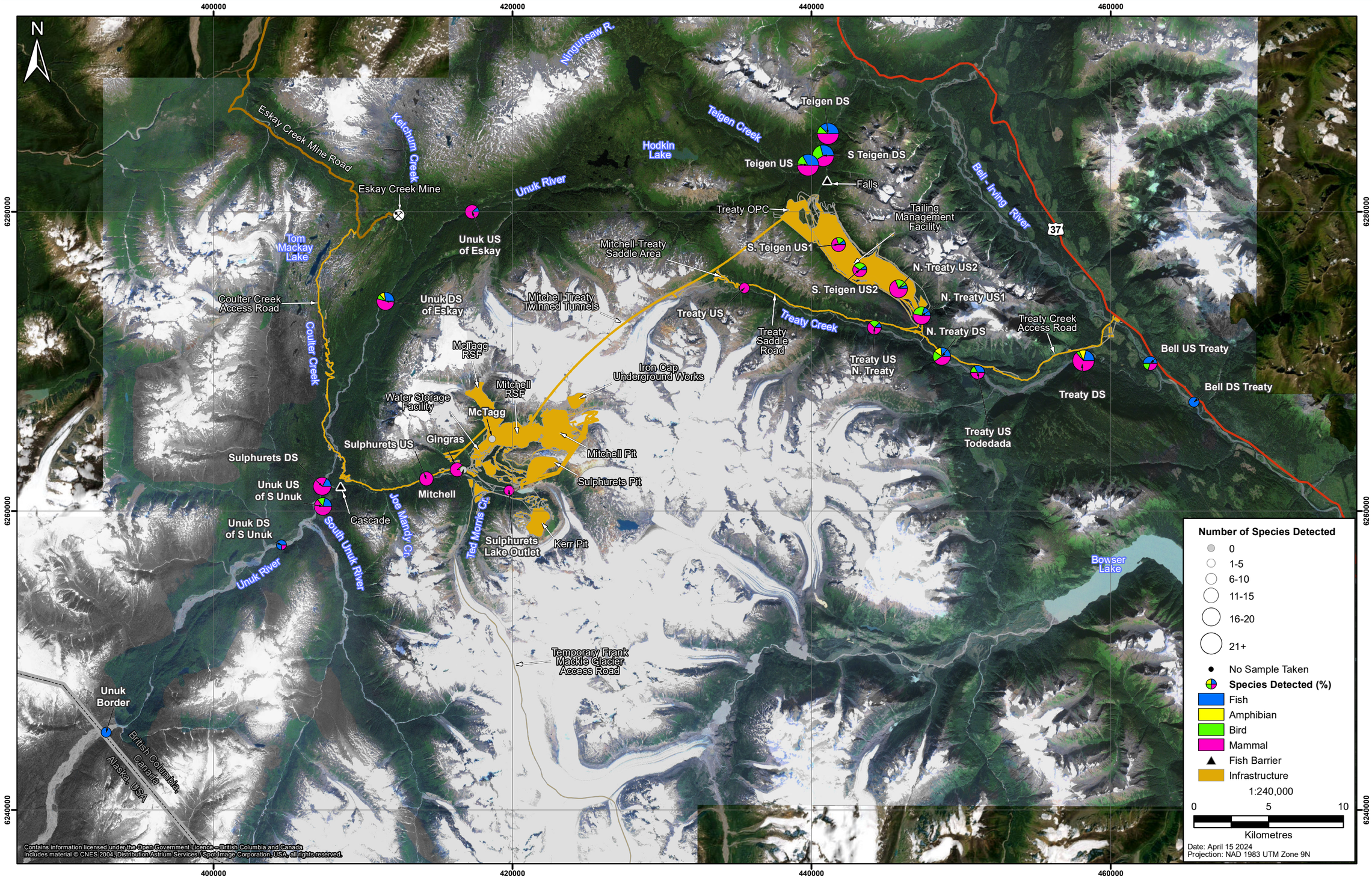


Figure 3.2-9: eDNA Sampling Results, September 2023

This species list detected through eDNA is similar to the species observed and collected during previous baseline sampling with the exception of three-spined stickleback, which was detected in 2022 at sites Unuk Border (September) and Unuk DS S. Unuk (June). Fish species richness was highest at Teigen Creek and the Bell-Irving River at sites (Teigen US, Bell DS Treaty and Bell US Treaty) with a total of nine species detected at each site (Table 3.2-1). Overall, species richness data obtained through metabarcoding was consistent with previous baseline study results (Rescan 2009a, 2010b, 2011a, 2012b, 2012c, 2015; ERM 2017a, 2018, 2021a, 2021c, 2023a, 2023b). Species richness was generally highest in September, which corresponds with fall-spawning salmonid species presence.

Table 3.2-1: Summary of Fish Species Detections, 2022 and 2023

Project Area	Watershed	Site Name	Number of Fish Species Detected						
			2022				2023		
			Jun	Sept	Oct	Nov	July	Aug	Sept
Mine Site	Unuk	Unuk US Eskay	2	3	2	1	1	1	1
		Unuk DS Eskay	2	2	1	1	1	1	3
		Unuk US of S. Unuk	1	3	3	3	4	4	3
		Unuk DS of S. Unuk	1	5	4	3	4	6	3
		Unuk Border	0	9	2	5	4	8	4
	Mitchell/ McTagg/ Gingras/Sulphurets	Mitchell	0	0	0	0	0	0	0
		McTagg	N/A	N/A	N/A	N/A	0	0	0
		Gingras	N/A	N/A	N/A	N/A	0	0	0
		Sulphurets Lake Outlet	0	0	0	0	0	0	0
		Sulphurets US	0	0	0	0	0	0	0
		Sulphurets DS	0	1	0	0	1	1	2
PTMA	Teigen	Teigen US	8	9	9	0	6	7	6
		Teigen DS	7	8	8	5	4	7	6
	South Teigen	S. Teigen US2	2	2	2	1	1	1	1
		S. Teigen US1	2	2	5	1	1	2	1
		S. Teigen DS	-	9	5	1	4	5	5
	North Treaty	N. Treaty US2	1	2	4	1	1	1	1
		N. Treaty US1	2	2	2	1	1	2	3
		N. Treaty DS	3	6	2	3	3	4	4
	Treaty	Treaty US	0	0	0	0	0	0	0
		Treaty US N. Treaty	3	2	2	3	1	1	1
		Treaty US Todedada	2	5	5	4	3	3	2
		Treaty DS	1	7	4	4	1	3	4
	Bell-Irving	Bell US Treaty	8	9	-	8	4	6	5
		Bell DS Treaty	7	9	-	6	6	7	4

Note:
N/A indicates site was not included during sampling year.
'-' indicates no sample taken due to safety concerns.

3.2.1.1 PTMA

Teigen Creek

Eight species were positively detected in Teigen Creek including:

- Chinook salmon;
- Coho salmon;
- Sockeye salmon;
- Rainbow trout;
- Bull trout;
- Dolly Varden;
- Mountain whitefish; and
- Longnose sucker.

Species detections with eDNA were consistent with observations from baseline and previous records in Teigen Creek, with the exception of longnose sucker which have not been captured in previous fishing efforts at this site (Rescan 2010b, Province of BC 2023). Bull trout have previously been captured in Teigen Creek and South Teigen Creek downstream of the barrier that limits fish access to the TMF (Rescan 2010). Longnose suckers have previously been captured in Hodkin Lake and Teigen Lake (Rescan 2009). Fish species richness was highest at Teigen US in August 2023, September and October 2022 (Table 3.2-1). No fish species were detected in Teigen US in November 2022.

Treaty Creek

A summary of all fish species DNA detections in Treaty Creek and the Bell-Irving River in 2022 and 2023 is presented in Table 3.2-2. The fish species detected in Treaty Creek include:

- Chinook salmon;
- Coho salmon;
- Sockeye salmon;
- Rainbow trout;
- Bull trout;
- Dolly Varden; and
- Mountain whitefish.

Species richness in Treaty Creek tended to increase moving downstream, with zero species detected at the uppermost site (Treaty US) and seven species detected at the lower Treaty Creek site (Treaty DS) in 2022 and 2023 samples. This is generally consistent with previous baseline sampling; however, some exceptions were observed. Chinook salmon and coho salmon DNA were identified in multiple months at site Treaty US Todedada, which is located approximately 1.2 km upstream of the Todedada Creek confluence. Chinook salmon DNA was detected further upstream at Treaty Creek US N. Treaty in 2022, which is located approximately 3.8 km upstream of the Treaty Creek confluence with Todedada (Table 3.2-2).
Chinook salmon were not captured in Treaty Creek during baseline studies (Rescan 2010b); however, they have been occasionally reported in the lower reaches (Province of BC 2023). These detections could be a result of dispersing individuals searching for spawning habitat, or the genetic material could have been transferred by a predator (e.g., bears or eagles).

Sockeye salmon are known to spawn in Todedada Creek (Province of BC 2023) and use Treaty Creek to access Todedada Creek. Sockeye salmon DNA was detected in Treaty DS, which is consistent with previous baseline results.

Dolly Varden and bull trout were the most commonly detected species in Treaty Creek in 2022; however, bull trout DNA was not detected in 2023. Several *Oncorhynchus* sp. detections could not be identified to species in 2023; however, it is expected these detections were rainbow trout because they are known to inhabit the Bell-Irving River and lower-middle Treaty Creek (ERM 2022a).

Table 3.2-2: Fish Species Detections Throughout Treaty Creek and the Bell-Irving River, 2022 and 2023

Species	Treaty US							Treaty US N. Treaty							Treaty US Todedada							Treaty DS							Bell US Treaty							Bell DS Treaty						
	2022				2023			2022				2023			2022				2023			2022				2023			2022				2023			2022				2023		
	June	Sept	Oct	Nov	July	Aug	Sept	June	Sept	Oct	Nov	July	Aug	Sept	June	Sept	Oct	Nov	July	Aug	Sept	June	Sept	Oct	Nov	July	Aug	Sept	June	Sept	Oct	Nov	July	Aug	Sept	June	Sept	Oct	Nov	July	Aug	Sept
Chinook Salmon	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	Y	Y	N	Y	N	N	Y	Y	Y	N	N	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	-	Y	Y	Y	Y
Coho Salmon	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	-	Y	Y	Y	Y
Sockeye Salmon	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	Y	Y	-	Y	N	Y	N	Y	Y	-	Y	N	Y	N
Rainbow Trout	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	Y	N	N	N	N	N	Y	Y	-	N	N	N	N	Y	Y	-	N	N	N	N
Bull Trout	N	N	N	N	N	N	N	Y	Y	Y	N	N	N	N	Y	Y	Y	N	N	N	N	N	Y	Y	N	N	N	N	Y	Y	-	Y	Y	Y	N	N	Y	-	Y	N	N	N
Dolly Varden	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	-	Y	Y	Y	Y
Mountain Whitefish	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	Y	Y	Y	Y	Y	N	Y	Y	N	Y	N	Y	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	-	Y	Y	Y	Y
Largescale Sucker	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	Y	N	N	N	N	N	-	N	N	N	N
Longnose Sucker	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	-	Y	Y	Y	N	Y	Y	-	Y	N	Y	N
Brown Bullhead	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	-	N	N	N	N	N	N	-	N	N	N	N
Longnose Dace	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	N	N	N	N	N	N	-	N	N	N	Y
Total Number of Pacific Salmon Species Detected	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**1**	**1**	**1**	**0**	**3**	**2**	**2**	**1**	**1**	**2**	**3**	**4**	**-**	**3**	**2**	**3**	**2**	**3**	**4**	**-**	**3**	**2**	**3**	**2**

Notes:
Y = Yes; N = No
'-' indicates no sample taken

South Teigen Creek

There is a 2.5 m impassable waterfall barrier (South Teigen Creek Falls) on South Teigen Creek (Figure 2.1-1; Rescan 2009a), which prevents upstream migration of fish. Site S. Teigen DS is located downstream of the barrier, approximately 100 m upstream of the confluence with Teigen Creek, and sites S. Teigen US1 and S. Teigen US2 are located upstream of the barrier. The DNA of nine fish species was detected at S. Teigen DS (downstream of the barrier) in 2022 and 2023 (Table 3.2-1; Table 3.2-3).

In 2022, Dolly Varden, bull trout, Chinook, sockeye and coho salmon DNA were detected upstream of the barrier on South Teigen Creek (Table 3.2-3), which conflicts with the results of the baseline study that found these areas only contain Dolly Varden. Chinook, sockeye and coho salmon DNA were detected in October samples at S. Teigen US1 (Table 3.2-3). Bull trout DNA was detected at S. Teigen US1 and S. Teigen US2 (furthest upstream of the barrier) in June, September and October, but was not detected in November.

It was suspected that the detections of Chinook and coho salmon upstream of the barrier in 2022 were due to environmental contamination (e.g., fecal matter from a predator or a surface transfer of DNA by other organisms [e.g., grizzly bears, raptors, etc.]). No evidence of Pacific salmon species upstream of the South Teigen Creek Falls has been recorded during past studies and the barrier is considered to be impassable to upstream migration (Rescan 2010b; ERM 2021c; ERM 2023). There is no barrier present between sites S. Teigen US1 and S. Teigen US2; therefore, the fish community would be expected to be the same between the two sites; however, eDNA results were variable between these two sites. To address the suspicion that these detections resulted from environmental contamination, sample collection methods were modified in 2023 to use a “clean hands, dirty hands” method. Following the implementation of this procedure, samples collected upstream of South Teigen Creek Falls in 2023 did not detect any species other than Dolly Varden, with the exception of a detection of mountain whitefish in S. Teigen US1 in August 2023. Therefor the positive detections of salmon upstream of South Teign Creek Falls in 2022 were due to environmental contamination.

Extensive sampling and genetic analyses of captured fish during baseline studies in South Teigen Creek determined that Dolly Varden was the only fish species present upstream of South Teigen Creek Falls (Rescan 2010b). Genetic analysis completed in 2009 indicated that the Dolly Varden population above South Teigen Creek Falls was reproductively isolated from the population of Dolly Varden below South Teigen Creek Falls. Dolly Varden from the population below South Teigen Creek Falls were homozygous for an allele that is normally diagnostic of bull trout. This characteristic was not noted in samples collected above South Teigen Creek Falls, indicating that there is no evidence of reproductive connectivity with the population downstream and that there was no evidence of bull trout above South Teigen Creek Falls (Rescan 2010b).

Based on the above information, bull trout detections upstream of the South Teigen Creek Falls in 2022 were hypothesized to occur from three potential sources: sequencing errors, hybridization between bull trout and Dolly Varden, and/or environmental contamination. In addition to the implementation of the “clean hands, dirty hands” protocol in 2023, qPCR analyses specifically targeting bull trout eDNA were conducted on water samples from South Teigen Creek. Bull trout DNA was not detected in qPCR samples collected from S. Teigen US1 and S. Teigen US2 in August 2023 (Table 3.2-4; Appendix F). Results from the qPCR analysis were consistent with the metabarcoding analysis from 2023 indicating there were no sequencing errors. Furthermore, genetic analysis of voucher specimens from fish collected from South Teigen Creek within the TMF footprint in 2023 identified all samples as homozygous for Dolly Varden alleles. No evidence of hybridization between Dolly Varden/bull trout was noted above South Teigen Creek Falls (Appendix G). Therefore, bull trout are not present in South Teigen Creek upstream of South Teigen Creek Falls and detections in 2022 were due to environmental contamination.

Table 3.2-3: Fish Species Detection in TMF Watercourses (North Treaty Creek/South Teigen Creek), 2022 and 2023

Species	S. Teigen US2							S. Teigen US1							S. Teigen DS							N. Treaty US2							N. Treaty US1							N. Treaty DS						
	2022				2023			2022				2023			2022				2023			2022				2023			2022				2023			2022				2023		
	June	Sept	Oct	Nov	July	Aug	Sept	June	Sept	Oct	Nov	July	Aug	Sept	June	Sept	Oct	Nov	July	Aug	Sept	June	Sept	Oct	Nov	July	Aug	Sept	June	Sept	Oct	Nov	July	Aug	Sept	June	Sept	Oct	Nov	July	Aug	Sept
Chinook Salmon	N	N	N	N	N	N	N	N	N	Y*	N	N	N	N	-	Y	N	N	N	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	Y	Y	Y	Y
Coho Salmon	N	N	N	N	N	N	N	N	N	Y*	N	N	N	N	-	Y	Y	N	Y	Y	Y	N	N	Y	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	N	Y	Y	Y	Y
Sockeye Salmon	N	N	N	N	N	N	N	N	N	Y*	N	N	N	N	-	Y	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	Y	N
Rainbow Trout	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N
Bull Trout	Y*	Y*	Y*	N	N	N	N	Y*	Y*	Y*	N	N	N	N	-	Y	Y	N	Y	Y	Y	N	Y	Y	N	N	N	N	Y	Y	Y	N	N	N	N	Y	Y	Y	N	N	N	Y
Dolly Varden	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Mountain Whitefish	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	-	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Longnose Sucker	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Notes:
'-' indicates no sample taken due to unsafe sampling conditions
Y = Yes; N = No
**= false positive*

Table 3.2-4: Summary of Targeted (qPCR) eDNA Analysis Results, August 2023

Waterbody	Site	Field Replicate	Date Filtered	Lab Results[1]	Bull Trout Presence
South Teigen Creek	S. Teigen US2	A	16-Aug-23	0/8	Absent
		B		0/8	
		C		0/8	
	S. Teigen US1	A	16-Aug-23	1/8	Absent
		B		0/8	
		C		0/8	
	S. Teigen DS	A	14-Aug-23	8/8	Present
		B		4/8	
		C		4/8	
North Treaty Creek	N. Treaty US2	A	15-Aug-23	0/8	Absent
		B		0/8	
		C		0/8	
	N. Treaty US1	A	14-Aug-23	0/8	Absent
		B		0/8	
		C		0/8	
	N. Treaty DS	A	13-Aug-23	0/8	Absent
		B		0/8	
		C		0/8	

Note:

[1] Eight technical replicates were assayed per eDNA sample. Results are reported as the number of positive detections (n) in technical replicates of the same sample, n/8

North Treaty Creek

While no definitive barrier is present on North Treaty Creek, fish passage between the upper reaches of the North Treaty watershed and Treaty Creek is hindered by poor habitat in the lowest reach closest to Treaty Creek. In this reach, North Treaty Creek flows over an extensive alluvial fan and the stream is characterized by poorly defined banks, discontinuous flow, and a dynamic nature that sees the flow path frequently change (Rescan 2010b). These conditions make it unlikely that salmon or bull trout migrate from Treaty Creek into the upper reaches of North Treaty Creek; however, they may access the lower reach of North Treaty Creek closest to Treaty Creek. Neither bull trout nor Pacific salmon have been captured in North Treaty Creek upstream of the alluvial fan during historical studies (Rescan 2009a, Rescan 2010b, ERM 2021c).

Downstream of the alluvial fan on North Treaty Creek, the DNA of six species were detected at N. Treaty DS in 2022 including bull trout, Chinook salmon, coho salmon, sockeye salmon, Dolly Varden, and rainbow trout (Table 3.2-1; Table 3.2-3). All six species' DNA were detected in September, and only bull trout and Dolly Varden DNA were detected during all four sampling periods. In 2023, only five fish species' DNA were positively detected including coho salmon, Chinook salmon, Dolly Varden, bull trout and sockeye salmon (Table 3.2-3). This site is located approximately 100 m upstream of the confluence

with Treaty Creek (at the outlet of the proposed Treaty Creek FHOP) and Pacific salmon species and bull trout may move into this site from Treaty Creek.

Similar to baseline records in South Teigen Creek, multiple years of fishing efforts completed in North Treaty Creek upstream of the alluvial fan have only detected Dolly Varden (Rescan 2009a, Rescan 2010b; ERM 2021c). Genetic analyses conducted on fish captured during baseline studies in 2009 led to the conclusion that Dolly Varden was the only species present in the upper reaches of North Treaty Creek and that the population was genetically isolated from the Dolly Varden population of Treaty Creek (Rescan 2010b).

In 2022, Dolly Varden was the only species detected at site N. Treaty US2 (furthest upstream) in June and November; however, samples collected in September yielded Dolly Varden and bull trout DNA (Table 3.2-3). In addition to these two species, Chinook, coho and sockeye salmon DNA were detected in October samples at this site (Table 3.2-3). Dolly Varden and bull trout DNA were also detected at site N. Treaty US1 in June, September and October, and only Dolly Varden DNA were detected in November (Table 3.2-3).

In response to these unexpected detections and following the same treatment as the unexpected detections in South Teigen Creek described above, additional controls (i.e., “clean hands, dirty hands”) were implemented and additional sampling (i.e., qPCR samples and fish voucher samples) was conducted in 2023 to address the source of these detections in North Treaty Creek. Samples collected in 2023 with the “clean hand, dirty hands” method did not yield any positive results for species other than Dolly Varden at N. Treaty US1 or N. Treaty US2. Results from qPCR analysis of water samples collected from N. Treaty US1, N. Treaty US2 and N. Treaty DS in August 2023 did not detect bull trout DNA and were consistent with results from metabarcoding analysis at the same sites (Table 3.2-4) (Appendix F). Results of the genetic analysis of fish voucher specimens collected in North Treaty Creek in 2023 did not detect bull trout or bull trout/Dolly Varden hybrids (Appendix G).

Thus, detections of bull trout and Pacific salmon DNA in upper North Treaty Creek in 2022 were a result of environmental contamination, and Dolly Varden is the only fish species present upstream of the alluvial fan.

Bell-Irving River

Fish species richness was highest in the Bell-Irving River (n=10 in 2022 and n=7 in 2023) at sites located upstream and downstream of the Treaty Creek confluence (Table 3.2-1, Table 3.2-2). Detections that could not be differentiated between pink and sockeye salmon were most likely to be sockeye salmon based on baseline knowledge of spawning areas and species database observations (Godwin and Krkosek 2022, FIDQ 2023). A number of unknown *Oncorhynchus* detections in the 2023 data are suspected to represent rainbow trout detections; however, they were not included in the analysis as they could not be identified to species.

Brown bullhead were detected at Bell US Treaty in June 2022 (Table 3.2-2; Appendix D; Appendix E). Brown bullhead are endemic to eastern North America; however, they have been introduced in various watercourses and a population now exists in British Columbia in the lower Fraser River and in several waterbodies on Vancouver Island (Scott and Crossman 1973). It is unlikely that this detection is accurate; however, it is noted here for future monitoring. Longnose dace were detected at site Bell US Treaty in September 2023 (Table 3.2-2). Although this species is widely distributed across Canada (Scott and Crossman 1973), it has not been observed in previous studies on the Bell-Irving River (FIDQ 2023), thus this detection represents a potential new species detection for the Bell-Irving River. The brown bullhead and longnose dace have not been physically observed.

3.2.1.2 Mine Site

Sulphurets Creek has a 200-m long cascade that is a barrier to fish migration upstream of Sulphurets DS sampling site (Figure 2.2-1). Baseline fishing efforts throughout Sulphurets Creek has led to the conclusion that Sulphurets Creek is non-fish-bearing above the cascade (Rescan 2010b). The non-fish bearing status of Sulphurets Creek upstream of the cascade was confirmed using eDNA, where there were no fish detections at Sulphurets US and Sulphurets Lake Outlet as well as at sites on Mitchell Creek, McTagg Creek and Gingras Creek (Appendix D; Appendix E).

The DNA of ten species was positively detected in Mine Site streams downstream of the barrier on Sulphurets Creek, including:

- Chinook salmon;
- coho salmon;
- sockeye salmon;
- pink salmon;
- chum salmon;
- cutthroat trout;
- bull trout;
- Dolly Varden;
- coastrange sculpin; and
- three-spined stickleback.

Sulphurets Creek

At Sulphurets DS the only fish species observed in baseline studies was Dolly Varden; however, this was not confirmed through genetics (Rescan 2010b). In 2022, bull trout DNA was found at Sulphurets DS which is approximately 100 m upstream of the confluence of Sulphurets Creek and the Unuk River. However, only Dolly Varden DNA was detected at this location in July and August of 2023; coho salmon DNA was detected in addition to Dolly Varden in September 2023 samples. Coho salmon and bull trout inhabit the Unuk River, thus it is possible that these fish species periodically use the lower portion of Sulphurets Creek. The detection of bull trout and coho salmon DNA in Sulphurets DS through eDNA sampling represents species detections in this area not previously recorded in baseline reports.

Unuk River

The majority of the salmon spawning and rearing in the Unuk River occurs in the lower 39 km of the Alaska section (Mecum and Kissner 1989) and in Border Lake, approximately 2 km upstream of the BC-Alaska border/site Unuk Border. Border Lake supports Chinook, sockeye, pink, coho, and chum salmon (Tripp 1987; DFO 1987). Canyons located upstream of Border Lake, between sites Unuk Border and Unuk DS S. Unuk, have historically restricted the upstream migration of pink and chum salmon; however, spawning and rearing of sockeye, Chinook, and coho salmon were known to extend as far upstream as Storie Creek, which is approximately 15 km upstream of the confluence of Sulphurets Creek and the Unuk River (Reach 7; Knight Piesold and Homestake 1993) and approximately 2 km downstream of site Unuk DS Eskay.

Fish species richness tended to be lowest in the sites furthest upstream in the Unuk River and highest at the sites furthest downstream, with greater fish species richness detected within each site in the fall, coinciding with the timing of spawning activity for the majority of species present within the Unuk River (see Table 3.2-5; Scott and Crossman, 1987; Tripp 1987; DFO 1987; Rescan 2010b; Province of BC 2023; FIDQ 2023). Dolly Varden were the most commonly detected species in samples from the Unuk River (Appendix E). While the higher incidence of species detections in the late summer and fall could be due to spawning and migration activities, it is also possible that higher flows in early summer resulted in in lower eDNA concentrations (and hence, detections) due to dilution, and that fish species detected in the fall are still present in spring and early summer.

Detections of three-spined stickleback, pink salmon and chum salmon DNA (Table 3.2-5) were new compared to baseline studies (Rescan 2010b). Historically, pink and chum salmon have been observed in the Unuk River near the USA border and in Border Lake (Province of BC 2023). Chum salmon arrive at spawning grounds in rivers as early as July in northern BC, while pink salmon migrate into rivers between June and September depending on location (Scott and Crossman, 1973) (Table 3.2-5). Chum salmon were detected further upstream than had been previously noted in baseline studies or provincial records at Unuk US of S. Unuk in August 2023 (Appendix E; Rescan 2010b; Province of BC 2023; FIDQ 2023). These detections could represent small numbers of fish straying further upstream than normal during spawning, or the DNA could have been introduced to the system via other means (e.g., transfer from a predator). The presence of three-spined stickleback represents a species detection in the area that has not been previously recorded; however, this species has a wide range in BC and its detection in the Unuk River is not surprising.

Sites located in the upper Unuk River watershed (i.e., Unuk US Eskay and Unuk DS Eskay) had fewer species of fish detected than sites located lower in the watershed (Table 3.2-5). Dolly Varden and bull trout DNA were detected in the majority of samples at both upstream sites in 2022; however, bull trout DNA were absent from both sites in 2023 (Table 3.2-5; Appendix E). In 2022, coho salmon, sockeye salmon, and Dolly Varden DNA were found at site Unuk US Eskay in September, while only Dolly Varden DNA was detected at this site in 2023 (Appendix E). Coho and Chinook salmon DNA were detected at site Unuk DS Eskay in September 2023, suggesting that these three Pacific salmon species (coho, sockeye and Chinook), which generally arrive at spawning grounds in late summer to early fall in northern BC (Scott and Crossman, 1973), may travel further upstream in the Unuk River than previously recorded (Knight Piesold and Homestake 1993), or that their DNA may have been transported to this site through natural means (e.g., predators).

The lower Unuk River sites (Unuk Border, Unuk DS S. Unuk and Unuk US S. Unuk) were the only areas where cutthroat trout DNA was detected in the Project area, with detections noted in September and November 2022 and July and August 2023 (Table 3.2-5; Appendix E). These detections of fish DNA correlate with known spawning times for Pacific salmon species and indicate that all five species of Pacific salmon as well as char and trout are using the lower Unuk River.

3.2.2 Herptiles

Three herptile species were detected through eDNA between 2022 and 2023 including:

- Western toad (*Anaxyrus boreas*);
- Columbia spotted frog (*Rana luteiventris*); and
- Rough-skinned newt (*Taricha granulosa*)

A summary of species richness at all sites assessed in 2022 and 2023 is presented in Table 3.2-6.

Table 3.2-5: Fish Species Detections throughout the Unuk River, 2022 and 2023

Species	Unuk US Eskay							Unuk DS Eskay							Unuk US S. Unuk							Unuk DS S. Unuk							Unuk Border						
	2022				2023			2022				2023			2022				2023			2022				2023			2022				2023		
	June	Sept	Oct	Nov	July	Aug	Sept	June	Sept	Oct	Nov	July	Aug	Sept	June	Sept	Oct	Nov	July	Aug	Sept	June	Sept	Oct	Nov	July	Aug	Sept	June	Sept	Oct	Nov	July	Aug	Sept
Chinook Salmon	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N	Y	N	Y	Y	Y	Y
Chum Salmon	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	Y	N
Coho Salmon	N	Y	N	N	N	N	N	N	N	N	N	N	N	Y	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y
Pink Salmon	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N
Pink Salmon/Sockeye Salmon[1]	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N
Sockeye Salmon	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	Y	N	N	N	Y	N	N	Y	N	N	N	Y	N
Bull Trout	Y	N	Y	N	N	N	N	Y	Y	Y	N	N	N	N	Y	Y	N	N	N	N	N	N	Y	Y	N	N	N	N	N	Y	N	N	N	N	N
Coastrange Sculpin	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	Y	Y	Y	N
Cutthroat Trout	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	Y	Y	N	N	Y	N	Y	N	Y	N
Dolly Varden	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y
Three-Spined Stickleback	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	Y	N	N	N	N	N

Notes:

Y = Yes; N = No

[1] eDNA metabarcoding analysis was unable to separate the species and therefore they are presented as one detection.

Table 3.2-6: Summary of Amphibian Detections, 2022 and 2023

Watershed	Site Name	Number of Herptile Species Detected						
		2022				2023		
		June	Sept	Oct	Nov	July	Aug	Sept
Unuk	Unuk US Eskay	0	0	0	0	0	0	0
	Unuk DS Eskay	0	0	0	0	0	0	1
	Unuk US of S. Unuk	0	0	0	0	0	0	0
	Unuk DS of S. Unuk	0	0	0	0	1	0	0
	Unuk Border	0	0	0	0	0	0	0
Mitchell/ Sulphurets	Mitchell	0	0	0	0	0	0	0
	McTagg	N/A	N/A	N/A	N/A	0	0	0
	Gingras	N/A	N/A	N/A	N/A	0	0	0
	Sulphurets Lake Outlet	0	0	0	0	0	0	0
	Sulphurets US	0	0	0	0	0	0	0
	Sulphurets DS	0	0	0	0	0	0	0
Teigen	Teigen US	0	0	0	0	1	1	0
	Teigen DS	0	0	0	0	0	2	0
South Teigen	S. Teigen US2	0	0	0	0	0	0	0
	S. Teigen US1	0	1	0	0	0	0	0
	S. Teigen DS	-	0	0	1	0	0	0
North Treaty	N. Treaty US2	0	0	0	0	0	1	0
	N. Treaty US1	0	0	0	0	1	0	0
	N. Treaty DS	1	1	0	1	1	1	2
Treaty	Treaty US	0	0	0	0	0	0	0
	Treaty US N. Treaty	0	0	0	0	0	0	0
	Treaty US Todedada	0	0	0	0	0	0	0
	Treaty DS	0	3	1	0	0	1	2
Bell-Irving	Bell US Treaty	0	0	-	0	1	0	0
	Bell DS Treaty	1	1	-	0	0	1	0

Note:
N/A indicates site was not included during sampling year.
'-' indicates no sample taken due to safety concerns.

Seven herptile species were listed in the *2009 Wildlife Characterization Baseline Report* (Rescan 2010a). Two species were thought to be unlikely to be present, including common garter snake (*Thamnophis sirtalis*) and northwestern salamander (*Ambystoma gracile*). Western toad (Photo 3.2-1), Columbia spotted frog, long-toed salamander (*Ambystoma macrodactylum*), rough-skinned newt (*Taricha granulosa*) and wood frog (*Rana sylvatica*) were identified as likely to be common species in the Project area. Of these species, the garter snake is least likely to be detected in water samples with eDNA sampling, as it is an entirely terrestrial species. All other species spend some part of their life history in water, as eggs and larvae, and some species spend significant parts of their adult lives in or near water

(Columbia spotted frog and wood frog). Habitat preferences of frogs, and larval forms of toads, salamanders, and newts facultatively includes wetlands and other lentic or slow-moving water bodies. Detection of frog, salamander and newt DNA in stream samples likely represents either downstream flow of DNA from upper watershed sources, opportunistic detections of migrating animals, or naturally occurring contamination from predator feces or surface transfer. However, consistent detections of herptile species eDNA in stream samples would represent a presence of that species within the region, watershed of the location of detection, or a nearby lentic water source. Lentic water habitats were not sampled for eDNA. Therefore, a lack of detection in stream water samples collected throughout the Project area does not necessarily imply absence of the species.

Photo 3.2-1: Western toad (*Anaxyrus boreas*) observed at the Glacier Creek FHOP area (July 2022).

Columbia spotted frog DNA was detected in South Teigen Creek (S. Teigen US1) and in lower Treaty Creek (Treaty DS). During ground surveys in 2008, Columbia spotted frog were noted near the Unuk River upstream of the Sulphurets Creek influence, near the upper reaches of the Unuk River, near the upper reaches of West Teigen Creek downstream of NoName Lake, and in the Coulter Creek drainage which empties into the Unuk River (Rescan 2010a). Thus, the eDNA data collected may imply that Columbia spotted frog also likely inhabits a larger area within the Project site than previously identified through baseline studies.

Rough-skinned newt DNA was detected in 2023 in the Unuk River (Unuk DS of S. Unuk) in the July sample only. No observations of rough-skinned newt were found in 2008 or 2009 baseline surveys; however, in the *2009 Wildlife Characterization Baseline Report*, this species was listed as present in the Project area (Rescan 2010a).

Salamander DNA (presumably long-toed or northwestern) was detected at Treaty DS in September 2022. Although it is likely this species was present in the study area, no visual observations of salamanders were noted in either 2008 or 2009 surveys (Rescan 2010a), and this observation may indicate a more specific presence of salamanders within this watershed.

Western toad, rough-skinned newt, Columbia spotted frog, and an unidentified salamander species (presumably either long-toed or northwestern salamander; Appendix E) were all detected in stream samples in 2022 and 2023. In 2022, amphibian detections were limited to the PTMA and no detections

were recorded at the Mine Site, contrary to baseline studies (Table 3.2-6). Few detections were found in the Unuk Watershed in 2023. No herptile species' DNA was detected in the Sulphurets/Mitchell watershed stream sites in any samples, as these high-altitude areas are heavily influence by cold, glacially fed streams, and the habitat is not considered appropriate to herptile species.

Western toads were the most commonly detected species in eDNA samples, correlating with higher abundance of incidental observations. In 2022, western toad DNA was detected in lower South Teigen Creek (S. Teigen DS), lower North Treaty Creek (N. Treaty DS), lower Treaty Creek (Treaty DS) and the Bell-Irving River (Bell DS Treaty). Western toad DNA was also detected in 2023 in Teigen Creek (Teigen US and Teigen DS), lower and mid North Treaty Creek (N. Treaty DS and N. Treaty US1), lower Treaty Creek (Treaty DS) and the Bell-Irving River (Bell US and Bell DS). Amphibian surveys completed throughout the Project area in 2008 and 2009 found western toad breeding ponds and adult toads at three sites: two near the upstream extent of West Teigen Creek along the margins of NoName Lake and one in lower Teigen Creek near the confluence with the Bell-Irving River (Rescan 2010a). Incidental western toad observations were also noted at KSM Camp located in upper Sulphurets Creek and in the South Teigen Creek watershed near the northern extent of the TMF footprint (Rescan 2010a).

Sites in the Treaty Creek watershed were evaluated as being unlikely to support western toads in baseline studies (Rescan 2010a). Thirty sites on or near Treaty Creek and one site in North Treaty Creek were assessed aerially for potential western toad breeding habitat in 2008 and 2009 and all were rated poor and were deemed unlikely to support western toad breeding activities (Rescan 2010a). Toads were not observed at four sites, three of which were on the western slope of the North Treaty Creek watershed in the TMF area and one in the North Treaty Creek valley when ground-truthed in 2009. Thus, the consistent eDNA detections of western toads in samples from Treaty Creek watershed sites likely indicate that this species inhabits a larger area than previously identified through baseline studies and that toads may be using sub-optimal habitat for breeding.

Overall, all likely species of herptiles with some aquatic component in their life history were detected through eDNA samples of streams to a greater extent than they were through baseline monitoring methods. Information provided by eDNA metabarcoding contributed to enhanced understanding of the distribution of herptiles across the Project site, where visual observations of these often cryptic species can be challenging and time-consuming using standard monitoring techniques.

3.2.3 Birds

Twenty-three bird species were detected through eDNA between 2022 and 2023 including:

- Cedar waxwing (*Bombycilla cedrorum*);
- Dark-eyed junco (*Junco hyemalis*);
- Pacific wren (*Troglodytes pacificus*);
- Swainson's thrush (*Catharus ustulatus*);
- Bald eagle (*Haliaeetus leucocephalus*);
- Harlequin duck (*Histrionicus histrionicus*);
- Long-tailed duck (*Clangula hyemalis*);
- Red-breasted merganser (*Mergus merganser*);
- White-tailed ptarmigan (*Lagopus leucura*);
- Spruce grouse (*Falcipennis canadensis*);
- American dipper (*Cinclus mexicanus*);
- American robin (*Turdus migratorius*);
- Varied thrush (*Ixoreus naevius*);
- Spotted sandpiper (*Actitis macularius*);
- Solitary sandpiper (*Tringa solitaria*);
- Green-winged teal (*Anas carolinensis*);
- Wilson's snipe (*Gallinago delicata*);
- Yellow-bellied sapsucker (*Sphyrapicus varius*);
- Golden-crowned kinglet (*Regulus satrapa*);
- Ruby-crowned kinglet (*Regulus calendula*);
- Black-capped chickadee (*Poecile atricapillus*);
- Red-breasted nuthatch (*Sitta canadensis*); and
- Veery (*Catharus fuscescens*).

In 2022, thirteen bird species were positively detected throughout the Project area while nineteen species were detected in 2023. Increased bird species richness in samples could be attributed to the increased water volumes filtered in 2023, thus yielding a larger amount of eDNA for analysis. Since most of these birds are terrestrial, their DNA likely occurs at very low concentrations in the water; thus, a higher volume is more likely to increase detection compared to species that occupy aquatic habitats. Species richness was highest in September, and consistent with other animal groups, the PTMA was more diverse than the Mine Site (Table 3.2-7).

Table 3.2-7: Summary of Bird Detections, 2022 and 2023

Watershed	Site Name	Number of Bird Species Detected						
		June	Sept	Oct	Nov	July	Aug	Sept
Unuk	Unuk US Eskay	0	0	0	0	1	2	0
	Unuk DS Eskay	0	0	1	0	3	3	1
	Unuk US of S. Unuk	0	0	0	1	4	3	2
	Unuk DS of S. Unuk	0	0	1	0	2	5	0
	Unuk Border	0	0	0	0	1	3	0
Mitchell/ Sulphurets	Mitchell	0	0	0	0	0	0	0
	McTagg	N/A	N/A	N/A	N/A	0	0	0
	Gingras	N/A	N/A	N/A	N/A	1	3	1
	Sulphurets Lake Outlet	0	0	0	0	0	0	0
	Sulphurets US	0	0	0	0	1	0	0
	Sulphurets DS	0	0	0	0	3	0	0
Teigen	Teigen US	0	2	0	0	3	6	3
	Teigen DS	2	1	1	0	0	4	2
South Teigen	S. Teigen US2	0	0	0	0	4	3	3
	S. Teigen US1	1	3	0	0	4	4	2
	S. Teigen DS	-	2	1	0	4	6	5
North Treaty	N. Treaty US2	0	1	0	0	2	5	3
	N. Treaty US1	0	2	0	0	3	6	4
	N. Treaty DS	0	1	0	0	4	3	3
Treaty	Treaty US	0	1	0	0	0	0	0
	Treaty US N. Treaty	0	1	0	0	1	1	2
	Treaty US Todedada	0	0	0	0	3	2	1
	Treaty DS	0	2	0	0	0	2	1
Bell-Irving	Bell US Treaty	1	3	-	1	2	6	2
	Bell DS Treaty	1	1	-	1	1	6	0

Note:
'-' indicates no sample taken
N/A indicates site was not included during sampling year

Most bird species known to exist within the study area from baseline studies, with the exception of waterbirds and raptors, have limited interactions with aquatic habitats and would not be expected to be detected regularly through this method. Detection of terrestrial birds with larger summer home ranges are more likely to represent incidental observations. However, as with herptiles, consistent detection of terrestrial birds at sites is likely to represent higher use of areas within the watershed for those species with limited summer home ranges. Thus, the results of this section are divided into:

- Raptors: where detections are expected in fish-bearing areas due to predation on fish, but detections may be incidental by watershed due to larger summer home range sizes;
- Terrestrial breeding birds: detections are not expected, but consistent detections likely indicate presence within the watershed; and
- Water-dependent birds: detections are expected, and indicative of more significant habitat usage near to the location of detection.

3.2.3.1 Raptors

An unknown goshawk species was detected at Treaty DS and Unuk Border in 2023 (Appendix D). Metabarcoding was only able to identify this to genus (*Accipiter*). Two species of *Accipiter* are listed as likely present within the Project area, the sharp-shinned hawk (*Accipiter striatus*) and the northern goshawk (*Accipiter gentilis*; Rescan 2010a). These detections were excluded from analysis as they could not be positively identified to species; however, it is likely that they can be attributed to one of the two likely present species noted, and the detections are more likely to be northern goshawk as these were observed during field surveys in 2023.

During baseline studies, bald eagles were observed throughout the Unuk River watershed as well as in Teigen Creek and lower Treaty Creek (Rescan 2010a). In 2022, the only bald eagle detection was at site Teigen DS in October (Appendix E). In 2023, the number of detections of bald eagle increased with the change in sampling methods. Bald eagles were detected at sites consistent with baseline observations, on the Unuk River (Unuk Border, Unuk DS of S. Unuk and Unuk US of S. Unuk), on Teigen Creek (Teigen US) and on the Bell-Irving River (Bell DS Treaty). Bald eagles feed primarily on fish, and to a lesser extent on waterbirds and small mammals; they are the most water-dependent of the raptors observed in the Project site. The smallest average daily movement distances of bald eagles occurs during the non-breeding period in summer and fall months as a result of salmon availability at spawning sites; bald eagles travel on average 5 to 10 km per day (Wheat et al. 2017). The detection of bald eagles throughout the upper Unuk watershed is likely reflective of the fish-bearing (and in particular, salmon-bearing) status of this watercourse.

3.2.3.2 Terrestrial Breeding Birds

Eight terrestrial breeding bird species were identified through eDNA metabarcoding analysis in 2022 while twelve were detected in 2023 (Appendix E). Species detected in 2022 include white-tailed ptarmigan (Photo 3.2-2), American robin, cedar waxwing, dark-eyed junco, Pacific wren, Swainson's thrush, varied thrush and veery. Species detected in 2023 included all those noted in 2022 except the cedar waxwing, as well as new detections of black-capped chickadee, ruby-crowned kinglet, golden-crowned kinglet, red-breasted nuthatch and yellow-bellied sapsucker. These species tend to be abundant across the survey area, thus were most likely to be detected in eDNA samples, despite limited interactions with water.

The Eurasian wren (*Troglodytes troglodytes*) was detected in many samples; however, this species is endemic to Eurasia and Africa (IUCN 2023). It is likely that this detection represents the presence of Pacific wren, a closely related species, which is common in the study area. As such, all detections of Eurasian wren were replaced with Pacific wren for analysis.

Photo 3.2-2: White-tailed ptarmigan (June 2022).

Terrestrial breeding bird species were detected throughout the PTMA in Teigen Creek, South Teigen Creek, North Treaty Creek, Treaty Creek and the Bell-Irving River watersheds (Appendix E). Terrestrial breeding bird detections were highest on the Bell-Irving River. Five terrestrial bird species were detected at Bell US Treaty in 2022 and 2023, and six terrestrial bird species were detected at Bell DS Treaty in August 2023 (Table 3.2-7).

Two terrestrial breeding bird species were detected in the Mine Site area in 2022: one at Unuk DS S. Unuk (Pacific wren) and one at Unuk DS Eskay (varied thrush); both detections occurred in October. In 2023, bird species detections at sites within the Mine Site area increased, with positive detections at eight of the eleven sites and in the majority of sampling months (Table 3.2-7).

Between 2008 and 2009, a total of 60 terrestrial breeding bird species were identified during baseline surveys (Rescan 2010a). All species detected in 2022 and 2023 metabarcoding samples are known to inhabit the Project area (Rescan 2010a). It was not expected that bird species having little association with aquatic habitats would be detected in great numbers through eDNA samples from stream; however, the consistent presence of these birds in stream samples may indicate the relatively higher abundance of these birds compared to other species, or potentially those birds having somewhat greater interactions with aquatic habitats than other terrestrial breeding birds observed during baseline studies.

3.2.3.3 Water-Dependent Birds

Water-dependent birds include groups such as diving and dabbling ducks, loons, geese, swans, gulls, and shorebirds. Four species of water dependent birds were detected in 2022 including American dipper, harlequin duck, long-tailed duck and red-breasted merganser (Appendix E). In 2023, seven species were detected including Wilson’s snipe, American teal, spotted sandpiper, solitary sandpiper, American dipper and harlequin duck (Appendix E). All of the water dependent bird species detected are known to either inhabit the Project area or are migratory birds that have been previously known to spend some time in the area (Rescan 2010a).

Harlequin duck and Long-tailed duck both occur on BC conservation lists and were detected within the KSM Project area. Harlequin duck DNA was detected at one site in June (Teigen DS) and three sites in September 2022 (Teigen US, S. Teigen DS, and N.Treaty DS) and at two sites in July (Unuk DS Eskay and S. Teigen DS) and one site in August 2023 (N. Treaty US1). Harlequin ducks are Yellow-listed in BC and are of regional concern as they occupy unique breeding habitat along fast-flowing rocky rivers (H. Visty pers. comm.; BC Conservation Data Centre 1995). Long-tailed ducks were detected at one site on the Unuk River (Unuk US S. Unuk) in November 2022. Long-tailed ducks are Blue-listed (Special Concern) in BC, with very few breeding records in the province. Long-tailed ducks migrate through the KSM Project area and use similar habitats to other diving ducks (i.e., fish-bearing lakes and watercourses) (H. Visty pers. comm.).

3.2.4 Mammals

Thirty-four mammal species were detected through eDNA between 2022 and 2023 including:

- Mountain goat (*Oreamnos americanus*);
- Bighorn sheep (*Ovis canadensis*);
- Moose (*Alces alces*);
- White-tailed deer (*Odocoileus virginianus*);
- Wolverine (*Gulo gulo*);
- North American river otter (*Lontra canadensis*);
- American Marten (*Martes americana*);
- American ermine (*Mustela richardsonii*);
- American mink (*Mustela vison*);
- American black bear (*Ursus americanus*);
- Grizzly bear (*Ursus arctos*);
- Snowshoe hare (*Lepus americanus*);
- European rabbit (*Oryctolagus cuniculus*);
- American beaver (*Castor canadensis*);
- Nearctic brown lemming (*Lemmus trimucronatus*);
- Collared lemming (*Dicrostonyx groenlandicus*);
- Long-tailed vole (*Microtus longicaudus*);
- Eastern meadow vole (*Microtus pennsylvanicus*);
- Northern red-backed vole (*Myodes rutilus*);
- Common muskrat (*Ondatra zibethicus*);
- Keen's mouse (*Peromyscus keeni*);
- Deer mouse (*Peromyscus maniculatus*);
- Western heather vole (*Phenacomys intermedius*);
- Porcupine (*Erethizon dorsatum*);
- Southern flying squirrel (*Glaucomys volans*);
- Northern flying squirrel (*Glaucomys sabrinus*);
- Little brown bat (*Myotis lucifugus*);
- Bushy-tailed woodrat (*Neotoma cinerea*);
- Hoary marmot (*Marmota caligata*);
- Groundhog (*Marmota monax*);
- Douglas squirrel (*Tamiasciurus douglasii*);
- American red squirrel (*Tamiasciurus hudsonicus*);
- Common shrew (*Sorex cinereus*); and
- Cinerus shrew (*Sorex cinereus*)

Twenty-nine mammal species were detected in 2022 and 24 species were detected in 2023 (Appendix E). In 2022, the majority of detections were observed at PTMA sites, with only three detections at sites within the Mine Site area of the Project (Table 3.2-8). The highest number of mammal species detections were observed at Bell DS Treaty in September (Table 3.2-8). In 2023, more detections of mammals were noted at sites within the Mine Site area compared to 2022, while the number of species detections at PTMA sites remained similar (Table 3.2-8). The highest species richness in 2023 was observed at sites in lower Treaty Creek (Treaty DS) and the Bell-Irving River (Bell US Treaty and Bell DS Treaty) in August 2023. A summary of all mammal detections per site and sampling time is presented in Table 3.2-8.

Table 3.2-8: Summary of Mammal Detections, 2022 and 2023

Watershed	Site Name	Number of Mammal Species Detected						
		2022				2023		
		June	Sept	Oct	Nov	July	Aug	Sept
Unuk	Unuk US Eskay	1	0	1	1	4	5	8
	Unuk DS Eskay	9	4	2	4	5	7	6
	Unuk US of S. Unuk	1	5	4	0	5	8	9
	Unuk DS of S. Unuk	0	3	1	5	8	13	1
	Unuk Border	0	7	2	3	1	11	0
Mitchell/ Sulphurets	Mitchell	0	0	0	0	3	2	0
	McTagg	N/A	N/A	N/A	N/A	4	5	0
	Gingras	N/A	N/A	N/A	N/A	5	7	8
	Sulphurets Lake Outlet	0	0	0	0	1	2	4
	Sulphurets US	0	0	0	0	5	7	6
	Sulphurets DS	0	1	3	0	7	7	10
Teigen	Teigen US	1	4	8	0	7	7	9
	Teigen DS	8	6	5	5	1	9	8
South Teigen	S. Teigen US2	3	4	4	2	6	9	6
	S. Teigen US1	4	6	2	4	5	9	7
	S. Teigen DS	-	6	6	2	5	8	7
North Treaty	N. Treaty US2	2	5	5	4	4	7	9
	N. Treaty US1	4	4	4	5	5	8	7
	N. Treaty DS	8	6	2	4	5	8	5
Treaty	Treaty US	0	1	0	0	0	1	1
	Treaty US N. Treaty	4	4	5	2	6	8	5
	Treaty US Todedada	2	8	3	3	7	7	3
	Treaty DS	2	8	2	3	0	15	12
Bell-Irving	Bell US Treaty	9	10	-	6	11	16	0
	Bell DS Treaty	9	14	-	6	4	15	3

Note:
'-' indicates no sample taken.
N/A indicates site was not included during sampling year.

As the majority of mammals are not inherently aquatic in nature, eDNA analysis is not likely to consistently detect the presence or absence of these species. Aquatic mammals and mammals who are likely to interact with water for foraging (e.g., beaver , muskrat and moose) were detected more often than exclusively terrestrial species (Appendix E). In 2023, increased detections of specific rodents, including long-tailed vole, eastern meadow vole, western heather vole and cinereus shrew were noted compared to 2022 samples (Appendix E). The increase in detections in 2023 may be a result of increasing the quantity of water sampled, hence increasing the amount of eDNA detected.

Mammal detections have been divided into six categories which follow the presentation of data in the *2009 Wildlife Characterization Baseline Report* and focus on mammal species or groups of species that were identified as a species or groups of provincial or federal conservation concern or of social, economic or biological importance (Rescan 2010a).

3.2.4.1 Moose and Deer

Moose were selected as a focal species for baseline surveys due to their cultural, social, economic, and biological importance to the region. They commonly occur throughout the forested areas of British Columbia (BC). In 2019, there were an estimated 110,000 and 185,000 animals in BC, with between 25,000 and 45,000 moose in the Skeena Region (BC FLNRORD 2019).

Moose DNA was detected in all watercourses except Sulphurets Creek and Mitchell Creek (Appendix E) in 2022. Similarly, samples collected in 2023 also resulted in moose detections in all watercourses aside from McTagg Creek, Mitchell Creek and Gingras Creek (Appendix E). Unlike in 2022, moose were detected at two sites on Sulphurets Creek (Sulphurets DS and Sulphurets Lake Outlet) in September 2023. In 2022 and 2023, no moose were detected at Treaty US but were detected at all downstream Treaty Creek sites. Furthermore, moose were detected in all samples collected at Bell-Irving River sites and in the majority of samples collected in the TMF Area (upstream South Teigen and North Treaty Creek sites) in both sampling years.

White-tailed deer DNA was detected once in the 2022 program at site Unuk DS Eskay in November (Appendix E). White-tailed deer have not been observed during wildlife baseline studies but have been identified in the region by Indigenous groups (G. Sharam, pers. comm.). It is also possible that this detection is a result of misidentification, contamination, or from animal or human feces as this site is located downstream of the Eskay Creek Mine influence. No white-tailed deer detections were noted in 2023.

Detections of moose are consistent with baseline surveys. Aerial surveys completed in winter 2021 and subsequent data analysis indicates that moose populations have increased in coastal and interior habitat areas of the Project area (ERM 2021b). Overall, moose were identified in all major drainages, with the highest densities in the valleys of the Unuk and South Unuk Rivers as well as in the Teigen Creek, Bell-Irving River and Bowser Lake survey areas (Photo 3.2-3).

Photo 3.2-3: Moose observed in the Bell-Irving River downstream of site Bell DS Treaty (February 2021).

3.2.4.2 Mountain Ungulates

Two species of mountain ungulates were detected in the Project area in 2022 eDNA samples including mountain goat and bighorn sheep; in 2023, only mountain goat were detected. Bighorn sheep DNA was detected in the South Teigen Creek watershed at site S. Teigen US1 in November 2022. Bighorn sheep are found to the north-east of the Project area, within the Klappan region and have not been observed in previous aerial/ground wildlife surveys or through camera studies (Rescan 2010a; G. Sharam pers. comm.). Since the detection site is not downstream of any watercourses that bighorn sheep are known to inhabit, it is not likely that this detection is a result of DNA drift from upstream watercourses. The eDNA detection may be a result of misidentification or contamination, or it may be possible that the detection comes from a dispersing sheep that is outside of its usual range.

Mountain goat DNA was positively detected at seven sites in 2022: Unuk Border, Unuk DS Eskay, Sulphurets DS, N. Treaty DS, Treaty US N. Treaty, Bell US Treaty and Bell DS Treaty. In 2023, positive detections were noted at eight sites: Unuk DS of S. Unuk, Unuk US Eskay, Sulphurets DS, Sulphurets US, McTagg, Treaty US Todedada, Treaty DS and Bell DS Treaty. Detections were noted at sites within the Mine Site area in 2022 and 2023 samples. Aerial surveys completed in 2008, 2009, and 2016 confirmed mountain goat presence throughout the Project area and in all watersheds assessed as a component of the 2022 biodiversity program (Rescan 2010a, ERM 2016).

3.2.4.3 Furbearers

Furbearers include all mammals with hair that have traditionally been hunted or trapped for their fur. Furbearers of interest that could occur near the Project include two species of conservation concern: the federally listed (special concern) wolverine and provincially blue-listed fisher (*Martes pennanti*). Twelve species of furbearing mammals were identified using eDNA between 2022 and 2023 including wolverine, American black bear, American ermine, marten, mink, North American river otter, snowshoe hare, European rabbit, beaver, muskrat, northern flying squirrel and red squirrel.

Most species were previously known to inhabit the Project area by Indigenous groups (Rescan 2010a; G. Sharam personal communication); however, some detected species were not observed during wildlife baseline surveys but have been noted in the region by Indigenous groups, including American ermine, American mink, North American river otter and snowshoe hare in 2022. These detections through eDNA metabarcoding create greater alignment of the species accounts of the baseline program with Indigenous knowledge.

In 2023, European rabbit was detected at two Unuk River sites (Unuk Border and Unuk DS of S. Unuk). This species resembles snowshoe hares; however, they are a member of a separate genus and therefore are unlikely to be misidentified through metabarcoding analysis. This species has been noted as an invasive species in BC and were originally brought to North America as a food source; however, they have been distributed through the pet trade (Gov BC 2024). Established populations of European rabbits have been noted on Vancouver Island, Triangle Island, the Southern Coast and the Okanagan (Gov BC 2024).

Wolverine were detected at Treaty DS in September 2022. In 2023, wolverine were positively detected at one site on the Unuk River (Unuk US Eskay), in South Teigen Creek (S. Teigen US2), at two sites on North Treaty Creek (N. Treaty US1 and N. Treaty US2) and in lower Treaty Creek (Treaty DS). Wolverine have been identified through trapline surveys throughout the Project area, and incidental observations have been recorded in the lower Unuk River watershed (Rescan 2010a). Wolverines generally exhibit a great range in habitat selection and can exploit habitats from valley bottoms to alpine meadows (Rescan 2010a).

Beaver, an aquatic species were the most commonly detected furbearer species, found at 15 of 23 sample sites in 2022. In 2023 beaver were detected at 14 sites, mainly those within the PTMA area (Appendix E). Between 2022 and 2023, beaver were noted in the all watercourses except for Mitchell Creek, McTagg Creek and Gingras Creek (Appendix E).

No detections of grey wolf in 2022 and 2023 eDNA samples were noted, despite their known presence throughout the Project area (Rescan 2010a). Grey wolves have been observed or signs of their presence have been detected in the lower Unuk River near the Canada-US border (Photo 3.2-4) in 2021 and in 2009 as well as in the Teigen and Treaty Creek watersheds (Rescan 2010a). However, wolves range over long distances and have little interaction with aquatic environments, where detections were likely to be incidental and not indicating anything other than incidental use of a particular site.

Photo 3.2-4: Wolves observed in the lower Unuk River watershed near the Unuk Border site (February 2021).

3.2.4.4 Grizzly Bear

In 2008 and 2009, a terrestrial DNA study of grizzly bear was undertaken to identify individual animals to determine population size and movements of individuals. Thirty-one individual grizzly bears were identified and an estimated population of 58 bears was determined in the Project area (Rescan 2010c). Grizzly bears were positively detected through baited hair collections in spring/summer and trail sets along salmon streams in the fall throughout the Project area (Rescan 2010c). Distribution of grizzly bear detections in 2008 and 2009 suggest that this species utilizes a variety of habitat, with summer detections ranging throughout the Project area at high and lower elevations and fall detections primarily noted at lower elevations in the Unuk River floodplain, Teigen Creek and Todedada Creek (Rescan 2010c). In 2022, grizzly bear DNA was detected at three sites on the Unuk River (Unuk Border, Unuk DS S. Unuk and Unuk DS Eskay), at S. Teigen US1, at two sites on Treaty Creek (Treaty US N. Treaty and Treaty US Todedada) and on the Bell-Irving River at Bell DS Treaty (Appendix D; Appendix E). Fewer detections were noted in 2023, with only three sites in total yielding positive results (S. Teigen DS, Bell US Treaty and Bell DS Treaty).

Grizzly bear DNA detections were limited to the lower Unuk River watershed in the fall of 2022, with the only detections within the Mine Site being noted at site Unuk DS Eskay in September and at sites Unuk Border and Unuk DS S. Unuk in November 2022. Furthermore, samples collected in 2022 within the PTMA indicate grizzly bear presence at S. Teigen US1 in June, which correlates with baseline data suggesting bears utilize a greater range of elevation and habitat in the summer months (Rescan 2010c). Detections of grizzly bear in the fall of 2022 within the PTMA were restricted to sites Treaty US N. Treaty, Treaty US Todedada and Bell DS Treaty (September), all of which are at relatively lower elevations within larger river floodplains as was similarly noted in baseline data (Rescan 2010c). Data collected in 2023 followed a similar pattern, with detections at site S. Teigen DS in late summer (August) and at sites Bell DS Treaty and Bell US Treaty in the fall (September).

The limited spatial distribution of grizzly bear DNA detections in the 2022 and 2023 eDNA program is likely attributed to the foraging habits of grizzly bears. Grizzly bears forage for salmon during spawning season when salmon are present in large numbers and will spend the remaining seasons traveling extensive distances for foraging opportunities (Rescan 2010c). Grizzly bear DNA detections generally coincided with locations where Pacific Salmon were also detected indicating the food web linkage as a probable determinant of their distribution in water sample sites.

3.2.4.5 Hoary Marmot and Arctic Ground Squirrel

Hoary marmot DNA was positively detected in one sample at site N. Treaty DS in June 2022 (Appendix E). This species occupies high elevation open habitat in the region, including herb-dominated meadows and boulder/talus fields with appropriate soil conditions (Rescan 2010a). In areas of abundant food resources, hoary marmots tend to live in colonies. Hoary marmots feed on a variety of herbaceous plants, grasses, and seeds, and usually restrict their foraging to areas within 100 m of their dens (Banfield 1981). Studies on the distribution of hoary marmot and Arctic ground squirrel (*Spermophilus parryii*) were included in the *2009 Wildlife Characterization Baseline Report* following a request from local Indigenous peoples as they are valued cultural and subsistence species (Rescan 2010a). Marmots were observed on a number of occasions during field studies in 2009, confirming their presence within the local and regional study area. No positive detections of Arctic ground squirrel were noted in 2022 or 2023 eDNA samples (Appendix D; Appendix E), nor were they detected in baseline surveys in 2008 and 2009 (Rescan 2010a). Both hoary marmot and Arctic ground squirrel are mainly terrestrial species and eDNA analysis of water is not well suited to presence/absence studies for these species.

3.2.4.6 Small Mammals

The species of small mammals detected during sampling included:

- Deer mouse (*Peromyscus maniculatus*);
- Meadow vole (*Microtus pennsylvanicus*; Photo 3.2-5);
- Long-tailed vole (*Microtus longicaudus*);
- Keen’s mouse (*Peromyscus keeni*; also known as northwestern deermouse);
- Northern red-backed vole (*Myodes rutilus*);
- Western heather vole (*Phenacomys intermedius*);
- Common shrew (*Sorex cinereus*; Photo 3.2-6);
- Nearctic brown lemming (*Lemmus trimucronatus*);
- Cinereus shrew (*Sorex cinereus*); and
- Collared lemming species *(Dicrostonyx* sp.).

Photo 3.2-5: Meadow vole (2008).

Photo 3.2-6: Common shrew (2009).

Small mammals were detected in all watercourses except upper Sulphurets Creek (Sulphurets US and Sulphurets Lake Outlet) and Mitchell Creek in 2022; however, in 2023, small mammals were detected at all sites sampled including those within the Sulphurets Creek watershed (Appendix E), indicating that the shift in water sampling methods likely improved detections of the species in this watershed, and the absence of detections in 2022 is not likely reflective of a true absence in this watershed.

Small mammal trapping efforts in 2008 and 2009 identified five of the ten species detected in 2022 and 2023 (Keen's mouse, northern red-backed vole, meadow vole, common shrew and Nearctic brown lemming) as well as meadow jumping mouse (*Zapus hudsonius*) and dusky shrew (*Sorex monticolus*), which were not detected by metabarcoding (Rescan 2010a). Species detected by metabarcoding that were not captured during the baseline wildlife surveys include long-tailed vole, western heather vole and deer mouse; however, these species are common throughout BC and therefore their presence is not unexpected.

4. SUMMARY

The KSM Biodiversity program undertaken in 2022 and 2023 demonstrated that eDNA sampling and metabarcoding can be a useful tool in identifying species distributions across a wide geographic area, particularly for organisms that regularly interact with water; however, detections must be carefully examined to determine the likelihood of actual species presence in the environment. Metabarcoding was successful in detecting the DNA of a variety of vertebrate species including three-spined stickleback, long-toed salamander, rough-skinned newt, American ermine, American mink, North American river otter, snowshoe hare, long-tailed vole, western heather vole and deer mouse; all of which were previously not detected in the KSM Project area, but which are not unexpected based on their known ranges and habitat preferences.

There were a number of observations that demonstrate the importance of having a robust catalogue of species prior to conducting eDNA studies. Specifically, some detections of genetic material could lead to erroneous conclusions about species presence. It is also important to consider a detection of genetic material is just that (a detection of genetic material) and not necessarily the detection of a living organism. For example, in this study *Salvelinus* sp. DNA was detected and it could not be speciated between Dolly Varden, white char, stone char or Arctic char. Of these char species, only Dolly Varden have been encountered in previous baseline studies and only Dolly Varden are historically known to be present in this region; thus, it was concluded that these char DNA detections were Dolly Varden.

Additionally, an aquatic-based eDNA program is going to bias towards aquatic species or species that frequent water; thus, the results of this study are less useful for determining terrestrial species presence and distribution across the landscape. A more comprehensive program could incorporate sediment, soil, water and air sampling across a variety of habitat types to target land-based organisms such as mammals and birds.

It is important to put the results of the eDNA study into the context of other baseline studies to generate a complete picture of biodiversity. The presence/absence of certain families of aquatic invertebrates provided indications on how eDNA sample results differed from tissue metabarcoding and CABIN samples. Large, sedentary, hard-bodied invertebrates like Hydropsychidae caddis fly larvae, Leptophlebiidae mayfly larvae, and Ostracods (seed shrimp) were easily captured and were most often detected in CABIN samples and tissue metabarcoding samples. In contrast, less easily captured soft-bodied invertebrates like blackfly larvae were most often detected in eDNA water samples, highlighting bias to individual sampling techniques.

Overall, eDNA water samples provided the highest yield of aquatic invertebrate species richness and a greater detection of soft-bodied species. Bulk tissue metabarcoding and CABIN taxonomy produced similar family-level community composition, reflecting the composition of taxa inhabiting benthic substrate in the immediate vicinity of the sample site. The eDNA results reflected the invertebrate community present in a larger area beyond the immediate sampling location.

eDNA and genomic sampling resolved several fisheries related questions outstanding from baseline sampling programs. Specifically:

- Dolly Varden were concluded to be the only fish species within the TMF watersheds (upper South Teigen and North Treaty Creeks).
- Pacific salmon species detected upstream of the Todedada confluence in Treaty Creek. Coho salmon were detected at sites 1.2 km upstream of the Todedada Creek confluence and Chinook salmon were detected in Treaty Creek at site Treaty US N. Treaty, which is approximately 3.8 km upstream of the confluence with Todedada Creek. Since no Pacific salmon spawning habitat has been observed in these areas in past baseline studies, these detections may come from dispersing individuals searching for spawning habitat, or they may come from transfer of genetic material by predators (e.g., bears or eagles).
- Fish were confirmed to be absent upstream of the fish barrier on Sulphurets Creek.

Species detections were generally consistent with previous baseline studies; however, metabarcoding analysis was successful in detecting species that were not identified through baseline studies but that have been observed in the region by Indigenous groups. These species include whitetail deer, American ermine, American mink, North American river otter and snowshoe hare. While these species were expected to be present in the study area, this study is the first to detect their genetic material and corroborates Indigenous accounts of species distribution. eDNA sampling was also successful in detecting species of note such as harlequin duck and western toad, and demonstrated that western toad may occur in the PTMA, contrary to baseline surveys of habitat suitability.

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Personal Communications

Sharam, G. 2023. Greg Sharam, ERM Wildlife Technical Director, provided insight into species distributions in the KSM Project area.

Visty, H. 2023. Hannah Visty, ERM Senior Wildlife Biologist provided insight into species distributions in the KSM Project area.

APPENDIX A BIODIVERSITY SAMPLE SITES, 2022 AND 2023

Appendix A: Biodiversity Sample Sites, 2022 and 2023

Project Area	Watercourse	Site Name	UTM (Zone 9V)		Description
			Easting	Northing	
Mine Site	Unuk River	Unuk Border	392814	6245176	Unuk River at Canada/United States border
		Unuk DS of S. Unuk	407321	6260281	Unuk River downstream of South Unuk River
		Unuk US of S. Unuk	404551	6257712	Unuk River upstream of South Unuk River
		Unuk DS Eskay	411500	6274014	Unuk River downstream of Eskay Creek
		Unuk US Eskay	417292	6280000	Unuk River upstream of Eskay Creek
	Mitchell Creek	Mitchell	416718	6262741	Mitchell Creek at Sulphurets Creek confluence
	McTagg Creek[1]	McTagg	418722	6265021	McTagg Creek at Mitchell Creek confluence
	Gingras Creek[1]	Gingras	416278	6262772	Gingras Creek at Sulphurets Creek confluence
	Sulphurets Creek	Sulphurets DS	407269	6261637	Sulphurets Creek downstream of barrier
		Sulphurets US	414236	6262133	Sulphurets Creek upstream of barrier
		Sulphurets Lake Outlet	419763	6261354	Sulphurets Creek downstream of lake
PTMA	Teigen Creek	Teigen DS	441098	6285220	Teigen Creek downstream of South Teigen Creek influence
		Teigen US	439756	6283109	Teigen Creek upstream of South Teigen Creek
	South Teigen Creek	S. Teigen DS	440771	6283741	South Teigen Creek downstream of all barriers
		S. Teigen US 1	441798	6277809	South Teigen Creek upstream of barrier 1
		S. Teigen US 2	443217	6276116	South Teigen Creek upstream of barrier 2
	North Treaty Creek	N. Treaty DS	448708	6270321	North Treaty Creek outlet
		N. Treaty US 1	447375	6273045	North Treaty Creek upstream of hydrology station
		N. Treaty US 2	445815	6274848	North Treaty Creek Upper reaches
	Treaty Creek	Treaty US	435510	6274897	Treaty Creek upper reach
		Treaty US N. Treaty	444207	6272260	Treaty Creek upstream of North Treaty Creek
		Treaty US Todedada	451109	6269258	Treaty Creek between Todedada Creek and North Treaty
		Treaty DS	451042	6269263	Treaty Creek downstream of Todedada Creek
	Bell-Irving River	Bell DS Treaty	465576	6267272	Bell-Irving River downstream of Treaty Creek
		Bell US Treaty	462651	6269859	Bell-Irving River upstream of Treaty Creek

Notes:

[1] *Site was added in 2023*

APPENDIX B EDNA FIELD DATA

Appendix B1 eDNA Field Data - 2022 and 2023

Appendix B2 Targeted eDNA (qPCR) Field Data - 2023

Appendix B1: eDNA Field Data - 2022 and 2023

Site Name	Date	Collection Time	Number of Replicates	Sample Volume (L)			In Situ WQ				Substrate Composition (%)					Stage
				Rep 1	Rep 2	Rep 3	Temp (°C)	pH	Conductivity (µS/cm)	Turbidity	Sand/ Fines	Gravel	Cobble	Boulder	Bedrock	
Unuk Border	2-Jun-22	9:30	3	1.00	1.00	0.73	4.2	8.20	26.5	L	10	10	80	0	0	High
Unuk DS of S Unuk	2-Jun-22	10:29	3	0.86	0.85	0.94	4.8	7.90	141.5	T	5	0	50	45	0	High
Unuk US of S Unuk	2-Jun-22	11:05	3	0.88	0.92	0.98	5.4	8.18	148.9	T	30	20	50	0	0	High
Unuk DS Eskay	4-Jun-22	8:43	3	0.97	0.93	0.87	2.4	8.01	84.9	T	50	0	0	50	0	High
Unuk US Eskay	5-Jun-22	8:57	3	1.00	0.97	0.97	2.2	8.12	110.8	T	90	0	0	10	0	High
Sulphurets DS	2-Jun-22	11:42	3	0.90	0.99	0.92	5.4	8.05	261.0	T	30	20	50	0	0	High
Sulphurets US	2-Jun-22	12:16	3	0.92	0.85	0.92	5.8	7.66	306.0	T	40	20	40	0	0	High
Sulphurets Lake Outlet	3-Jun-22	9:37	3	0.99	0.92	1.00	3.3	8.89	295.0	L	20	80	0	0	0	Med
Mitchell	3-Jun-22	8:45	3	0.92	1.00	0.93	3.0	5.76	279.0	T	60	25	15	0	0	Med
Teigen DS	3-Jun-22	12:24	3	1.00	1.00	1.00	4.9	7.63	68.8	M	40	40	20	0	0	High
Teigen US	3-Jun-22	13:04	3	0.89	1.00	0.97	-	-	-	M	20	80	0	0	0	High
S. Teigen US 1	3-Jun-22	10:58	3	1.00	1.00	1.00	1.8	7.89	36.7	C	30	70	0	0	0	Med
S. Teigen US 2	3-Jun-22	11:36	3	1.00	1.00	1.00	2.2	8.17	143.7	C	10	60	30	0	0	Med
N. Treaty DS	4-Jun-22	12:03	3	0.84	0.88	0.78	1.9	7.40	-	M	-	-	-	-	-	High
N. Treaty US 1	4-Jun-22	10:22	3	1.00	1.00	0.99	3.4	7.22	75.1	M	-	-	-	-	-	High
N.Treaty US 2	4-Jun-22	9:47	3	1.00	1.00	1.00	1.3	7.40	83.5	M	-	-	-	-	-	High
Treaty US	5-Jun-22	9:29	3	0.92	0.94	0.93	1.6	7.89	188.1	M	40	10	40	10	0	High
Treaty US N. Treaty	4-Jun-22	11:08	3	0.80	0.88	0.91	2.1	7.97	182.6	T	40	30	30	0	0	High
Treaty US Todedada	5-Jun-22	10:13	3	1.00	0.94	0.94	2.8	7.88	159.2	T	60	20	20	0	0	High
Treaty DS	5-Jun-22	10:39	3	1.00	1.00	1.00	3.4	7.75	141.4	T	40	40	20	0	0	High
Bell DS Treaty	6-Jun-22	9:13	3	0.93	0.83	0.74	4.2	7.60	87.8	T	50	25	25	0	0	High
Bell US Treaty	6-Jun-22	8:42	3	0.59	0.65	0.78	4.3	7.94	98.3	T	40	20	40	0	0	High
Unuk Border	16-Sep-22	10:30	3	1.14	1.14	1.14	6.5	7.65	79.4	L	100	0	0	0	0	Med
Unuk DS of S Unuk	16-Sep-22	12:35	3	0.54	0.54	0.54	7.1	7.67	91.7	M	60	15	25	0	0	Med
Unuk US of S Unuk	16-Sep-22	14:15	3	0.48	0.48	0.48	6.8	7.74	107.4	M	40	15	45	0	0	Med
Unuk DS Eskay	17-Sep-22	13:00	3	0.48	0.48	0.48	4.2	7.79	87.3	T	35	40	25	0	0	Med
Unuk US Eskay	17-Sep-22	14:30	3	0.27	0.27	0.27	4.0	7.85	93.6	T	30	5	30	35	0	Med
Sulphurets US	17-Sep-22	8:10	3	1.10	1.10	1.10	2.4	7.32	134.5	T	80	10	10	0	0	Med
Sulphurets Lake Outlet	17-Sep-22	9:40	3	1.01	1.01	1.01	1.4	7.74	68.6	M	10	10	35	45	0	Med
Sulphurets DS	16-Sep-22	16:00	3	0.90	0.90	0.90	5.3	7.69	117.6	T	25	25	50	0	0	Med
Mitchell	17-Sep-22	11:30	3	0.91	0.91	0.91	2.9	7.02	146.6	T	20	45	35	0	0	Med
Teigen DS	20-Sep-22	13:25	3	1.16	1.16	1.16	7.2	8.26	129.5	C	0	30	70	0	0	Med
Teigen US	20-Sep-22	14:15	3	1.13	1.13	1.13	8.1	7.98	121.9	C	5	35	60	0	0	Med
S. Teigen DS	20-Sep-22	12:00	3	1.13	1.13	1.13	4.7	8.22	161.1	C	5	20	60	15	0	Med

Notes:
'-' indicates data not available
Turbidity: T = turbid; M = moderately turbid; L = lightly turbid; C = clear

Appendix B1: eDNA Field Data - 2022 and 2023

Site Name	Date	Collection Time	Number of Replicates	Sample Volume (L)			In Situ WQ				Substrate Composition (%)					Stage
				Rep 1	Rep 2	Rep 3	Temp (°C)	pH	Conductivity (µS/cm)	Turbidity	Sand/ Fines	Gravel	Cobble	Boulder	Bedrock	
S. Teigen US 1	20-Sep-22	15:25	3	1.19	1.19	1.19	7.1	7.01	59.7	C	20	75	5	0	0	Med
S. Teigen US 2	20-Sep-22	10:30	3	1.13	1.13	1.13	4.2	7.09	87.90	C	10	20	70	0	0	Med
N. Treaty DS	19-Sep-22	9:50	3	0.74	0.74	0.74	5.2	7.53	111.50	L	80	20	0	0	0	Low
N. Treaty US 1	20-Sep-22	8:10	3	1.11	1.11	1.11	3.9	7.95	104.90	L	15	15	70	0	0	Med
N.Treaty US 2	20-Sep-22	9:15	3	1.13	1.13	1.13	3.6	7.91	111.70	L	40	35	25	0	0	Med
Treaty US	17-Sep-22	16:05	3	0.49	0.49	0.49	3.8	7.62	96.50	T	15	30	40	15	0	Med
Treaty US N. Treaty	19-Sep-22	8:20	3	0.64	0.64	0.64	1.5	8.41	115.10	M	15	15	70	0	0	Med
Treaty US Todedada	19-Sep-22	10:30	3	1.11	1.11	1.11	4.3	8.36	152.10	M	20	40	40	0	0	Med
Treaty DS	19-Sep-22	12:50	3	1.11	1.11	1.11	6.0	8.24	98.00	L	30	30	40	0	0	Med
Bell DS Treaty	19-Sep-22	14:20	3	1.08	1.08	1.08	7.4	8.16	125.00	C	10	30	50	0	0	Med
Bell US Treaty	19-Sep-22	15:50	3	1.24	1.24	1.24	8.6	8.06	125.20	C	30	50	20	0	0	Med
Unuk Border	2-Oct-22	12:45	3	0.72	0.72	0.72	6.5	16.21	38.30	L	25	25	30	20	0	Med
Unuk DS of S Unuk	2-Oct-22	13:45	3	0.66	0.66	0.66	6.0	9.38	83.80	M	10	20	60	10	0	Med
Unuk US of S Unuk	2-Oct-22	15:15	3	0.28	0.28	0.28	5.3	8.15	92.80	M	20	35	40	5	0	Med
Unuk DS Eskay	3-Oct-22	10:00	3	0.27	0.27	0.27	4.5	8.98	8.29	T	15	15	30	40	0	Med
Unuk US Eskay	3-Oct-22	12:00	3	0.17	0.17	0.17	3.8	8.95	94.00	T	50	10	20	20	0	Med
Sulphurets DS	2-Oct-22	17:00	3	0.35	0.35	0.35	3.8	8.28	95.10	T	25	25	30	25	0	Med
Sulphurets US	3-Oct-22	12:45	3	0.62	0.62	0.62	3.3	9.31	102.30	T	35	15	20	30	0	Med
Sulphurets Lake Outlet	4-Oct-22	10:40	3	1.03	1.03	1.03	1.2	8.24	66.10	M	2	10	30	58	0	Med
Mitchell	4-Oct-22	8:45	3	0.99	0.99	0.99	3.1	6.93	126.30	T	20	25	45	10	0	Med
Teigen DS	5-Oct-22	9:15	3	1.09	1.09	1.09	7.6	10.45	99.00	C	30	30	35	5	0	Med
Teigen US	3-Oct-22	17:00	3	1.16	1.16	1.16	7.7	8.57	86.10	C	23	40	35	2	0	Med
S. Teigen DS	5-Oct-22	11:55	3	0.71	0.71	0.71	6.8	9.76	131.80	C	20	20	30	30	0	Med
S. Teigen US 1	5-Oct-22	10:45	3	1.06	1.06	1.06	6.1	6.51	44.70	C	40	60	0	0	0	Med
S. Teigen US 2	5-Oct-22	11:40	3	1.03	1.03	1.03	6.4	11.24	90.10	C	20	60	20	0	0	Med
N. Treaty DS	4-Oct-22	17:00	3	1.01	1.01	1.01	4.2	7.90	121.20	L	25	40	35	0	0	Low
N. Treaty US 1	6-Oct-22	8:50	3	0.59	0.59	0.59	5.1	7.49	166.30	L	10	20	25	45	0	Med
N.Treaty US 2	5-Oct-22	13:00	3	0.70	0.70	0.70	6.4	9.92	72.30	L	35	60	5	0	0	Med
Treaty US	4-Oct-22	8:00	3	1.01	1.01	1.01	2.7	7.48	108.50	T	15	35	35	15	0	Low
Treaty US N. Treaty	4-Oct-22	15:00	3	0.31	0.31	0.31	3.7	7.52	120.10	M	20	39	40	1	0	Med
Treaty US Todedada	6-Oct-22	12:00	3	0.78	0.78	0.78	4.3	8.09	111.30	M	35	35	30	0	0	Med
Treaty DS	6-Oct-22	13:30	3	1.05	1.05	1.05	5.4	8.56	129.30	L	30	40	30	0	0	Med
Unuk Border	9-Nov-22	9:00	3	0.92	0.89	0.95	0.4	8.80	79.80	L	30	10	70	0	0	Low
Unuk DS of S Unuk	9-Nov-22	9:20	3	0.97	0.95	0.99	0.2	7.80	92.00	L	0	20	80	0	0	Low

Notes:

'-' indicates data not available

Turbidity: T = turbid; M = moderately turbid; L = lightly turbid; C = clear

Appendix B1: eDNA Field Data - 2022 and 2023

Site Name	Date	Collection Time	Number of Replicates	Sample Volume (L)			In Situ WQ				Substrate Composition (%)					Stage
				Rep 1	Rep 2	Rep 3	Temp (°C)	pH	Conductivity (µS/cm)	Turbidity	Sand/ Fines	Gravel	Cobble	Boulder	Bedrock	
Unuk US of S Unuk	9-Nov-22	9:35	3	1.00	1.02	0.98	0.2	7.60	108.00	L	0	20	70	10	0	Low
Unuk DS Eskay	10-Nov-22	9:40	3	0.99	1.02	1.02	-0.1	8.90	88.6	L	30	10	70	0	0	Low
Unuk US Eskay	10-Nov-22	9:55	3	0.89	1.01	1.00	-0.1	8.95	89.0	L	0	20	80	0	0	Low
Sulphurets DS	9-Nov-22	9:50	3	0.92	1.00	0.96	0.1	7.61	118.1	T	0	0	50	50	0	Low
Sulphurets US	9-Nov-22	10:15	3	0.94	0.98	1.01	0.1	7.38	131.0	T	0	0	80	20	0	Low
Sulphurets Lake Outlet	9-Nov-22	10:25	3	1.00	0.99	1.02	0.0	7.42	61.2	L	10	30	45	15	0	Low
Mitchell	9-Nov-22	10:42	3	1.00	0.95	1.00	0.0	7.50	148.2	T	10	30	45	15	0	Low
Teigen DS	11-Nov-22	8:35	3	1.03	1.04	1.03	0.0	7.70	81.3	C	0	30	70	0	0	Low
Teigen US	10-Nov-22	12:00	3	1.00	1.01	1.02	0.0	7.70	81.3	C	10	30	50	0	0	Low
S. Teigen DS	10-Nov-22	11:45	3	1.00	0.94	0.90	0.0	8.11	93.3	C	10	20	60	10	0	Low
S. Teigen US 1	10-Nov-22	11:15	3	1.03	1.02	1.03	0.0	8.83	82.6	C	15	70	15	0	0	Low
S. Teigen US 2	10-Nov-22	11:00	3	1.01	1.03	1.02	0.0	8.21	91.8	C	45	45	10	0	0	Low
N. Treaty DS	9-Nov-22	11:15	3	0.96	0.82	0.83	0.0	7.49	113.2	C	0	100	0	0	0	Low
N. Treaty US 1	10-Nov-22	10:22	3	0.96	0.95	0.92	0.0	7.39	73.9	C	0	20	80	0	0	Low
N.Treaty US 2	10-Nov-22	10:40	3	1.00	1.00	1.01	0.0	8.71	78.3	C	10	60	30	0	0	Low
Treaty US	8-Nov-22	13:10	3	0.95	0.99	0.94	0.0	7.44	203.5	L	10	20	70	0	0	Low
Treaty US N. Treaty	8-Nov-22	12:55	3	1.00	1.00	1.00	0.0	2.45	225.7	L	0	40	50	10	0	Low
Treaty US Todedada	8-Nov-22	12:35	3	0.95	0.87	0.82	0.0	7.46	188.5	L	0	80	20	0	0	Low
Treaty DS	8-Nov-22	11:37	3	1.02	0.99	1.00	0.0	7.47	196.5	L	0	50	50	0	0	Low
Bell DS Treaty	8-Nov-22	9:55	3	0.90	0.99	0.97	0.1	6.75	137.6	C	0	20	80	0	0	Low
Bell US Treaty	8-Nov-22	10:44	3	0.95	1.00	0.97	0.0	6.50	118.9	C	10	15	75	0	0	Low
Unuk Border	19-Jul-23	7:10	3	3.00	3.00	3.00	8.0	8.90	161.7	M	30	10	70	0	0	Low
Unuk DS of S Unuk	19-Jul-23	9:00	3	2.17	2.09	2.28	7.8	6.60	112.3	T	0	20	80	0	0	Low
Unuk US of S Unuk	19-Jul-23	10:55	3	2.00	2.00	1.60	8.1	5.90	112.2	T	0	20	70	10	0	Low
Unuk DS Eskay	18-Jul-23	8:00	3	1.30	1.56	1.31	8.3	5.50	91.3	T	30	10	70	0	0	Med
Unuk US Eskay	20-Jul-23	10:40	3	1.00	1.15	1.18	8.1	4.30	93.3	T	0	20	80	0	0	Med
Sulphurets DS	19-Jul-23	12:45	3	2.16	2.07	2.00	7.8	7.20	1112.9	T	0	0	50	50	0	Med
Sulphurets US	18-Jul-23	16:00	3	1.82	1.55	1.24	7.8	4.30	110.1	T	0	0	80	20	0	Med
Sulphurets Lake Outlet	18-Jul-23	10:30	3	1.00	1.02	1.00	8.5	1.70	81.5	T	10	30	45	15	0	High
Mitchell	18-Jul-23	13:15	3	1.85	1.86	2.00	7.7	4.80	133.3	T	10	30	45	15	0	Med
McTagg	18-Jul-23	12:05	3	1.65	1.37	1.50	8.1	4.20	139.0	T						Med
Gingras	18-Jul-23	14:40	3	3.00	3.00	3.00	7.9	8.40	110.8	M						Med
Teigen DS	17-Jul-23	7:45	3	3.00	3.00	3.00	7.7	11.20	164.2	C	10	20	60	10	0	Med
Teigen US	15-Jul-23	15:20	3	6.00	6.00	6.00	7.3	13.80	155.4	C	10	30	50	0	0	Med

Notes:
'-' indicates data not available
Turbidity: T = turbid; M = moderately turbid; L = lightly turbid; C = clear

Appendix B1: eDNA Field Data - 2022 and 2023

Site Name	Date	Collection Time	Number of Replicates	Sample Volume (L)			In Situ WQ				Substrate Composition (%)					Stage
				Rep 1	Rep 2	Rep 3	Temp (°C)	pH	Conductivity (µS/cm)	Turbidity	Sand/ Fines	Gravel	Cobble	Boulder	Bedrock	
S. Teigen DS	16-Jul-23	14:40	3	3.00	3.00	3.00	7.2	11.10	184.3	L	20	20	30	30	0	Low
S. Teigen US 1	16-Jul-23	12:30	3	3.00	3.00	3.00	7.5	10.20	97.7	L	15	70	15	0	0	Low
S. Teigen US 2	16-Jul-23	10:00	3	2.40	2.50	2.00	7.5	9.70	129.8	L	10	60	30	0	0	Low
N. Treaty DS	17-Jul-23	15:05	3	3.00	3.00	3.00	7.6	14.60	125.2	C	0	100	0	0	0	Low
N. Treaty US 1	17-Jul-23	12:45	3	3.00	3.00	3.00	7.7	7.80	137.2	T	0	20	80	0	0	High
N.Treaty US 2	17-Jul-23	10:30	3	3.00	3.00	2.00	7.5	6.70	140.8	L	10	60	30	0	0	Med
Treaty US	20-Jul-23	13:40	3	1.00	1.00	1.00	7.1	3.50	73.2	T	10	20	70	0	0	Med
Treaty US N. Treaty	20-Jul-23	15:40	3	1.00	1.00	1.00	8.0	8.20	92.1	T	0	40	50	10	0	Low
Treaty US Todedada	21-Jul-23	6:50	3	1.00	0.99	1.00	7.9	4.30	115.9	T	0	80	20	0	0	Low
Treaty DS	21-Jul-23	8:30	3	3.00	3.00	3.00	8.1	9.70	199.1	T	0	50	50	0	0	Low
Bell DS Treaty	21-Jul-23	12:40	3	2.49	2.56	2.24	8.3	20.00	129.1	T	0	20	80	0	0	Low
Bell US Treaty	21-Jul-23	10:25	3	3.00	3.00	3.00	8.1	19.80	220.0	T	10	15	75	0	0	Low
Unuk Border	20-Aug-23	11:41	3	3.00	3.00	3.02	5.9	9.80	152.6	L	30	10	70	0	0	Low
Unuk DS of S Unuk	20-Aug-23	14:41	3	3.00	3.00	2.92	5.7	7.00	131.0	L	0	20	80	0	0	Low
Unuk US of S Unuk	20-Aug-23	17:08	3	2.50	2.50	2.90	6.0	6.70	147.2	M	0	20	70	10	0	Low
Unuk DS Eskay	23-Aug-23	10:00	3	1.10	1.20	1.20	6.6	4.70	114.8	T	30	10	70	0	0	Med
Unuk US Eskay	23-Aug-23	13:30	3	1.03	1.00	1.00	5.9	4.20	127.0	T	0	20	80	0	0	Low
Sulphurets DS	17-Aug-23	10:20	3	1.56	2.01	2.11	6.4	3.50	77.2	T	0	0	50	50	0	Med
Sulphurets US	17-Aug-23	17:40	3	2.00	1.78	1.95	6.3	3.60	76.7	T	0	0	80	20	0	Med
Sulphurets Lake Outlet	18-Aug-23	11:01	3	0.99	1.00	1.02	5.9	1.30	104.0	M	10	30	45	15	0	Med
Mitchell	21-Aug-23	10:17	3	3.00	3.44	3.51	6.4	3.00	180.5	M	10	30	45	15	0	Med
McTagg	18-Aug-23	17:46	3	2.08	2.00	2.00	5.8	5.20	161.9	M						Med
Gingras	21-Aug-23	15:53	3	3.00	3.00	3.00	7.3	9.50	154.2	L						Low
Teigen DS	22-Aug-23	9:59	3	3.50	4.00	4.00	6.8	9.00	190.1	L	10	20	60	10	0	Low
Teigen US	22-Aug-23	13:30	3	4.00	4.00	4.00	7.2	10.50	178.6	C	10	30	50	0	0	Low
S. Teigen DS	14-Aug-23	15:07	3	3.50	3.31	3.37	6.8	10.80	160.2	C	20	20	30	30	0	Med
S. Teigen US 1	16-Aug-23	9:56	3	3.54	4.01	4.05	6.1	8.30	54.2	L	15	70	15	0	0	Med
S. Teigen US 2	16-Aug-23	16:54	3	2.51	2.52	2.47	6.1	6.80	89.7	L	10	60	30	0	0	Med
N. Treaty DS	13-Aug-23	10:50	3	6.90	6.54	5.85	6.5	12.20	165.3	L	0	100	0	0	0	Med
N. Treaty US 1	14-Aug-23	10:00	3	3.40	3.45	3.00	6.8	6.80	106.3	M	0	20	80	0	0	Med
N.Treaty US 2	15-Aug-23	11:05	3	1.52	1.15	1.20	6.4	6.60	95.3	L	10	60	30	0	0	Med
Treaty US	19-Aug-23	15:27	3	1.06	1.38	1.42	6.5	3.40	118.1	L	10	20	70	0	0	Med
Treaty US N. Treaty	19-Aug-23	11:30	3	1.96	2.00	2.00	5.0	3.20	164.7	M	0	40	50	10	0	Med
Treaty US Todedada	19-Aug-23	8:45	3	1.80	1.62	1.75	5.9	2.90	160.5	M	0	80	20	0	0	Med

Notes:
'-' indicates data not available
Turbidity: T = turbid; M = moderately turbid; L = lightly turbid; C = clear

Appendix B1: eDNA Field Data - 2022 and 2023

Site Name	Date	Collection Time	Number of Replicates	Sample Volume (L)			In Situ WQ				Substrate Composition (%)					Stage
				Rep 1	Rep 2	Rep 3	Temp (°C)	pH	Conductivity (µS/cm)	Turbidity	Sand/ Fines	Gravel	Cobble	Boulder	Bedrock	
Treaty DS	12-Aug-23	15:45	3	1.20	1.41	1.44	6.7	6.20	75.8	T	0	50	50	0	0	Low
Bell DS Treaty	22-Aug-23	17:35	3	1.60	2.50	2.47	6.6	15.90	196.1	L	0	20	80	0	0	Low
Bell US Treaty	23-Aug-23	16:55	3	2.50	2.50	2.09	7.0	12.70	161.6	L	10	15	75	0	0	Low
Unuk Border	29-Sep-23	10:07	3	3.00	3.00	3.00	7.6	9.20	119.0	L	30	10	70	0	0	Low
Unuk DS of S Unuk	4-Oct-23	12:20	3	3.00	3.00	3.00	7.8	9.90	137.5	L	0	20	80	0	0	Low
Unuk US of S Unuk	4-Oct-23	14:05	3	2.75	2.78	3.00	7.8	5.90	96.9	L	0	20	70	10	0	Med
Unuk DS Eskay	4-Oct-23	15:17	3	3.20	3.00	1.89	7.7	6.00	70.8	L	30	10	70	0	0	Med
Unuk US Eskay	4-Oct-23	16:40	3	3.00	3.00	3.00	7.9	5.20	85.4	L	0	20	80	0	0	Low
Sulphurets DS	1-Oct-23	16:00	3	3.00	3.00	3.00	7.7	4.10	126.9	M	0	0	50	50	0	Low
Sulphurets US	2-Oct-23	15:47	3	2.11	1.87	2.25	7.5	3.30	119.1	M	0	0	80	20	0	Low
Sulphurets Lake Outlet	2-Oct-23	9:58	3	3.00	3.00	3.00	7.7	1.40	79.9	M	10	30	45	15	0	Low
Mitchell	2-Oct-23	12:28	3	2.06	2.50	2.50	6.9	3.90	160.1	M	10	30	45	15	0	Low
McTagg	2-Oct-23	11:10	3	3.00	3.00	3.00	7.6	4.20	154.6	L						Low
Gingras	2-Oct-23	13:56	3	3.00	3.00	3.00	7.8	5.30	107.4	L						Low
Teigen DS	1-Oct-23	14:30	3	3.00	3.00	3.00	7.8	5.90	146.4	C	10	20	60	10	0	Low
Teigen US	1-Oct-23	11:50	3	3.00	3.00	3.00	7.5	5.60	133.5	C	10	30	50	0	0	Low
S. Teigen DS	1-Oct-23	13:12	3	3.00	3.00	3.00	7.60	4.7	119.4	C	20	20	30	30	0	Low
S. Teigen US 1	28-Sep-23	15:00	3	3.00	3.00	3.00	7.3	7.30	38.4	C	15	70	15	0	0	Low
S. Teigen US 2	28-Sep-23	13:28	3	3.00	3.00	3.00	7.2	6.10	73.3	C	10	60	30	0	0	Low
N. Treaty DS	28-Sep-23	11:55	3	3.00	3.00	3.00	7.4	11.50	107.1	C	0	100	0	0	0	Low
N. Treaty US 1	28-Sep-23	10:32	3	3.00	3.00	3.00	7.5	4.70	94.0	L	0	20	80	0	0	Low
N.Treaty US 2	28-Sep-23	9:00	3	3.00	3.00	3.00	7.3	3.90	98.3	C	10	60	30	0	0	Low
Treaty US	27-Sep-23	10:10	3	0.83	0.57	0.88	7.5	2.20	76.0	T	10	20	70	0	0	Med
Treaty US N. Treaty	27-Sep-23	13:00	3	1.00	1.10	0.93	7.7	6.10	97.5	T	0	40	50	10	0	Low
Treaty US Todedada	27-Sep-23	14:35	3	3.00	3.00	3.00	7.9	7.60	147.2	L	0	80	20	0	0	Low
Treaty DS	27-Sep-23	16:10	3	0.76	0.98	0.73	7.8	6.20	98.3	T	0	50	50	0	0	Low
Bell DS Treaty	1-Oct-23	9:55	3	3.00	3.00	3.00	7.2	6.90	135.4	C	0	20	80	0	0	Low
Bell US Treaty	28-Sep-23	16:10	3	3.00	3.00	3.00	7.6	12.60	175.7	C	10	15	75	0	0	Low

Notes:
'-' indicates data not available
Turbidity: T = turbid; M = moderately turbid; L = lightly turbid; C = clear

Appendix B2: Targeted eDNA (qPCR) Field Data - 2023

Watercourse	Site Name	Date	Collection Time	Number of Replicates	Sample Volume (L)	Total Filtered Volume (L)	In Situ WQ				Substrate Composition (%)					Stage	Instream Cover	Instream Veg
							Temp (°C)	pH	DO (mg/L)	Specific Conductivity (µS/cm)	Sand/ Fines	Gravel	Cobble	Boulder	Bedrock			
North Treaty Creek	N. Treaty DS	13-Aug-23	10:30	3	3.0	1.665	12.2	6.54	7.89	124.7	70	20	10	0	0	Low	M	N
	N. Treaty US1	14-Aug-23	11:23	3	3.0	2.780	6.8	6.78	11.05	106.3	5	15	20	70	0	Med	A	M
	N. Treaty US2	15-Aug-23	12:54	3	3.0	2.110	6.6	6.40	10.58	95.3	0	60	10	30	0	Med	A	M
South Teigen Creek	S. Teigen DS	14-Aug-23	14:36	3	3.0	2.445	10.8	6.82	10.21	160.2	5	5	20	70	0	Low	M	N
	S. Teigen US1	16-Aug-23	9:23	3	3.0	2.570	8.3	6.13	10.23	79.6	15	85	0	0	0	Med	A	M
	S. Teigen US2	16-Aug-23	8:34	3	3.0	2.490	6.8	6.08	9.95	137.6	20	80	0	0	0	Low	A	N

Notes:
Instream Cover: N = none; T = trace; M = moderate; A = abundant
Instream Veg: V = vascular plants; M = mosses; A = algae; N = none

APPENDIX C AQUATIC, SEMI-AQUATIC AND TERRESTRIAL INVERTEBRATE TAXA DETECTIONS PER SAMPLE (2022 AND 2023)

Appendix C1 Summary of Detections Obtained from eDNA and Bulk Benthic Invertebrate Tissue Metabarcoding Samples, 2022 and 2023

Appendix C2 Summary of Aquatic Invertebrate Taxonomic Richness Detected Through Metabarcoding Analysis of eDNA and Bulk Samples, 2022 and 2023

Appendix C3 Aquatic, Semi-Aquatic and Terrestrial Invertebrate Taxa Detections in eDNA Metabarcoding Samples, 2022

Appendix C4 Aquatic, Semi-Aquatic and Terrestrial Invertebrate Taxa Detections in Bulk Tissue Metabarcoding Samples, 2022

Appendix C5 Aquatic, Semi-Aquatic and Terrestrial Invertebrate Taxa Detections in eDNA Metabarcoding Samples, 2023

Appendix C6 Aquatic, Semi-Aquatic and Terrestrial Invertebrate Taxa Detections in Bulk Tissue Metabarcoding Samples, 2023

Appendix C7 CABIN Samples Taxonomy, 2023

Appendix C1: Summary of Detections Obtained from eDNA and Bulk Benthic Invertebrate Tissue Metabarcoding Samples, 2022 and 2023

Watershed	Site	2022							2023	
		June		September		October		November	August	
		eDNA	Bulk	eDNA	Bulk	eDNA	Bulk	eDNA	Bulk	eDNA
Unuk	Unuk US Eskay	Yes	Yes	No	Yes	No	Yes	Yes	Yes	No
	Unuk DS Eskay	Yes	Yes*	No	Yes	No	Yes	No	Yes	Yes*
	Unuk US of S. Unuk	No	Yes	No	Yes	No	Yes	No	Yes	Yes
	Unuk DS of S. Unuk	No	Yes	No	Yes	No	Yes	No	Yes	Yes
	Unuk Border	No	Yes	No	Yes	No	Yes	No	Yes	Yes
Mitchell/ Sulphurets	Mitchell	No	Yes	No	Yes	No	Yes	No	Yes	No
	McTagg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	Yes
	Gingras	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	Yes
	Sulphurets Lake Outlet	No	Yes	No	No	No	Yes	No	No	No
	Sulphurets US	No	Yes	No	Yes	No	Yes	No	No	No
	Sulphurets DS	No	Yes	No	Yes	No	Yes	No	Yes	No
Teigen	Teigen US	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes
	Teigen DS	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes
South Teigen	S. Teigen US2	Yes	Yes	No	Yes	No	Yes	No	Yes	Yes
	S. Teigen US1	Yes	Yes	No	Yes	No	Yes	No	Yes	Yes
	S. Teigen DS	-	-	No	Yes	No	Yes	No	Yes	Yes
North Treaty	N. Treaty US2	Yes	-	No	Yes	No	Yes	Yes	Yes	Yes
	N. Treaty US1	Yes	-	No	Yes	No	Yes	Yes	Yes	Yes
	N. Treaty DS	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes
Treaty	Treaty US	Yes	No	No	Yes	No	No	No	No	Yes*
	Treaty US N. Treaty	Yes	Yes	No	Yes	No	Yes	No	Yes	No
	Treaty US Todedada	Yes	Yes	No	Yes	No	Yes	No	Yes	Yes
	Treaty DS	Yes	Yes	No	Yes	No	Yes	No	Yes	Yes
Bell-Irving	Bell US Treaty	Yes	Yes	No	Yes	-	-	Yes	Yes	Yes
	Bell DS Treaty	Yes	Yes	No	Yes	-	-	No	Yes	Yes
Total No. Sites with Detections		**15**	**19**	**0**	**22**	**0**	**20**	**7**	**22**	**19**

Notes:

'-' indicates sample was not taken due to adverse weather or unsafe sampling conditions.

N/A indicates samples was not taken as it was not included in the study design at the time.

** Sample produced fewer than expected target reads and therefore results are considered tentative.*

Appendix C2: Summary of Aquatic Invertebrate Taxonomic Richness Detected Through Metabarcoding Analysis of eDNA and Bulk Samples, 2022 and 2023

Project Area	Watershed	Site	Month	Sample Type	Year	Arachnida	Bivalvia	Branchiopoda	Eurotoria	Clitellata	Hexanauplia	Hydrozoa	Insecta						Ostracoda	Tardigrada	Gastrotrichia	Platyhelminths	Total Taxa Richness
						Water Mites	Sphaeriida	Water Fleas	Rotifers	Annelid Worms	Copepods	Polyps	Coleoptera	Diptera	Ephemeroptera	Hemiptera	Plecoptera	Trichoptera	Seed Shrimp	Water Bears	Hairybellies	Flatworms	
Mine Site	Unuk	Unuk US Eskay	June	eDNA	2022					3	1		1	64	4		13	5					**91**
			June	Bulk	2022										5		5	1					**11**
			Sept	Bulk	2022										4		5	1					**10**
			Oct	Bulk	2022									5	3		3						**11**
			Aug	Bulk	2023									4	11		6	2					**23**
		Unuk DS Eskay	June	eDNA	2022					3				111	3		16	2					**135**
			June	Bulk	2022											1	1						**2**
			Sept	Bulk	2022										8		7						**15**
			Oct	Bulk	2022										5		8	1					**14**
			Aug	eDNA	2023									78	6		12	2					**98**
			Aug	Bulk	2023									1	7		3						**11**
		Unuk US of S. Unuk	June	Bulk	2022									5	3		4						**12**
			Sept	Bulk	2022										7		9						**16**
			Oct	Bulk	2022									1	3		4	2					**10**
			Aug	eDNA	2023				1		2		2	177	7		22	6					**217**
			Aug	Bulk	2023									2	11		5	2					**20**
		Unuk DS of S. Unuk	June	Bulk	2022									1	6		10						**17**
			Sept	Bulk	2022										4		4	1					**9**
			Oct	Bulk	2022										4		7						**11**
			Aug	eDNA	2023			1	2					212	5		25	1					**246**
			Aug	Bulk	2023									7	10		5						**22**
		Unuk Border	June	Bulk	2022									1	1		7	1					**10**
			Sept	Bulk	2022										9		7						**16**
			Oct	Bulk	2022										7		11	1					**19**
			Aug	eDNA	2023				2				1	213	7		24	4					**251**
			Aug	Bulk	2023									7	6		12						**25**
	Mitchell/ McTagg/ Gingras/ Sulphurets	Mitchell	June	Bulk	2022									2	1		5						**8**
			Sept	Bulk	2022									1	2		3						**6**
			Oct	Bulk	2022									1		2	5	1					**9**
			Aug	Bulk	2023									6	1		2						**9**
		McTagg Creek	Aug	eDNA	2023									97	2		10	2					**111**
			Aug	Bulk	2023	1								13	3		10						**27**
		Gingras	Aug	eDNA	2023								1	148	4		16	2					**171**
			Aug	Bulk	2023									4	10		9	2					**25**
		Sulphurets Lake Outlet	June	Bulk	2022									3		1	1						**5**
			Oct	Bulk	2022									2			3						**5**
		Sulphurets US	June	Bulk	2022									9	2		8						**19**
			Sept	Bulk	2022										2		4						**6**
			Oct	Bulk	2022									2	1		6						**9**
		Sulphurets DS	June	Bulk	2022									3	1		3						**7**
			Sept	Bulk	2022									1	2		7						**10**
			Oct	Bulk	2022										3		10						**13**
			Aug	eDNA	2023				2		1			73	1		4						**81**
			Aug	Bulk	2023									3	1		1						**5**
PTMA	Teigen	Teigen US	June	eDNA	2022					3			1	151	8		23	2					**188**
			June	Bulk	2022										8		8						**16**
			Sept	Bulk	2022									1	8		10	2					**21**
			Oct	Bulk	2022										9		14	4					**27**
			Nov	eDNA	2022									1									**1**
			Aug	eDNA	2023				1					134	9		25	2					**171**
			Aug	Bulk	2023									7	12	1	8	4					**32**

Appendix C2: Summary of Aquatic Invertebrate Taxonomic Richness Detected Through Metabarcoding Analysis of eDNA and Bulk Samples, 2022 and 2023

Project Area	Watershed	Site	Month	Sample Type	Year	Arachnida	Bivalvia	Branchiopoda	Eurotoria	Clitellata	Hexanauplia	Hydrozoa	Insecta						Ostracoda	Tardigrada	Gastrotrichia	Platyhelminths	Total Taxa Richness
						Water Mites	Sphaeriida	Water Fleas	Rotifers	Annelid Worms	Copepods	Polyps	Coleoptera	Diptera	Ephemeroptera	Hemiptera	Plecoptera	Trichoptera	Seed Shrimp	Water Bears	Hairybellies	Flatworms	
PTMA	Teigen	Teigen DS	June	eDNA	2022					3				123	7		16	2					**151**
			June	Bulk	2022									1	10		7	2					**20**
			Sept	Bulk	2022									6	4		5						**15**
			Oct	Bulk	2022									1	9		10	1					**21**
			Nov	eDNA	2022					2				40	8		22	3					**75**
			Aug	eDNA	2023		1		2	1	3			164	11		28	3					**213**
			Aug	Bulk	2023									7	13		8	3					**31**
	South Teigen	S. Teigen US2	June	eDNA	2022					2				67			2						**71**
			June	Bulk	2022					1				10	8		11	1					**31**
			Sept	Bulk	2022					1				2	4		8	1					**16**
			Oct	Bulk	2022	1								2	4		11	1					**19**
			Aug	eDNA	2023				1		1		3	230	5		20	3					**263**
			Aug	Bulk	2023					1			1	9	13		7	2					**33**
		S. Teigen US1	June	eDNA	2022					2			3	149	6		17	3					**180**
			June	Bulk	2022					1				1	4		3	1					**10**
			Sept	Bulk	2022									1	10		14						**25**
			Oct	Bulk	2022										9		15						**24**
			Aug	eDNA	2023			1	2		3		2	275	9		31	4					**327**
			Aug	Bulk	2023	2				3				6	8		9	2	1				**31**
		S. Teigen DS	Sept	Bulk	2022									3	8		11	3					**25**
			Oct	Bulk	2022									3	7		9	4					**23**
			Nov	eDNA	2022									1									**1**
			Aug	eDNA	2023				2				2	210	7		22	3					**246**
			Aug	Bulk	2023									8	13		9	3					**33**
	North Treaty	N. Treaty US2	June	eDNA	2022					2			1	130	2		19						**154**
			Sept	Bulk	2022										4		11	3					**18**
			Oct	Bulk	2022									1	5		9	2					**17**
			Nov	eDNA	2022					2	1		2	75	3		22	1					**106**
			Aug	eDNA	2023				1		1		3	214	5		25	2					**251**
			Aug	Bulk	2023	1								11	10		13	2					**37**
		N. Treaty US1	June	eDNA	2022					3			2	151	7		21	2					**186**
			Sept	Bulk	2022										4		6	2					**12**
			Oct	Bulk	2022										4		5	3					**12**
			Nov	eDNA	2022					1	1			104	5		27						**138**
			Aug	eDNA	2023				1		1		3	199	7		26	4					**241**
			Aug	Bulk	2023									2	5		3	1					**11**
		N. Treaty DS	June	eDNA	2022					2			1	146	5		15	1					**170**
			June	Bulk	2022					1				5	5		1						**12**
			Sept	Bulk	2022	1				1					1	2	3						**8**
			Oct	Bulk	2022										6		13						**19**
			Nov	eDNA	2022					2	2		2	102			8	3					**119**
			Aug	eDNA	2023			3	2		3		3	92			4	1					**108**
			Aug	Bulk	2023			1		10	5	1		28	1	1	2	1	2	1	1	1	**55**
	Treaty	Treaty US	June	eDNA	2022			1		2				121	3		16	1					**144**
			Sept	Bulk	2022										4		4						**8**
		Treaty US N. Treaty	June	eDNA	2022					2				97	2		10	3					**114**
			June	Bulk	2022									2	3		4	1					**10**
			Sept	Bulk	2022									6	1		1						**8**
			Oct	Bulk	2022									2	4		8						**14**
			Aug	eDNA	2023			1	1		1			89	3		8	2					**105**
			Aug	Bulk	2023									5	4		3						**12**

Appendix C2: Summary of Aquatic Invertebrate Taxonomic Richness Detected Through Metabarcoding Analysis of eDNA and Bulk Samples, 2022 and 2023

Project Area	Watershed	Site	Month	Sample Type	Year	Arachnida	Bivalvia	Branchiopoda	Eurotoria	Clitellata	Hexanauplia	Hydrozoa	Insecta						Ostracoda	Tardigrada	Gastrotrichia	Platyhelminths	Total Taxa Richness
						Water Mites	Sphaeriida	Water Fleas	Rotifers	Annelid Worms	Copepods	Polyps	Coleoptera	Diptera	Ephemeroptera	Hemiptera	Plecoptera	Trichoptera	Seed Shrimp	Water Bears	Hairybellies	Flatworms	
PTMA	Treaty	Treaty US Todedada	June	eDNA	2022					3			1	89	3		15	1					**112**
			June	Bulk	2022										2		7	1					**10**
			Sept	Bulk	2022										1		7						**8**
			Oct	Bulk	2022					1					6		8						**15**
			Aug	eDNA	2023			1	2				2	140	6		21	2					**174**
			Aug	Bulk	2023									8	5		4	1					**18**
		Treaty DS	June	eDNA	2022			1		2				101	3		12	1					**120**
			June	Bulk	2022									4	4		5						**13**
			Sept	Bulk	2022									1	5		7						**13**
			Oct	Bulk	2022										6		10						**16**
			Aug	eDNA	2023			1	1				2	254	7		20	3					**288**
			Aug	Bulk	2023										10		2						**12**
	Bell-Irving	Bell US	June	eDNA	2022					4	1			151	8		22	3					**189**
			June	Bulk	2022					1					4		6						**11**
			Sept	Bulk	2022										7		7						**14**
			Nov	eDNA	2022					4			2	111	10		26						**153**
			Aug	eDNA	2023				3				2	244	14		33	4					**300**
			Aug	Bulk	2023								1	3	16		8						**28**
		Bell DS	June	eDNA	2022					4			1	163	7		21	2					**198**
			June	Bulk	2022									2	1		2						**5**
			Sept	Bulk	2022										10		9						**19**
			Aug	eDNA	2023			1	3		1		2	227	13		29	3					**279**
			Aug	Bulk	2023										12		5						**17**

Notes:
Blank cells indicate 0 detections

Appendix C3: Aquatic, Semi-Aquatic and Terrestrial Invertebrate Taxa Detections in eDNA Metabarcoding Samples, 2022

Habit	Class	Order	Unuk DS Eskay	Unuk US Eskay		Teigen DS		Teigen US		S. Teigen DS	S. Teigen US1	S. Teigen US2	N. Treaty DS		N. Treaty US1		N. Treaty US2	
			June	June	Nov	June	Nov	June	Nov	Nov	June	June	June	Nov	June	Nov-22	June	Nov
			eDNA	eDNA	eDNA	eDNA	eDNA	eDNA	eDNA	eDNA	eDNA	eDNA	eDNA	eDNA	eDNA	eDNA	eDNA	eDNA
Aquatic Taxa	Arachnida	Trombidiformes																
	Branchiopoda	Diplostraca																
	Clitellata	Crassiclitellata																
	Clitellata	Haplotaxida	1	1		1	1	1			1	1	1	2	1	1	1	2
	Clitellata	Lumbriculida	1	1	1													
	Clitellata	Unknown Clitellata	1	1	1	2	1	2			1	1	1		2		1	
	Hexanauplia	Calanoida		1														
	Hexanauplia	Cyclopoida												2		1		1
	Insecta	Coleoptera		1				1			3		1	2	2		1	2
	Insecta	Diptera	111	64	23	123	40	151	1	1	149	67	146	102	151	104	130	75
	Insecta	Ephemeroptera	3	4	4	7	8	8			6		5		7	5	2	3
	Insecta	Hemiptera																
	Insecta	Plecoptera	16	13	9	16	22	23			17	2	15	8	21	27	19	22
	Insecta	Trichoptera	2	5	1	2	3	2			3		1	3	2			1
		Aquatic Taxa Richness	**135**	**91**	**39**	**151**	**75**	**188**	**1**	**1**	**180**	**71**	**170**	**119**	**186**	**138**	**154**	**106**
		% Diptera	**82.22**	**70.33**	**58.97**	**81.46**	**53.33**	**80.32**	**100.00**	**100.00**	**82.78**	**94.37**	**85.88**	**85.71**	**81.18**	**75.36**	**84.42**	**70.75**
Semi-aquatic Taxa	Arachnida	Mesostigmata									1	1						
	Clitellata	Enchytraeida				1									1			
	Collembola	Entomobryomorpha		2		1						2					1	
	Collembola	Symphypleona									1					1		
	Insecta	Diptera	5			3	1	5			1	1	3	1	5		4	1
		Semi-aquatic Taxa Richness	**5**	**2**	**0**	**5**	**1**	**5**	**0**	**0**	**3**	**4**	**3**	**1**	**6**	**1**	**5**	**1**
Terrestrial Taxa	Arachnida	Araneae																
	Arachnida	Ixodida						1							1			
	Diplopoda	Chordeumatida													1			
	Insecta	Coleoptera	4	2	1	4		3		1	4	2	3	2	6	2	2	1
	Insecta	Diptera	12	14	1	15	1	16			13	3	17	4	19	1	16	
	Insecta	Hymenoptera													1			
	Insecta	Lepidoptera	1		1			1					1				1	
	Insecta	Neuroptera	1															1
	Insecta	Psocodea	1				1						1					1
		Terrestrial Taxa Richness	**19**	**16**	**3**	**19**	**2**	**21**	**0**	**1**	**17**	**5**	**22**	**6**	**28**	**3**	**19**	**3**
Unknown Habit	Clitellata	Unknown Annelid																
	Insecta	Coleoptera											1	1				
	Insecta	Diptera	8	4	3	11	3	15			7	2	11	6	16	11	13	12
	Insecta	Unknown Insecta		1		2								1			1	
	Unknown arthropoda	Unknown arthropoda																
		Unknown Taxa Richness	**8**	**5**	**3**	**13**	**3**	**15**	**0**	**0**	**7**	**2**	**12**	**8**	**16**	**11**	**14**	**12**
		Total Taxa Richness	**167**	**114**	**45**	**188**	**81**	**229**	**1**	**2**	**207**	**82**	**207**	**134**	**236**	**153**	**192**	**122**

Appendix C3: Aquatic, Semi-Aquatic and Terrestrial Invertebrate Taxa Detections in eDNA Metabarcoding Samples, 2022

Habit	Class	Order	Treaty US	Treaty US N. Treaty	Treaty US Todedada	Treaty DS	Bell DS	Bell US	
			June	June	June	June	June	June	Nov
			eDNA	eDNA	eDNA	eDNA	eDNA	eDNA	eDNA
Aquatic Taxa	Arachnida	Trombidiformes							
	Branchiopoda	Diplostraca	1			1			
	Clitellata	Crassiclitellata							1
	Clitellata	Haplotaxida	1	1	1	1	1	2	1
	Clitellata	Lumbriculida			1		1		
	Clitellata	Unknown Clitellata	1	1	1	1	2	2	2
	Hexanauplia	Calanoida							
	Hexanauplia	Cyclopoida						1	
	Insecta	Coleoptera			1		1		2
	Insecta	Diptera	121	97	89	101	163	151	111
	Insecta	Ephemeroptera	3	2	3	3	7	8	10
	Insecta	Hemiptera							
	Insecta	Plecoptera	16	10	15	12	21	22	26
	Insecta	Trichoptera	1	3	1	1	2	3	
		Aquatic Taxa Richness	**144**	**114**	**112**	**120**	**198**	**189**	**153**
		% Diptera	**84.03**	**85.09**	**79.46**	**84.17**	**82.32**	**79.89**	**72.55**
Semi-aquatic Taxa	Arachnida	Mesostigmata	1			1	1		
	Clitellata	Enchytraeida	1		1	1	3		1
	Collembola	Entomobryomorpha		1	1				
	Collembola	Symphypleona			1		1	1	
	Insecta	Diptera	1	2	1	1	7	5	1
		Semi-aquatic Taxa Richness	**3**	**3**	**4**	**3**	**12**	**6**	**2**
Terrestrial Taxa	Arachnida	Araneae							
	Arachnida	Ixodida							
	Diplopoda	Chordeumatida					1	1	
	Insecta	Coleoptera	6	5	4	5	10	11	2
	Insecta	Diptera	16	15	14	12	14	27	5
	Insecta	Hymenoptera						1	
	Insecta	Lepidoptera	2	2		2		1	
	Insecta	Neuroptera							
	Insecta	Psocodea						1	
		Terrestrial Taxa Richness	**24**	**22**	**18**	**19**	**25**	**42**	**7**
Unknown Habit	Clitellata	Unknown Annelid							
	Insecta	Coleoptera					2		
	Insecta	Diptera	10	11	6	6	16	16	11
	Insecta	Unknown Insecta	1			1	1	1	1
	Unknown arthropoda	Unknown arthropoda							
		Unknown Taxa Richness	**11**	**11**	**6**	**7**	**19**	**17**	**12**
		Total Taxa Richness	**182**	**150**	**140**	**149**	**254**	**254**	**174**

Appendix C4: Aquatic, Semi-Aquatic and Terrestrial Invertebrate Taxa Detections in Bulk Tissue Metabarcoding Samples, 2022

Habit	Class	Order	Unuk Border			Unuk DS of S Unuk			Unuk US of S Unuk			Unuk DS Eksay			Unuk US Eskay			Sulphurets DS			Sulphurets US			Sulphurets Lake Outlet		Mitchell		
			June	Sept	Oct	June	Sept	Oct	June	Sept	Oct	June	Sept	Oct	June	Sept	Oct	June	Sept	Oct	June	Sept	Oct	June	Oct	June	Sept	Oct
			Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk
Aquatic	Arachnida	Trombidiformes																										
	Branchiopoda	Diplostraca																										
	Clitellata	Crassiclitellata																										
	Clitellata	Haplotaxida																										
	Clitellata	Lumbriculida																										
	Clitellata	Unknown Clitellata																										
	Hexanauplia	Calanoida																										
	Hexanauplia	Cyclopoida																										
	Insecta	Coleoptera																										
	Insecta	Diptera	1			1			5		1						5	3	1		9		2	3	2	2	1	1
	Insecta	Ephemeroptera	1	9	7	6	4	4	3	7	3		8	5	5	4	3	1	2	3	2	2	1			1	2	
	Insecta	Hemiptera										1												1				2
	Insecta	Plecoptera	7	7	11	10	4	7	4	9	4	1	7	8	5	5	3	3	7	10	8	4	6	1	3	5	3	5
	Insecta	Trichoptera	1		1		1				2			1	1	1												1
		Aquatic Taxa Richness	**10**	**16**	**19**	**17**	**9**	**11**	**12**	**16**	**10**	**2**	**15**	**14**	**11**	**10**	**11**	**7**	**10**	**13**	**19**	**6**	**9**	**5**	**5**	**8**	**6**	**9**
Semi-aquatic Taxa	Arachnida	Mesostigmata																										
	Clitellata	Enchytraeida																										
	Collembola	Entomobryomorpha																										
	Collembola	Symphypleona																										
	Insecta	Diptera										1																
		Semi-aquatic Taxa Richness	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Terrestrial Taxa	Arachnida	Araneae																						1				
	Arachnida	Ixodida																										
	Diplopoda	Chordeumatida																										
	Insecta	Coleoptera		1																								
	Insecta	Diptera								2											2	1	1	1	3		1	
	Insecta	Hymenoptera																							1			3
	Insecta	Lepidoptera																							1			
	Insecta	Neuroptera																										
	Insecta	Psocodea																										
		Terrestrial Taxa Richness	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**1**	**2**	**5**	**0**	**1**	**3**
Unknown Habit	Clitellata	Unknown Annelid																										
	Insecta	Coleoptera																										
	Insecta	Diptera																										
	Insecta	Unknown Insecta																								1		
	Unknown Arthropoda	Unknown Arthropoda																										
		Unknown Taxa Richness	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**
		Total Taxa Richness	**10**	**17**	**19**	**17**	**9**	**11**	**12**	**18**	**10**	**3**	**15**	**14**	**11**	**10**	**11**	**7**	**10**	**13**	**21**	**7**	**10**	**7**	**10**	**9**	**7**	**12**

Appendix C4: Aquatic, Semi-Aquatic and Terrestrial Invertebrate Taxa Detections in Bulk Tissue Metabarcoding Samples, 2022

Habit	Class	Order	Teigen DS			Teigen US			S Teigen DS		S Teigen US1			S Teigen US2			N Treaty DS			N Treaty US1		N Treaty US2		Treaty US	Treaty US N Treaty		
			June	Sept	Oct	June	Sept	Oct	Sept	Oct	June	Sept	Oct	June	Sept	Oct	June	Sept	Oct	Sept	Oct	Sept	Oct	Sept	June	Sept	Oct
			Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk
Aquatic	Arachnida	Trombidiformes														1		1										
	Branchiopoda	Diplostraca																										
	Clitellata	Crassiclitellata																										
	Clitellata	Haplotaxida									1			1	1		1	1										
	Clitellata	Lumbriculida																										
	Clitellata	Unknown Clitellata																										
	Hexanauplia	Calanoida																										
	Hexanauplia	Cyclopoida																										
	Insecta	Coleoptera																										
	Insecta	Diptera	1	6	1		1		3	3	1	1		10	2	2	5						1		2	6	2
	Insecta	Ephemeroptera	10	4	9	8	8	9	8	7	4	10	9	8	4	4	5	1	6	4	4	4	5	4	3	1	4
	Insecta	Hemiptera																2										
	Insecta	Plecoptera	7	5	10	8	10	14	11	9	3	14	15	11	8	11	1	3	13	6	5	11	9	4	4	1	8
	Insecta	Trichoptera	2		1		2	4	3	4	1			1	1	1				2	3	3	2		1		
		Aquatic Taxa Richness	**20**	**15**	**21**	**16**	**21**	**27**	**25**	**23**	**10**	**25**	**24**	**31**	**16**	**19**	**12**	**8**	**19**	**12**	**12**	**18**	**17**	**8**	**10**	**8**	**14**
Semi-aquatic Taxa	Arachnida	Mesostigmata																										
	Clitellata	Enchytraeida																										
	Collembola	Entomobryomorpha																										
	Collembola	Symphypleona																										
	Insecta	Diptera																										
		Semi-aquatic Taxa Richness	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Terrestrial Taxa	Arachnida	Araneae												1		1												
	Arachnida	Ixodida																										
	Diplopoda	Chordeumatida																										
	Insecta	Coleoptera																								1		
	Insecta	Diptera		1						1															1		2
	Insecta	Hymenoptera									1								1					1				
	Insecta	Lepidoptera																							1		1
	Insecta	Neuroptera																										
	Insecta	Psocodea																										
		Terrestrial Taxa Richness	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**2**	**1**	**3**
Unknown Habit	Clitellata	Unknown Annelid																										
	Insecta	Coleoptera																										
	Insecta	Diptera							1									1										
	Insecta	Unknown Insecta	1				1										1					1						
	Unknown Arthropoda	Unknown Arthropoda																						1				
		Unknown Taxa Richness	**1**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**
		Total Taxa Richness	**21**	**16**	**21**	**16**	**22**	**27**	**26**	**24**	**11**	**25**	**24**	**32**	**16**	**20**	**13**	**9**	**20**	**12**	**12**	**19**	**17**	**10**	**12**	**9**	**17**

Appendix C4: Aquatic, Semi-Aquatic and Terrestrial Invertebrate Taxa Detections in Bulk Tissue Metabarcoding Samples, 2022

Habit	Class	Order	Treaty US Todedada			Treaty DS			Bell DS		Bell US	
			June	Sept	Oct	June	Sept	Oct	June	Sept	June	Sept
			Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk	Bulk
Aquatic	Arachnida	Trombidiformes										
	Branchiopoda	Diplostraca										
	Clitellata	Crassiclitellata									1	
	Clitellata	Haplotaxida			1							
	Clitellata	Lumbriculida										
	Clitellata	Unknown Clitellata										
	Hexanauplia	Calanoida										
	Hexanauplia	Cyclopoida										
	Insecta	Coleoptera										
	Insecta	Diptera				4	1		2			
	Insecta	Ephemeroptera	2	1	6	4	5	6	1	10	4	7
	Insecta	Hemiptera										
	Insecta	Plecoptera	7	7	8	5	7	10	2	9	6	7
	Insecta	Trichoptera	1									
		Aquatic Taxa Richness	**10**	**8**	**15**	**13**	**13**	**16**	**5**	**19**	**11**	**14**
Semi-aquatic Taxa	Arachnida	Mesostigmata										
	Clitellata	Enchytraeida										
	Collembola	Entomobryomorpha										
	Collembola	Symphypleona										
	Insecta	Diptera										
		Semi-aquatic Taxa Richness	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Terrestrial Taxa	Arachnida	Araneae										
	Arachnida	Ixodida										
	Diplopoda	Chordeumatida										
	Insecta	Coleoptera										1
	Insecta	Diptera	1						1			
	Insecta	Hymenoptera										
	Insecta	Lepidoptera										
	Insecta	Neuroptera										
	Insecta	Psocodea										
		Terrestrial Taxa Richness	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**
Unknown Habit	Clitellata	Unknown Annelid									6	
	Insecta	Coleoptera										
	Insecta	Diptera										
	Insecta	Unknown Insecta				1			1			
	Unknown Arthropoda	Unknown Arthropoda										
		Unknown Taxa Richness	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**6**	**0**
		Total Taxa Richness	**11**	**8**	**15**	**14**	**13**	**16**	**7**	**19**	**17**	**15**

Appendix C5: Aquatic, Semi-Aquatic and Terrestrial Invertebrate Taxa Detections in eDNA Metabarcoding Samples, 2023

Habit	Class	Order	Unuk DS Eskay	Unuk US S. Unuk	Unuk Border	McTagg Creek	Gingras	Sulphurets DS	Teigen US	Teigen DS	S. Teigen US2	S. Teigen US1	S. Teigen DS
Aquatic	Branchiopoda	Diplostraca	-	-	-	-	-	-	-	1	-	1	-
	Clitellata	Clitellata	-	1	2	-	-	2	1	2	1	2	2
	Eurotatoria	Ploima	-	-	-	-	-	-	-	1	-	-	-
	Hexanauplia	Hexanauplia	-	2	-	-	-	1	-	3	1	3	-
	Insecta	Coleoptera	-	2	1	-	1	-	-	-	3	2	2
	Insecta	Diptera	71	157	186	93	136	68	125	155	210	256	197
	Insecta	Ephemeroptera	6	7	7	2	4	1	9	11	5	9	7
	Insecta	Plecoptera	12	22	24	10	16	4	25	28	20	31	22
	Insecta	Trichoptera	2	6	4	2	2	-	2	3	3	4	3
		Aquatic Taxa Richness	**91**	**197**	**224**	**107**	**159**	**76**	**162**	**204**	**243**	**308**	**233**
Semi-Aquatic	Collembola	Entomobryomorpha	0	0	1	-	-	-	-	-	-	-	-
	Collembola	Symphypleona	0	0	1	-	1	1	-	1	1	1	2
	Insecta	Diptera	7	20	27	4	12	5	9	9	20	19	13
		Semi-Aquatic Taxa Richness	**7**	**20**	**29**	**4**	**13**	**6**	**9**	**10**	**21**	**20**	**15**
Terrestrial	Diplopoda	Chordeumatida	-	0	1	-	1	-	-	-	-	-	-
	Insecta	Coleoptera	1	9	12	3	5	1	1	2	6	9	2
	Insecta	Diptera	30	57	60	37	73	20	31	46	65	85	56
	Insecta	Hemiptera	-	1	-	-	-	-	-	1	-	-	-
	Insecta	Hymenoptera	-	1	-	-	-	1	-	-	-	1	-
	Insecta	Insecta	1	3	3	-	1	-	1	1	3	4	2
	Insecta	Lepidoptera	2	1	1	-	2	-	-	-	2	-	1
	Insecta	Neuroptera	2	2	-	1	1	-	1	1	1	-	1
	Insecta	Psocodea	2	4	4	2	3	1	1	3	3	3	4
		Terrestrial Taxa Richness	**38**	**78**	**81**	**43**	**86**	**23**	**35**	**54**	**80**	**102**	**66**
Unknown	Arthropoda	Arthropoda	-	0	-	-	-	-	-	-	-	1	-
		Unknown Taxa Richness	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**
		Total Taxa Richness	**136**	**295**	**334**	**154**	**258**	**105**	**206**	**268**	**344**	**431**	**314**

Appendix C5: Aquatic, Semi-Aquatic and Terrestrial Invertebrate Taxa Detections in eDNA Metabarcoding Samples, 2023

Habit	Class	Order	N. Treaty US2	N. Treaty US1	N. Treaty DS	Treaty US Todedada	Treaty US N. Treaty	Treaty DS	Bell US Treaty	Bell DS Treaty
Aquatic	Branchiopoda	Diplostraca	-	-	3	1	1	1	-	1
	Clitellata	Clitellata	1	1	2	2	1	1	3	3
	Eurotatoria	Ploima	-	-	-	-	-	-	-	-
	Hexanauplia	Hexanauplia	1	1	3	-	1	-	-	1
	Insecta	Coleoptera	3	3	3	2	-	2	2	2
	Insecta	Diptera	198	185	91	130	87	226	226	212
	Insecta	Ephemeroptera	5	7	-	6	3	7	14	13
	Insecta	Plecoptera	25	26	4	21	8	20	33	29
	Insecta	Trichoptera	2	4	1	2	2	3	4	3
		Aquatic Taxa Richness	**235**	**227**	**107**	**164**	**103**	**260**	**282**	**264**
Semi-Aquatic	Collembola	Entomobryomorpha	-	-	-	-	-	1	-	-
	Collembola	Symphypleona	2	1	-	-	1	1	-	-
	Insecta	Diptera	16	14	1	10	2	28	18	15
		Semi-Aquatic Taxa Richness	**18**	**15**	**1**	**10**	**3**	**30**	**18**	**15**
Terrestrial	Diplopoda	Chordeumatida	-	-	-	-	-	-	-	-
	Insecta	Coleoptera	5	6	-	2	-	5	9	5
	Insecta	Diptera	79	47	6	36	16	66	87	76
	Insecta	Hemiptera	-	-	-	-	-	2	-	1
	Insecta	Hymenoptera	-	-	-	1	-	1	-	-
	Insecta	Insecta	3	2	-	1	-	1	1	1
	Insecta	Lepidoptera	2	1	-	2	1	4	1	-
	Insecta	Neuroptera	1	2	-	1	1	2	1	2
	Insecta	Psocodea	4	4	-	2	1	7	5	6
		Terrestrial Taxa Richness	**94**	**62**	**6**	**45**	**19**	**88**	**104**	**91**
Unknown	Arthropoda	Arthropoda	-	-	-	-	-	-	-	-
		Unknown Taxa Richness	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
		Total Taxa Richness	**347**	**304**	**114**	**219**	**125**	**378**	**404**	**370**

Appendix C6: Aquatic, Semi-Aquatic and Terrestrial Invertebrate Taxa Detections in Bulk Tissue Metabarcoding Samples, 2023

Habit	Class	Order	Unuk US Eskay	Unuk DS Eskay	Unuk US S. Unuk	Unuk DS S. Unuk	Unuk Border	Mitchell	McTagg Creek	Gingras	Sulphurets DS	Teigen US	Teigen DS
Aquatic	Branchiopoda	Diplostraca											
	Clitellata	Haplotaxida											
	Hexanauplia	Cyclopoida											
	Hydrozoa	Anthoathecata											
	Insecta	Coleoptera											
	Insecta	Diptera	2			4	4	3	5	3	1	5	7
	Insecta	Ephemeroptera	10	7	10	9	5	1	3	8	1	12	12
	Insecta	Hemiptera											
	Insecta	Plecoptera	5	3	3	4	10	2	7	7	1	6	6
	Insecta	Thysanoptera							1				
	Insecta	Trichoptera	1		2					2		3	2
	Ostracoda	Podocopida											
	unknown	Chaetonotida											
		Aquatic Taxa Richness	**18**	**10**	**15**	**17**	**19**	**6**	**16**	**20**	**3**	**26**	**27**
Semi-Aquatic	Arachnida	Trombidiformes											
	Insecta	Diptera					1		1	1		1	
		Semi-Aquatic Taxa Richness	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**1**	**0**
Terrestrial	Insecta	Blattodea						1					
	Insecta	Coleoptera							1				
	Insecta	Diptera									4		
	Insecta	Hemiptera							1				
	Insecta	Hymenoptera	1										
	Insecta	Lepidoptera			1					1	1		
		Terrestrial Taxa Richness	**1**	**0**	**1**	**0**	**0**	**1**	**2**	**1**	**5**	**0**	**0**
Unknown	Arthropoda	Arthropoda											
	Insecta	Diptera								1			1
	Insecta	Insecta				1		1	1	1		1	1
		Unknown Taxa Richness	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**2**	**0**	**1**	**2**
		Total Taxa Richness	**19**	**10**	**16**	**18**	**20**	**8**	**20**	**24**	**8**	**28**	**29**

Appendix C6: Aquatic, Semi-Aquatic and Terrestrial Invertebrate Taxa Detections in Bulk Tissue Metabarcoding Samples, 2023

Habit	Class	Order	S. Teigen US2	S. Teigen US1	S. Teigen DS	N. Treaty US2	N. Treaty US1	N. Treaty DS	Treaty US N. Treaty	Treaty US Todedada	Treaty DS	Bell US Treaty	Bell DS Treaty
Aquatic	Branchiopoda	Diplostraca						1					
	Clitellata	Haplotaxida	1	2				7					
	Hexanauplia	Cyclopoida						4					
	Hydrozoa	Anthoathecata						1					
	Insecta	Coleoptera										1	
	Insecta	Diptera	5	3	5	6	1	23	1	4		2	
	Insecta	Ephemeroptera	10	6	11	8	5	1	4	4	9	13	9
	Insecta	Hemiptera						1					
	Insecta	Plecoptera	6	7	7	12	3	2	3	4	2	5	4
	Insecta	Thysanoptera											
	Insecta	Trichoptera	1	1	2	1		1		1			
	Ostracoda	Podocopida						1					
	unknown	Chaetonotida						1					
		Aquatic Taxa Richness	**23**	**19**	**25**	**27**	**9**	**43**	**8**	**13**	**11**	**21**	**13**
Semi-Aquatic	Arachnida	Trombidiformes		2		1							
	Insecta	Diptera				1							
		Semi-Aquatic Taxa Richness	**0**	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Terrestrial	Insecta	Blattodea											
	Insecta	Coleoptera		1									
	Insecta	Diptera			1	1				2			
	Insecta	Hemiptera								1			
	Insecta	Hymenoptera		1		1			1				
	Insecta	Lepidoptera					1						
		Terrestrial Taxa Richness	**0**	**2**	**1**	**2**	**1**	**0**	**1**	**3**	**0**	**0**	**0**
Unknown	Arthropoda	Arthropoda		1									
	Insecta	Diptera		1									
	Insecta	Insecta					1			1			
		Unknown Taxa Richness	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**
		Total Taxa Richness	**23**	**25**	**26**	**31**	**11**	**43**	**9**	**17**	**11**	**21**	**13**

Appendix C7: CABIN Samples Taxonomy, 2023

						Biologica Sample ID	fb23-118-009	fb23-118-008	fb23-118-003	fb23-118-002	fb23-118-001	fb23-118-007	fb23-118-010	fb23-118-011
						Date Sampled	23-Aug-23	23-Aug-23	21-Aug-23	20-Aug-23	20-Aug-23	21-Aug-23	18-Aug-23	21-Aug-23
Phylum	Class	Order	Family	Subfamily	Tribe	Taxon	Unuk US Eskay	Unuk DS Eskay	Unuk US S. Unuk	Unuk DS S. Unuk	Unuk Border	Mitchell	Mctagg	Gingras
Annelida	Clitellata	Tubificida	Naididae	Naidinae		*Chaetogaster diaphanus*								
Annelida	Clitellata	Tubificida	Naididae	Naidinae		*Nais communis*								
Annelida	Clitellata	Tubificida	Naididae	Naidinae		*Nais simplex*								
Annelida	Clitellata	Tubificida	Naididae	Naidinae		*Nais sp.*								
Annelida	Clitellata	Tubificida	Naididae	Naidinae		*Slavina appendiculata*								
Annelida	Clitellata	Tubificida	Naididae			*Naididae*								
Annelida	Clitellata	Clitellata	Enchytraeidae			*Enchytraeidae*	1							
Annelida	Clitellata	Clitellata	Enchytraeidae			*Henlea sp.*								
Arthropoda	Euchelicerata	Sarcoptiformes	Ceratozetidae			*Ceratozetidae*								
Arthropoda	Euchelicerata	Sarcoptiformes	Ceratozetidae			*Heterozetes sp.*								
Arthropoda	Euchelicerata	Sarcoptiformes	Hydrozetidae			*Hydrozetes sp.*		1						
Arthropoda	Euchelicerata	Sarcoptiformes	Sarcoptiformes			*Sarcoptiformes*				1				4
Arthropoda	Euchelicerata	Trombidiformes	Arrenuridae			*Arrenurus sp.*								
Arthropoda	Euchelicerata	Trombidiformes	Aturidae			*Aturus sp.*								
Arthropoda	Euchelicerata	Trombidiformes	Feltriidae			*Feltria sp.*								
Arthropoda	Euchelicerata	Trombidiformes	Hydryphantidae			*Thyopsis sp.*								
Arthropoda	Euchelicerata	Trombidiformes	Hygrobatidae			*Atractides sp.*								
Arthropoda	Euchelicerata	Trombidiformes	Hygrobatidae			*Hygrobates sp.*								
Arthropoda	Euchelicerata	Trombidiformes	Lebertiidae			*Lebertia sp.*				1				
Arthropoda	Euchelicerata	Trombidiformes	Sperchontidae			*Sperchon sp.*			4.347826087					
Arthropoda	Euchelicerata	Trombidiformes	Sperchontidae			*Sperchontidae* indet.								
Arthropoda	Euchelicerata	Euchelicerata	Euchelicerata			*Arachnida*								
Cnidaria	Hydrozoa	Anthoathecatae	Hydridae			*Hydra sp.*								
Arthropoda	Collembola	Collembola	Dicyrtomidae			*Dicyrtomidae*								
Arthropoda	Collembola	Collembola	Isotomidae			*Isotomidae*							2	
Arthropoda	Collembola	Collembola	Collembola			*Collembola*								
Arthropoda	Insecta	Coleoptera	Dytiscidae			*Dytiscidae*								
Arthropoda	Insecta	Coleoptera	Elmidae	Elminae	Macronychini	*Zaitzevia sp.*								
Arthropoda	Insecta	Coleoptera	Hydraenidae	Hydraeninae	Hydraenini	*Hydraena sp.*								
Arthropoda	Insecta	Coleoptera	Staphylinidae			*Staphylinidae*								
Arthropoda	Insecta	Coleoptera	Coleoptera			*Coleoptera*								
Arthropoda	Insecta	Diptera	Blephariceridae			*Blephariceridae*								
Arthropoda	Insecta	Diptera	Ceratopogonidae	Ceratopogoninae		*Ceratopogoninae*	1							
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae	Chironomini	*Chironomus sp.*								
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae	Chironomini	*Phaenopsectra sp.*								
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae	Chironomini	*Polypedilum sp.*								
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae	Tanytarsini	*Micropsectra sp.*								
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae	Tanytarsini	*Micropsectra/Tanytarsus sp. complex*								
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae	Tanytarsini	*Tanytarsus sp.*			6.52173913					
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae		*Chironominae*					1			
Arthropoda	Insecta	Diptera	Chironomidae	Diamesinae	Diamesini	*Diamesa sp.*	23	16	86.95652174	4	4	61	56	68
Arthropoda	Insecta	Diptera	Chironomidae	Diamesinae	Diamesini	*Pagastia sp.*					1		1	
Arthropoda	Insecta	Diptera	Chironomidae	Diamesinae	Diamesini	*Pseudodiamesa sp.*					1			
Arthropoda	Insecta	Diptera	Chironomidae	Diamesinae		*Diamesinae*								
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Brillia sp.*			2.173913043					
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Corynoneura sp.*						1		
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Cricotopus/Orthocladius sp. complex*	1	1	4.347826087	5	1	1	1	8
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Diplocladius sp.*								
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Eukiefferiella sp.*				1	2	2	1	24
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Heterotrissocladius marcidus*								
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Hydrobaenus sp.*							1	
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Metriocnemus sp.*								
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Orthocladiinae*	2		28.26086957	4	9	1	6	4
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Orthocladius sp.*								
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Parametriocnemus sp.*								
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Parorthocladius sp.*								

Appendix C7: CABIN Samples Taxonomy, 2023

						Biologica Sample ID	fb23-118-006	fb23-118-005	fb23-118-004	fb23-118-013	fb23-118-012	fb23-118-016	fb23-118-015	fb23-118-014
						Date Sampled	18-Aug-23	17-Aug-23	17-Aug-23	22-Aug-23	22-Aug-23	18-Aug-23	16-Aug-23	16-Aug-23
Phylum	Class	Order	Family	Subfamily	Tribe	Taxon	Sulphurets Lake Outlet	Sulphurets US	Sulphurets DS	Teigen US	Teigen DS	S. Teigen US2	S. Teigen US1	S. Teigen DS
Annelida	Clitellata	Tubificida	Naididae	Naidinae		*Chaetogaster diaphanus*								
Annelida	Clitellata	Tubificida	Naididae	Naidinae		*Nais communis*								
Annelida	Clitellata	Tubificida	Naididae	Naidinae		*Nais simplex*								
Annelida	Clitellata	Tubificida	Naididae	Naidinae		*Nais sp.*								
Annelida	Clitellata	Tubificida	Naididae	Naidinae		*Slavina appendiculata*								
Annelida	Clitellata	Tubificida	Naididae			*Naididae*						19.2	14.28571429	
Annelida	Clitellata	Clitellata	Enchytraeidae			*Enchytraeidae*						57.6		
Annelida	Clitellata	Clitellata	Enchytraeidae			*Henlea sp.*	2							
Arthropoda	Euchelicerata	Sarcoptiformes	Ceratozetidae			*Ceratozetidae*								
Arthropoda	Euchelicerata	Sarcoptiformes	Ceratozetidae			*Heterozetes sp.*	2							
Arthropoda	Euchelicerata	Sarcoptiformes	Hydrozetidae			*Hydrozetes sp.*								
Arthropoda	Euchelicerata	Sarcoptiformes	Sarcoptiformes			*Sarcoptiformes*				40		19.2	14.28571429	
Arthropoda	Euchelicerata	Trombidiformes	Arrenuridae			*Arrenurus sp.*								
Arthropoda	Euchelicerata	Trombidiformes	Aturidae			*Aturus sp.*						19.2		
Arthropoda	Euchelicerata	Trombidiformes	Feltriidae			*Feltria sp.*								
Arthropoda	Euchelicerata	Trombidiformes	Hydryphantidae			*Thyopsis sp.*								
Arthropoda	Euchelicerata	Trombidiformes	Hygrobatidae			*Atractides sp.*						19.2		
Arthropoda	Euchelicerata	Trombidiformes	Hygrobatidae			*Hygrobates sp.*						19.2		
Arthropoda	Euchelicerata	Trombidiformes	Lebertiidae			*Lebertia sp.*						115.2	42.85714286	8.333333333
Arthropoda	Euchelicerata	Trombidiformes	Sperchontidae			*Sperchon sp.*		1	1	60	20			25
Arthropoda	Euchelicerata	Trombidiformes	Sperchontidae			*Sperchontidae* indet.								
Arthropoda	Euchelicerata	Euchelicerata	Euchelicerata			*Arachnida*						57.6		
Cnidaria	Hydrozoa	Anthoathecatae	Hydridae			*Hydra sp.*								
Arthropoda	Collembola	Collembola	Dicyrtomidae			*Dicyrtomidae*								
Arthropoda	Collembola	Collembola	Isotomidae			*Isotomidae*	1							
Arthropoda	Collembola	Collembola	Collembola			*Collembola*								
Arthropoda	Insecta	Coleoptera	Dytiscidae			*Dytiscidae*								
Arthropoda	Insecta	Coleoptera	Elmidae	Elminae	Macronychini	*Zaitzevia sp.*								
Arthropoda	Insecta	Coleoptera	Hydraenidae	Hydraeninae	Hydraenini	*Hydraena sp.*								
Arthropoda	Insecta	Coleoptera	Staphylinidae			*Staphylinidae*								
Arthropoda	Insecta	Coleoptera	Coleoptera			*Coleoptera*								
Arthropoda	Insecta	Diptera	Blephariceridae			*Blephariceridae*								
Arthropoda	Insecta	Diptera	Ceratopogonidae	Ceratopogoninae		*Ceratopogoninae*				20	140		14.28571429	
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae	Chironomini	*Chironomus sp.*								
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae	Chironomini	*Phaenopsectra sp.*								
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae	Chironomini	*Polypedilum sp.*								8.333333333
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae	Tanytarsini	*Micropsectra sp.*								
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae	Tanytarsini	*Micropsectra/Tanytarsus sp. complex*	1				20	38.4		
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae	Tanytarsini	*Tanytarsus sp.*							14.28571429	8.333333333
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae		*Chironominae*						19.2	14.28571429	33.33333333
Arthropoda	Insecta	Diptera	Chironomidae	Diamesinae	Diamesini	*Diamesa sp.*	353	87	57					
Arthropoda	Insecta	Diptera	Chironomidae	Diamesinae	Diamesini	*Pagastia sp.*						230.4		
Arthropoda	Insecta	Diptera	Chironomidae	Diamesinae	Diamesini	*Pseudodiamesa sp.*						57.6		
Arthropoda	Insecta	Diptera	Chironomidae	Diamesinae		*Diamesinae*		1						
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Brillia sp.*				20	60	115.2		8.333333333
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Corynoneura sp.*						19.2		
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Cricotopus/Orthocladius sp. complex*	35	1		40	980	595.2	114.2857143	75
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Diplocladius sp.*						57.6		
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Eukiefferiella sp.*					180	211.2	42.85714286	133.3333333
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Heterotrissocladius marcidus*								
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Hydrobaenus sp.*					20	518.4		8.333333333
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Metriocnemus sp.*								
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Orthocladiinae*	15	1				1363.2	128.5714286	41.66666667
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Orthocladius sp.*						230.4		
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Parametriocnemus sp.*								
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Parorthocladius sp.*					20	96		16.66666667

Appendix C7: CABIN Samples Taxonomy, 2023

						Biologica Sample ID	fb23-118-019	fb23-118-018	fb23-118-017_A	fb23-118-017_B	fb23-118-023	fb23-118-022	fb23-118-021
						Date Sampled	15-Aug-23	14-Aug-23	13-Aug-23	13-Aug-23	19-Aug-23	19-Aug-23	19-Aug-23
Phylum	Class	Order	Family	Subfamily	Tribe	Taxon	N. Treaty US2	N. Treaty US1	N. Treaty DS_A	N. Treaty DS_B	Treaty US	Treaty US N. Treaty	Treaty US Todedada
Annelida	Clitellata	Tubificida	Naididae	Naidinae		*Chaetogaster diaphanus*			80	288			
Annelida	Clitellata	Tubificida	Naididae	Naidinae		*Nais communis*			220	326.4			
Annelida	Clitellata	Tubificida	Naididae	Naidinae		*Nais simplex*				115.2			
Annelida	Clitellata	Tubificida	Naididae	Naidinae		*Nais sp.*			120	115.2			
Annelida	Clitellata	Tubificida	Naididae	Naidinae		*Slavina appendiculata*			380	652.8			
Annelida	Clitellata	Tubificida	Naididae			*Naididae*			40	288			
Annelida	Clitellata	Clitellata	Enchytraeidae			*Enchytraeidae*	1						
Annelida	Clitellata	Clitellata	Enchytraeidae			*Henlea sp.*							
Arthropoda	Euchelicerata	Sarcoptiformes	Ceratozetidae			*Ceratozetidae*							
Arthropoda	Euchelicerata	Sarcoptiformes	Ceratozetidae			*Heterozetes sp.*	1						
Arthropoda	Euchelicerata	Sarcoptiformes	Hydrozetidae			*Hydrozetes sp.*							
Arthropoda	Euchelicerata	Sarcoptiformes	Sarcoptiformes			*Sarcoptiformes*	1						
Arthropoda	Euchelicerata	Trombidiformes	Arrenuridae			*Arrenurus sp.*			20	19.2			
Arthropoda	Euchelicerata	Trombidiformes	Aturidae			*Aturus sp.*			40				
Arthropoda	Euchelicerata	Trombidiformes	Feltriidae			*Feltria sp.*				19.2			
Arthropoda	Euchelicerata	Trombidiformes	Hydryphantidae			*Thyopsis sp.*				19.2			
Arthropoda	Euchelicerata	Trombidiformes	Hygrobatidae			*Atractides sp.*		1					
Arthropoda	Euchelicerata	Trombidiformes	Hygrobatidae			*Hygrobates sp.*		1					
Arthropoda	Euchelicerata	Trombidiformes	Lebertiidae			*Lebertia sp.*			20				
Arthropoda	Euchelicerata	Trombidiformes	Sperchontidae			*Sperchon sp.*	2	1	360	384			
Arthropoda	Euchelicerata	Trombidiformes	Sperchontidae			*Sperchontidae* indet.		1	140	115.2			
Arthropoda	Euchelicerata	Euchelicerata	Euchelicerata			*Arachnida*				19.2			
Cnidaria	Hydrozoa	Anthoathecatae	Hydridae			*Hydra sp.*			80	19.2			
Arthropoda	Collembola	Collembola	Dicyrtomidae			*Dicyrtomidae*							
Arthropoda	Collembola	Collembola	Isotomidae			*Isotomidae*					1		
Arthropoda	Collembola	Collembola	Collembola			*Collembola*							
Arthropoda	Insecta	Coleoptera	Dytiscidae			*Dytiscidae*			60				
Arthropoda	Insecta	Coleoptera	Elmidae	Elminae	Macronychini	*Zaitzevia sp.*							
Arthropoda	Insecta	Coleoptera	Hydraenidae	Hydraeninae	Hydraenini	*Hydraena sp.*			20				
Arthropoda	Insecta	Coleoptera	Staphylinidae			*Staphylinidae*							
Arthropoda	Insecta	Coleoptera	Coleoptera			*Coleoptera*							
Arthropoda	Insecta	Diptera	Blephariceridae			*Blephariceridae*							
Arthropoda	Insecta	Diptera	Ceratopogonidae	Ceratopogoninae		*Ceratopogoninae*			40	38.4			
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae	Chironomini	*Chironomus sp.*			20	57.6			
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae	Chironomini	*Phaenopsectra sp.*			120	96			
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae	Chironomini	*Polypedilum sp.*			460	883.2			
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae	Tanytarsini	*Micropsectra sp.*			1340	672			
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae	Tanytarsini	*Micropsectra/Tanytarsus sp. complex*			1600	1536			
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae	Tanytarsini	*Tanytarsus sp.*			1460	1075.2			
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae		*Chironominae*			420	19.2			
Arthropoda	Insecta	Diptera	Chironomidae	Diamesinae	Diamesini	*Diamesa sp.*	1	108			12	27	26
Arthropoda	Insecta	Diptera	Chironomidae	Diamesinae	Diamesini	*Pagastia sp.*	1	1				1	
Arthropoda	Insecta	Diptera	Chironomidae	Diamesinae	Diamesini	*Pseudodiamesa sp.*	1						
Arthropoda	Insecta	Diptera	Chironomidae	Diamesinae		*Diamesinae*							
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Brillia sp.*	3	2					
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Corynoneura sp.*			60	38.4			
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Cricotopus/Orthocladius sp. complex*	3	15	1000	576	1	1	1
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Diplocladius sp.*			80				
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Eukiefferiella sp.*	4	77		19.2			1
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Heterotrissocladius marcidus*			60	115.2			
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Hydrobaenus sp.*							
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Metriocnemus sp.*	1						
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Orthocladiinae*	3		680	211.2			4
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Orthocladius sp.*	3						
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Parametriocnemus sp.*			20	19.2			
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Parorthocladius sp.*							

Appendix C7: CABIN Samples Taxonomy, 2023

						Biologica Sample ID	fb23-118-020	fb23-118-024	fb23-118-025
						Date Sampled	13-Aug-23	22-Aug-23	24-Aug-23
Phylum	Class	Order	Family	Subfamily	Tribe	Taxon	Treaty DS	Bell US Treaty	Bell DS Treaty
Annelida	Clitellata	Tubificida	Naididae	Naidinae		*Chaetogaster diaphanus*			
Annelida	Clitellata	Tubificida	Naididae	Naidinae		*Nais communis*			
Annelida	Clitellata	Tubificida	Naididae	Naidinae		*Nais simplex*			
Annelida	Clitellata	Tubificida	Naididae	Naidinae		*Nais sp.*			
Annelida	Clitellata	Tubificida	Naididae	Naidinae		*Slavina appendiculata*			
Annelida	Clitellata	Tubificida	Naididae			*Naididae*			
Annelida	Clitellata	Clitellata	Enchytraeidae			*Enchytraeidae*	9		
Annelida	Clitellata	Clitellata	Enchytraeidae			*Henlea sp.*			
Arthropoda	Euchelicerata	Sarcoptiformes	Ceratozetidae			*Ceratozetidae*	2		
Arthropoda	Euchelicerata	Sarcoptiformes	Ceratozetidae			*Heterozetes sp.*			
Arthropoda	Euchelicerata	Sarcoptiformes	Hydrozetidae			*Hydrozetes sp.*			
Arthropoda	Euchelicerata	Sarcoptiformes	Sarcoptiformes			*Sarcoptiformes*	1		
Arthropoda	Euchelicerata	Trombidiformes	Arrenuridae			*Arrenurus sp.*			
Arthropoda	Euchelicerata	Trombidiformes	Aturidae			*Aturus sp.*			
Arthropoda	Euchelicerata	Trombidiformes	Feltriidae			*Feltria sp.*			
Arthropoda	Euchelicerata	Trombidiformes	Hydryphantidae			*Thyopsis sp.*			
Arthropoda	Euchelicerata	Trombidiformes	Hygrobatidae			*Atractides sp.*			
Arthropoda	Euchelicerata	Trombidiformes	Hygrobatidae			*Hygrobates sp.*			
Arthropoda	Euchelicerata	Trombidiformes	Lebertiidae			*Lebertia sp.*			
Arthropoda	Euchelicerata	Trombidiformes	Sperchontidae			*Sperchon sp.*			
Arthropoda	Euchelicerata	Trombidiformes	Sperchontidae			*Sperchontidae* indet.			
Arthropoda	Euchelicerata	Euchelicerata	Euchelicerata			*Arachnida*	1		
Cnidaria	Hydrozoa	Anthoathecatae	Hydridae			*Hydra sp.*			
Arthropoda	Collembola	Collembola	Dicyrtomidae			*Dicyrtomidae*	2		
Arthropoda	Collembola	Collembola	Isotomidae			*Isotomidae*	2		
Arthropoda	Collembola	Collembola	Collembola			*Collembola*	3		
Arthropoda	Insecta	Coleoptera	Dytiscidae			*Dytiscidae*			
Arthropoda	Insecta	Coleoptera	Elmidae	Elminae	Macronychini	*Zaitzevia sp.*			1
Arthropoda	Insecta	Coleoptera	Hydraenidae	Hydraeninae	Hydraenini	*Hydraena sp.*			
Arthropoda	Insecta	Coleoptera	Staphylinidae			*Staphylinidae*	1		
Arthropoda	Insecta	Coleoptera	Coleoptera			*Coleoptera*	3		
Arthropoda	Insecta	Diptera	Blephariceridae			*Blephariceridae*		187.5	3
Arthropoda	Insecta	Diptera	Ceratopogonidae	Ceratopogoninae		*Ceratopogoninae*			
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae	Chironomini	*Chironomus sp.*			
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae	Chironomini	*Phaenopsectra sp.*			
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae	Chironomini	*Polypedilum sp.*			
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae	Tanytarsini	*Micropsectra sp.*			
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae	Tanytarsini	*Micropsectra/Tanytarsus sp. complex*			
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae	Tanytarsini	*Tanytarsus sp.*	1		1
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae		*Chironominae*			
Arthropoda	Insecta	Diptera	Chironomidae	Diamesinae	Diamesini	*Diamesa sp.*	7		
Arthropoda	Insecta	Diptera	Chironomidae	Diamesinae	Diamesini	*Pagastia sp.*			
Arthropoda	Insecta	Diptera	Chironomidae	Diamesinae	Diamesini	*Pseudodiamesa sp.*			
Arthropoda	Insecta	Diptera	Chironomidae	Diamesinae		*Diamesinae*			
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Brillia sp.*	1	12.5	
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Corynoneura sp.*			
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Cricotopus/Orthocladius sp. complex*	1		
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Diplocladius sp.*	1		
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Eukiefferiella sp.*		12.5	1
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Heterotrissocladius marcidus*			
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Hydrobaenus sp.*	1		
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Metriocnemus sp.*			
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Orthocladiinae*	11	12.5	3
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Orthocladius sp.*			
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Parametriocnemus sp.*			
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Parorthocladius sp.*			

Appendix C7: CABIN Samples Taxonomy, 2023

						Biologica Sample ID	fb23-118-009	fb23-118-008	fb23-118-003	fb23-118-002	fb23-118-001	fb23-118-007	fb23-118-010	fb23-118-011
						Date Sampled	23-Aug-23	23-Aug-23	21-Aug-23	20-Aug-23	20-Aug-23	21-Aug-23	18-Aug-23	21-Aug-23
Phylum	Class	Order	Family	Subfamily	Tribe	Taxon	Unuk US Eskay	Unuk DS Eskay	Unuk US S. Unuk	Unuk DS S. Unuk	Unuk Border	Mitchell	Mctagg	Gingras
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Psectrocladius sp.*								
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Rheocricotopus sp.*								
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Stilocladius sp.*								
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Thienemanniella sp.*								
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Tvetenia sp.*			6.52173913		1	1	1	12
Arthropoda	Insecta	Diptera	Chironomidae	Prodiamesinae		*Prodiamesa sp.*								
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae	Macropelopiini	*Psectrotanypus sp.*								
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae	Pentaneurini	*Labrundinia sp.*								
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae		*Tanypodinae*								
Arthropoda	Insecta	Diptera	Chironomidae			*Chironomidae*	11		10.86956522		2	4		64
Arthropoda	Insecta	Diptera	Dixidae			*Dixa sp.*	1							
Arthropoda	Insecta	Diptera	Dixidae			*Dixella sp.*								
Arthropoda	Insecta	Diptera	Dolichopodidae			*Dolichopodidae*								
Arthropoda	Insecta	Diptera	Empididae	Clinocerinae		*Clinocera sp.*								
Arthropoda	Insecta	Diptera	Empididae	Hemerodromiinae	Hemerodromiini	*Neoplasta sp.*								
Arthropoda	Insecta	Diptera	Empididae	Oreogetoninae		*Oreogeton sp.*								12
Arthropoda	Insecta	Diptera	Muscidae			*Muscidae*								
Arthropoda	Insecta	Diptera	Psychodidae			*Psychodidae*								
Arthropoda	Insecta	Diptera	Simuliidae	Simuliinae	Prosimuliini	*Helodon sp.*								
Arthropoda	Insecta	Diptera	Simuliidae	Simuliinae	Prosimuliini	*Prosimulium sp.*								4
Arthropoda	Insecta	Diptera	Simuliidae			*Simuliidae*	1		4.347826087					
Arthropoda	Insecta	Diptera	Tabanidae	Chrysopsinae	Chrysopsini	*Chrysops sp.*								
Arthropoda	Insecta	Diptera	Tipulidae	Limoniinae	Eriopterini	*Gonomyodes sp.*	1						1	4
Arthropoda	Insecta	Diptera	Tipulidae	Limoniinae	Eriopterini	*Hesperoconopa sp.*								
Arthropoda	Insecta	Diptera	Tipulidae	Limoniinae	Eriopterini	*Rhabdomastix sp.*								
Arthropoda	Insecta	Diptera	Tipulidae	Limoniinae	Hexatomini	*Hexatoma sp.*								
Arthropoda	Insecta	Diptera	Tipulidae	Limoniinae	Pediciini	*Dicranota sp.*					6			8
Arthropoda	Insecta	Diptera	Tipulidae			*Tipulidae*		1						
Arthropoda	Insecta	Diptera	Diptera			*Diptera*	2		2.173913043				1	16
Arthropoda	Insecta	Ephemeroptera	Ameletidae			*Ameletus sp.*	1		6.52173913	4	5			
Arthropoda	Insecta	Ephemeroptera	Baetidae			*Baetidae*	6	2			3			20
Arthropoda	Insecta	Ephemeroptera	Baetidae			*Baetis sp.*	53	24	191.3043478	21	21		28	120
Arthropoda	Insecta	Ephemeroptera	Baetidae			*Callibaetis sp.*								
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae			*Drunella doddsii*	7	2		4	5	1	1	52
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae			*Drunella coloradensis*	3	1						
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae			*Ephemerella sp.*				1				
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae			*Ephemerellidae*			4.347826087	1				24
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae			*Serratella sp.*								
Arthropoda	Insecta	Ephemeroptera	Heptageniidae			*Cinygmula sp.*	1		15.2173913	19	8			
Arthropoda	Insecta	Ephemeroptera	Heptageniidae			*Epeorus deceptivus*	35	28	45.65217391	3				4
Arthropoda	Insecta	Ephemeroptera	Heptageniidae			*Epeorus sp.*	13	28	19.56521739		1			100
Arthropoda	Insecta	Ephemeroptera	Heptageniidae			*Heptagenia sp.*								
Arthropoda	Insecta	Ephemeroptera	Heptageniidae			*Heptageniidae*	18	174	58.69565217	17	10			8
Arthropoda	Insecta	Ephemeroptera	Heptageniidae			*Rhithrogena sp.*	87	241	50	29	15	1	2	196
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae			*Leptophlebiidae*				1				
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae			*Neoleptophlebia sp.*								
Arthropoda	Insecta	Ephemeroptera	Ephemeroptera			*Ephemeroptera*	5		4.347826087	3	7			4
Arthropoda	Insecta	Hemiptera	Corixidae			*Corixidae*								
Arthropoda	Insecta	Plecoptera	Capniidae			*Capniidae*					2			
Arthropoda	Insecta	Plecoptera	Chloroperlidae	Chloroperlinae		*Suwallia sp.*	2	18	4.347826087	7	24		1	
Arthropoda	Insecta	Plecoptera	Chloroperlidae	Chloroperlinae		*Sweltsa sp.*					1			
Arthropoda	Insecta	Plecoptera	Chloroperlidae			*Chloroperlidae*	1	3	10.86956522	7	41			4
Arthropoda	Insecta	Plecoptera	Leuctridae	Leuctrinae		*Despaxia augusta*							1	4
Arthropoda	Insecta	Plecoptera	Nemouridae	Nemourinae		*Visoka cataractae*		2			1			
Arthropoda	Insecta	Plecoptera	Nemouridae	Nemourinae		*Zapada cinctipes*				1				
Arthropoda	Insecta	Plecoptera	Nemouridae	Nemourinae		*Zapada columbiana*	9	21	4.347826087	1	1		6	20

Appendix C7: CABIN Samples Taxonomy, 2023

						Biologica Sample ID	fb23-118-006	fb23-118-005	fb23-118-004	fb23-118-013	fb23-118-012	fb23-118-016	fb23-118-015	fb23-118-014
						Date Sampled	18-Aug-23	17-Aug-23	17-Aug-23	22-Aug-23	22-Aug-23	18-Aug-23	16-Aug-23	16-Aug-23
Phylum	Class	Order	Family	Subfamily	Tribe	Taxon	Sulphurets Lake Outlet	Sulphurets US	Sulphurets DS	Teigen US	Teigen DS	S. Teigen US2	S. Teigen US1	S. Teigen DS
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Psectrocladius sp.*								
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Rheocricotopus sp.*					20		14.28571429	
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Stilocladius sp.*						19.2		
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Thienemanniella sp.*					100	134.4		
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Tvetenia sp.*		3		20	60	326.4	57.14285714	133.3333333
Arthropoda	Insecta	Diptera	Chironomidae	Prodiamesinae		*Prodiamesa sp.*						19.2		
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae	Macropelopiini	*Psectrotanypus sp.*								
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae	Pentaneurini	*Labrundinia sp.*								
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae		*Tanypodinae*								
Arthropoda	Insecta	Diptera	Chironomidae			*Chironomidae*	17	2	1		140	364.8	71.42857143	41.66666667
Arthropoda	Insecta	Diptera	Dixidae			*Dixa sp.*								
Arthropoda	Insecta	Diptera	Dixidae			*Dixella sp.*								
Arthropoda	Insecta	Diptera	Dolichopodidae			*Dolichopodidae*								
Arthropoda	Insecta	Diptera	Empididae	Clinocerinae		*Clinocera sp.*						38.4		
Arthropoda	Insecta	Diptera	Empididae	Hemerodromiinae	Hemerodromiini	*Neoplasta sp.*						38.4	42.85714286	
Arthropoda	Insecta	Diptera	Empididae	Oreogetoninae		*Oreogeton sp.*		1						
Arthropoda	Insecta	Diptera	Muscidae			*Muscidae*								
Arthropoda	Insecta	Diptera	Psychodidae			*Psychodidae*						19.2		
Arthropoda	Insecta	Diptera	Simuliidae	Simuliinae	Prosimuliini	*Helodon sp.*								
Arthropoda	Insecta	Diptera	Simuliidae	Simuliinae	Prosimuliini	*Prosimulium sp.*								25
Arthropoda	Insecta	Diptera	Simuliidae			*Simuliidae*								41.66666667
Arthropoda	Insecta	Diptera	Tabanidae	Chrysopsinae	Chrysopsini	*Chrysops sp.*								
Arthropoda	Insecta	Diptera	Tipulidae	Limoniinae	Eriopterini	*Gonomyodes sp.*		1						
Arthropoda	Insecta	Diptera	Tipulidae	Limoniinae	Eriopterini	*Hesperoconopa sp.*				20				
Arthropoda	Insecta	Diptera	Tipulidae	Limoniinae	Eriopterini	*Rhabdomastix sp.*								
Arthropoda	Insecta	Diptera	Tipulidae	Limoniinae	Hexatomini	*Hexatoma sp.*					20			
Arthropoda	Insecta	Diptera	Tipulidae	Limoniinae	Pediciini	*Dicranota sp.*				60		57.6	14.28571429	
Arthropoda	Insecta	Diptera	Tipulidae			*Tipulidae*								
Arthropoda	Insecta	Diptera	Diptera			*Diptera*	2				20	19.2	14.28571429	
Arthropoda	Insecta	Ephemeroptera	Ameletidae			*Ameletus sp.*				40	140	19.2	100	83.33333333
Arthropoda	Insecta	Ephemeroptera	Baetidae			*Baetidae*				40	20		14.28571429	133.3333333
Arthropoda	Insecta	Ephemeroptera	Baetidae			*Baetis sp.*	4	28	5	460	240	38.4	128.5714286	266.6666667
Arthropoda	Insecta	Ephemeroptera	Baetidae			*Callibaetis sp.*								
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae			*Drunella doddsii*				3140	1820	441.6	228.5714286	33.33333333
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae			*Drunella coloradensis*						38.4	28.57142857	25
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae			*Ephemerella sp.*								
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae			*Ephemerellidae*				420	720	76.8	328.5714286	41.66666667
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae			*Serratella sp.*				60	60			
Arthropoda	Insecta	Ephemeroptera	Heptageniidae			*Cinygmula sp.*				60	80	480	228.5714286	66.66666667
Arthropoda	Insecta	Ephemeroptera	Heptageniidae			*Epeorus deceptivus*				220	120	19.2	128.5714286	408.3333333
Arthropoda	Insecta	Ephemeroptera	Heptageniidae			*Epeorus sp.*		1	2			96	57.14285714	66.66666667
Arthropoda	Insecta	Ephemeroptera	Heptageniidae			*Heptagenia sp.*								
Arthropoda	Insecta	Ephemeroptera	Heptageniidae			*Heptageniidae*				880	1580	652.8	828.5714286	116.6666667
Arthropoda	Insecta	Ephemeroptera	Heptageniidae			*Rhithrogena sp.*			1	40	100		371.4285714	8.333333333
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae			*Leptophlebiidae*								
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae			*Neoleptophlebia sp.*								
Arthropoda	Insecta	Ephemeroptera	Ephemeroptera			*Ephemeroptera*		1		40	20	556.8	242.8571429	8.333333333
Arthropoda	Insecta	Hemiptera	Corixidae			*Corixidae*								
Arthropoda	Insecta	Plecoptera	Capniidae			*Capniidae*				20	40	1017.6	400	
Arthropoda	Insecta	Plecoptera	Chloroperlidae	Chloroperlinae		*Suwallia sp.*		1			20	19.2	28.57142857	
Arthropoda	Insecta	Plecoptera	Chloroperlidae	Chloroperlinae		*Sweltsa sp.*								
Arthropoda	Insecta	Plecoptera	Chloroperlidae			*Chloroperlidae*			1	40	60		14.28571429	25
Arthropoda	Insecta	Plecoptera	Leuctridae	Leuctrinae		*Despaxia augusta*								
Arthropoda	Insecta	Plecoptera	Nemouridae	Nemourinae		*Visoka cataractae*								
Arthropoda	Insecta	Plecoptera	Nemouridae	Nemourinae		*Zapada cinctipes*			1		20	192	57.14285714	
Arthropoda	Insecta	Plecoptera	Nemouridae	Nemourinae		*Zapada columbiana*					20	211.2	185.7142857	75

Appendix C7: CABIN Samples Taxonomy, 2023

						Biologica Sample ID	fb23-118-019	fb23-118-018	fb23-118-017_A	fb23-118-017_B	fb23-118-023	fb23-118-022	fb23-118-021
						Date Sampled	15-Aug-23	14-Aug-23	13-Aug-23	13-Aug-23	19-Aug-23	19-Aug-23	19-Aug-23
Phylum	Class	Order	Family	Subfamily	Tribe	Taxon	N. Treaty US2	N. Treaty US1	N. Treaty DS_A	N. Treaty DS_B	Treaty US	Treaty US N. Treaty	Treaty US Todedada
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Psectrocladius sp.*			20	38.4			
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Rheocricotopus sp.*							
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Stilocladius sp.*							
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Thienemanniella sp.*			60	38.4			
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Tvetenia sp.*		9					
Arthropoda	Insecta	Diptera	Chironomidae	Prodiamesinae		*Prodiamesa sp.*				76.8			
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae	Macropelopiini	*Psectrotanypus sp.*			80	38.4			
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae	Pentaneurini	*Labrundinia sp.*			20				
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae		*Tanypodinae*	1		1420	652.8			
Arthropoda	Insecta	Diptera	Chironomidae			*Chironomidae*	2	15		57.6			2
Arthropoda	Insecta	Diptera	Dixidae			*Dixa sp.*							
Arthropoda	Insecta	Diptera	Dixidae			*Dixella sp.*			20				
Arthropoda	Insecta	Diptera	Dolichopodidae			*Dolichopodidae*							
Arthropoda	Insecta	Diptera	Empididae	Clinocerinae		*Clinocera sp.*							
Arthropoda	Insecta	Diptera	Empididae	Hemerodromiinae	Hemerodromiini	*Neoplasta sp.*							
Arthropoda	Insecta	Diptera	Empididae	Oreogetoninae		*Oreogeton sp.*							
Arthropoda	Insecta	Diptera	Muscidae			*Muscidae*				19.2			
Arthropoda	Insecta	Diptera	Psychodidae			*Psychodidae*			20	57.6			
Arthropoda	Insecta	Diptera	Simuliidae	Simuliinae	Prosimuliini	*Helodon sp.*		1					
Arthropoda	Insecta	Diptera	Simuliidae	Simuliinae	Prosimuliini	*Prosimulium sp.*		2				1	
Arthropoda	Insecta	Diptera	Simuliidae			*Simuliidae*	2						
Arthropoda	Insecta	Diptera	Tabanidae	Chrysopsinae	Chrysopsini	*Chrysops sp.*				19.2			
Arthropoda	Insecta	Diptera	Tipulidae	Limoniinae	Eriopterini	*Gonomyodes sp.*							
Arthropoda	Insecta	Diptera	Tipulidae	Limoniinae	Eriopterini	*Hesperoconopa sp.*							
Arthropoda	Insecta	Diptera	Tipulidae	Limoniinae	Eriopterini	*Rhabdomastix sp.*							
Arthropoda	Insecta	Diptera	Tipulidae	Limoniinae	Hexatomini	*Hexatoma sp.*							
Arthropoda	Insecta	Diptera	Tipulidae	Limoniinae	Pediciini	*Dicranota sp.*	1	1					
Arthropoda	Insecta	Diptera	Tipulidae			*Tipulidae*				19.2			
Arthropoda	Insecta	Diptera	Diptera			*Diptera*		2					
Arthropoda	Insecta	Ephemeroptera	Ameletidae			*Ameletus sp.*	2						4
Arthropoda	Insecta	Ephemeroptera	Baetidae			*Baetidae*	2	5	80				4
Arthropoda	Insecta	Ephemeroptera	Baetidae			*Baetis sp.*	11	17			1	9	22
Arthropoda	Insecta	Ephemeroptera	Baetidae			*Callibaetis sp.*			60				
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae			*Drunella doddsii*	31	12					
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae			*Drunella coloradensis*							
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae			*Ephemerella sp.*							
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae			*Ephemerellidae*		8			1		1
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae			*Serratella sp.*							
Arthropoda	Insecta	Ephemeroptera	Heptageniidae			*Cinygmula sp.*	9	5					2
Arthropoda	Insecta	Ephemeroptera	Heptageniidae			*Epeorus deceptivus*	1	8					1
Arthropoda	Insecta	Ephemeroptera	Heptageniidae			*Epeorus sp.*	3	46					2
Arthropoda	Insecta	Ephemeroptera	Heptageniidae			*Heptagenia sp.*							
Arthropoda	Insecta	Ephemeroptera	Heptageniidae			*Heptageniidae*	8	56				1	13
Arthropoda	Insecta	Ephemeroptera	Heptageniidae			*Rhithrogena sp.*	18	90				4	29
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae			*Leptophlebiidae*							
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae			*Neoleptophlebia sp.*		1					
Arthropoda	Insecta	Ephemeroptera	Ephemeroptera			*Ephemeroptera*			20	57.6			3
Arthropoda	Insecta	Hemiptera	Corixidae			*Corixidae*							
Arthropoda	Insecta	Plecoptera	Capniidae			*Capniidae*	4	2	120	57.6			1
Arthropoda	Insecta	Plecoptera	Chloroperlidae	Chloroperlinae		*Suwallia sp.*	1	5					
Arthropoda	Insecta	Plecoptera	Chloroperlidae	Chloroperlinae		*Sweltsa sp.*							
Arthropoda	Insecta	Plecoptera	Chloroperlidae			*Chloroperlidae*							
Arthropoda	Insecta	Plecoptera	Leuctridae	Leuctrinae		*Despaxia augusta*							
Arthropoda	Insecta	Plecoptera	Nemouridae	Nemourinae		*Visoka cataractae*							
Arthropoda	Insecta	Plecoptera	Nemouridae	Nemourinae		*Zapada cinctipes*	1		160	134.4			
Arthropoda	Insecta	Plecoptera	Nemouridae	Nemourinae		*Zapada columbiana*	2	19				1	1

Appendix C7: CABIN Samples Taxonomy, 2023

						Biologica Sample ID	fb23-118-020	fb23-118-024	fb23-118-025
						Date Sampled	13-Aug-23	22-Aug-23	24-Aug-23
Phylum	Class	Order	Family	Subfamily	Tribe	Taxon	Treaty DS	Bell US Treaty	Bell DS Treaty
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Psectrocladius sp.*			
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Rheocricotopus sp.*	1		
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Stilocladius sp.*			
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Thienemanniella sp.*			
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladiinae		*Tvetenia sp.*		12.5	
Arthropoda	Insecta	Diptera	Chironomidae	Prodiamesinae		*Prodiamesa sp.*			
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae	Macropelopiini	*Psectrotanypus sp.*			
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae	Pentaneurini	*Labrundinia sp.*			
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae		*Tanypodinae*			
Arthropoda	Insecta	Diptera	Chironomidae			*Chironomidae*	3	12.5	
Arthropoda	Insecta	Diptera	Dixidae			*Dixa sp.*			
Arthropoda	Insecta	Diptera	Dixidae			*Dixella sp.*			
Arthropoda	Insecta	Diptera	Dolichopodidae			*Dolichopodidae*	2		
Arthropoda	Insecta	Diptera	Empididae	Clinocerinae		*Clinocera sp.*			
Arthropoda	Insecta	Diptera	Empididae	Hemerodromiinae	Hemerodromiini	*Neoplasta sp.*			
Arthropoda	Insecta	Diptera	Empididae	Oreogetoninae		*Oreogeton sp.*			
Arthropoda	Insecta	Diptera	Muscidae			*Muscidae*			
Arthropoda	Insecta	Diptera	Psychodidae			*Psychodidae*	3		
Arthropoda	Insecta	Diptera	Simuliidae	Simuliinae	Prosimuliini	*Helodon sp.*			
Arthropoda	Insecta	Diptera	Simuliidae	Simuliinae	Prosimuliini	*Prosimulium sp.*			
Arthropoda	Insecta	Diptera	Simuliidae			*Simuliidae*		12.5	
Arthropoda	Insecta	Diptera	Tabanidae	Chrysopsinae	Chrysopsini	*Chrysops sp.*			
Arthropoda	Insecta	Diptera	Tipulidae	Limoniinae	Eriopterini	*Gonomyodes sp.*			
Arthropoda	Insecta	Diptera	Tipulidae	Limoniinae	Eriopterini	*Hesperoconopa sp.*			
Arthropoda	Insecta	Diptera	Tipulidae	Limoniinae	Eriopterini	*Rhabdomastix sp.*			1
Arthropoda	Insecta	Diptera	Tipulidae	Limoniinae	Hexatomini	*Hexatoma sp.*			
Arthropoda	Insecta	Diptera	Tipulidae	Limoniinae	Pediciini	*Dicranota sp.*			1
Arthropoda	Insecta	Diptera	Tipulidae			*Tipulidae*			1
Arthropoda	Insecta	Diptera	Diptera			*Diptera*	8		
Arthropoda	Insecta	Ephemeroptera	Ameletidae			*Ameletus sp.*			5
Arthropoda	Insecta	Ephemeroptera	Baetidae			*Baetidae*			
Arthropoda	Insecta	Ephemeroptera	Baetidae			*Baetis sp.*	4	62.5	13
Arthropoda	Insecta	Ephemeroptera	Baetidae			*Callibaetis sp.*			
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae			*Drunella doddsii*		87.5	10
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae			*Drunella coloradensis*		12.5	
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae			*Ephemerella sp.*			
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae			*Ephemerellidae*		87.5	6
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae			*Serratella sp.*			2
Arthropoda	Insecta	Ephemeroptera	Heptageniidae			*Cinygmula sp.*	3	25	14
Arthropoda	Insecta	Ephemeroptera	Heptageniidae			*Epeorus deceptivus*		200	7
Arthropoda	Insecta	Ephemeroptera	Heptageniidae			*Epeorus sp.*		150	2
Arthropoda	Insecta	Ephemeroptera	Heptageniidae			*Heptagenia sp.*			1
Arthropoda	Insecta	Ephemeroptera	Heptageniidae			*Heptageniidae*	3	2187.5	132
Arthropoda	Insecta	Ephemeroptera	Heptageniidae			*Rhithrogena sp.*	1	500	20
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae			*Leptophlebiidae*			
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae			*Neoleptophlebia sp.*			
Arthropoda	Insecta	Ephemeroptera	Ephemeroptera			*Ephemeroptera*		50	7
Arthropoda	Insecta	Hemiptera	Corixidae			*Corixidae*	1		
Arthropoda	Insecta	Plecoptera	Capniidae			*Capniidae*		100	4
Arthropoda	Insecta	Plecoptera	Chloroperlidae	Chloroperlinae		*Suwallia sp.*	5	12.5	4
Arthropoda	Insecta	Plecoptera	Chloroperlidae	Chloroperlinae		*Sweltsa sp.*			
Arthropoda	Insecta	Plecoptera	Chloroperlidae			*Chloroperlidae*	2	50	
Arthropoda	Insecta	Plecoptera	Leuctridae	Leuctrinae		*Despaxia augusta*			
Arthropoda	Insecta	Plecoptera	Nemouridae	Nemourinae		*Visoka cataractae*			
Arthropoda	Insecta	Plecoptera	Nemouridae	Nemourinae		*Zapada cinctipes*			
Arthropoda	Insecta	Plecoptera	Nemouridae	Nemourinae		*Zapada columbiana*		25	1

Appendix C7: CABIN Samples Taxonomy, 2023

						Biologica Sample ID	fb23-118-009	fb23-118-008	fb23-118-003	fb23-118-002	fb23-118-001	fb23-118-007	fb23-118-010	fb23-118-011
						Date Sampled	23-Aug-23	23-Aug-23	21-Aug-23	20-Aug-23	20-Aug-23	21-Aug-23	18-Aug-23	21-Aug-23
Phylum	Class	Order	Family	Subfamily	Tribe	Taxon	Unuk US Eskay	Unuk DS Eskay	Unuk US S. Unuk	Unuk DS S. Unuk	Unuk Border	Mitchell	Mctagg	Gingras
Arthropoda	Insecta	Plecoptera	Nemouridae	Nemourinae		*Zapada sp.*	20	20	52.17391304	7		1	5	20
Arthropoda	Insecta	Plecoptera	Nemouridae			*Nemouridae*								
Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperlinae		*Isoperla sp.*								
Arthropoda	Insecta	Plecoptera	Perlodidae	Perlodinae	Arcynopterygini	*Megarcys sp.*	11	11	23.91304348	12	2		7	96
Arthropoda	Insecta	Plecoptera	Perlodidae	Perlodinae	Diploperlini	*Cultus sp.*								
Arthropoda	Insecta	Plecoptera	Perlodidae			*Perlodidae*	5	13	19.56521739	4	9		11	28
Arthropoda	Insecta	Plecoptera	Taeniopterygidae	Brachypteryinae		*Taenionema sp.*		21	17.39130435	5	14		40	272
Arthropoda	Insecta	Plecoptera	Taeniopterygidae			*Taeniopterygidae*				8				
Arthropoda	Insecta	Plecoptera	Plecoptera			*Plecoptera*		1	2.173913043	4	4		2	36
Arthropoda	Insecta	Trichoptera	Brachycentridae			*Micrasema sp.*								
Arthropoda	Insecta	Trichoptera	Glossosomatidae	Glossosomatinae	Glossosomatini	*Glossosoma sp.*								
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Arctopsychinae		*Arctopsyche sp.*								
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Arctopsychinae		*Parapsyche sp.*								
Arthropoda	Insecta	Trichoptera	Limnephilidae	Dicosmoecinae		*Ecclisomyia sp.*								12
Arthropoda	Insecta	Trichoptera	Limnephilidae	Limnephilinae	Chilostigmini	*Psychoglypha sp.*								
Arthropoda	Insecta	Trichoptera	Limnephilidae			*Limnephilidae*								
Arthropoda	Insecta	Trichoptera	Rhyacophilidae			*Rhyacophila sp.*	13	4	2.173913043				2	24
Arthropoda	Insecta	Trichoptera	Uenoidae	Uenoinae		*Neothremma sp.*								4
Arthropoda	Insecta	Trichoptera	Trichoptera			*Trichoptera*		2	2.173913043		1			4
Arthropoda	Insecta	Insecta	Insecta			*Insecta*								
Mollusca	Bivalvia	Sphaeriida	Pisidiidae			*Pisidiidae*								
Platyhelminthes	Trepaxonemata	Neoophora	Planariidae			*Polycelis coronata*								

Appendix C7: CABIN Samples Taxonomy, 2023

						Biologica Sample ID	fb23-118-006	fb23-118-005	fb23-118-004	fb23-118-013	fb23-118-012	fb23-118-016	fb23-118-015	fb23-118-014
						Date Sampled	18-Aug-23	17-Aug-23	17-Aug-23	22-Aug-23	22-Aug-23	18-Aug-23	16-Aug-23	16-Aug-23
Phylum	Class	Order	Family	Subfamily	Tribe	Taxon	Sulphurets Lake Outlet	Sulphurets US	Sulphurets DS	Teigen US	Teigen DS	S. Teigen US2	S. Teigen US1	S. Teigen DS
Arthropoda	Insecta	Plecoptera	Nemouridae	Nemourinae		*Zapada sp.*		6	1	40	60	672	600	66.66666667
Arthropoda	Insecta	Plecoptera	Nemouridae			*Nemouridae*					20		71.42857143	
Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperlinae		*Isoperla sp.*								
Arthropoda	Insecta	Plecoptera	Perlodidae	Perlodinae	Arcynopterygini	*Megarcys sp.*						38.4	28.57142857	8.333333333
Arthropoda	Insecta	Plecoptera	Perlodidae	Perlodinae	Diploperlini	*Cultus sp.*								
Arthropoda	Insecta	Plecoptera	Perlodidae			*Perlodidae*		1	1	20	20	19.2		
Arthropoda	Insecta	Plecoptera	Taeniopterygidae	Brachypteryinae		*Taenionema sp.*		2		100	320	57.6	85.71428571	133.3333333
Arthropoda	Insecta	Plecoptera	Taeniopterygidae			*Taeniopterygidae*					60			
Arthropoda	Insecta	Plecoptera	Plecoptera			*Plecoptera*	1	1			100	1171.2	100	108.3333333
Arthropoda	Insecta	Trichoptera	Brachycentridae			*Micrasema sp.*								8.333333333
Arthropoda	Insecta	Trichoptera	Glossosomatidae	Glossosomatinae	Glossosomatini	*Glossosoma sp.*						57.6	100	
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Arctopsychinae		*Arctopsyche sp.*								
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Arctopsychinae		*Parapsyche sp.*								
Arthropoda	Insecta	Trichoptera	Limnephilidae	Dicosmoecinae		*Ecclisomyia sp.*						38.4		
Arthropoda	Insecta	Trichoptera	Limnephilidae	Limnephilinae	Chilostigmini	*Psychoglypha sp.*								
Arthropoda	Insecta	Trichoptera	Limnephilidae			*Limnephilidae*						19.2		
Arthropoda	Insecta	Trichoptera	Rhyacophilidae			*Rhyacophila sp.*	1	1		40	20	422.4	500	133.3333333
Arthropoda	Insecta	Trichoptera	Uenoidae	Uenoinae		*Neothremma sp.*								
Arthropoda	Insecta	Trichoptera	Trichoptera			*Trichoptera*				340	80	38.4	28.57142857	216.6666667
Arthropoda	Insecta	Insecta	Insecta			*Insecta*								
Mollusca	Bivalvia	Sphaeriida	Pisidiidae			*Pisidiidae*								
Platyhelminthes	Trepaxonemata	Neoophora	Planariidae			*Polycelis coronata*				20		403.2	14.28571429	50

Appendix C7: CABIN Samples Taxonomy, 2023

						Biologica Sample ID	fb23-118-019	fb23-118-018	fb23-118-017_A	fb23-118-017_B	fb23-118-023	fb23-118-022	fb23-118-021
						Date Sampled	15-Aug-23	14-Aug-23	13-Aug-23	13-Aug-23	19-Aug-23	19-Aug-23	19-Aug-23
Phylum	Class	Order	Family	Subfamily	Tribe	Taxon	N. Treaty US2	N. Treaty US1	N. Treaty DS_A	N. Treaty DS_B	Treaty US	Treaty US N. Treaty	Treaty US Todedada
Arthropoda	Insecta	Plecoptera	Nemouridae	Nemourinae		*Zapada sp.*	1	14		57.6		7	2
Arthropoda	Insecta	Plecoptera	Nemouridae			*Nemouridae*							
Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperlinae		*Isoperla sp.*							
Arthropoda	Insecta	Plecoptera	Perlodidae	Perlodinae	Arcynopterygini	*Megarcys sp.*	4	61				1	53
Arthropoda	Insecta	Plecoptera	Perlodidae	Perlodinae	Diploperlini	*Cultus sp.*			280	134.4			
Arthropoda	Insecta	Plecoptera	Perlodidae			*Perlodidae*		40		96	1	3	28
Arthropoda	Insecta	Plecoptera	Taeniopterygidae	Brachypteryinae		*Taenionema sp.*	38	7				1	1
Arthropoda	Insecta	Plecoptera	Taeniopterygidae			*Taeniopterygidae*							
Arthropoda	Insecta	Plecoptera	Plecoptera			*Plecoptera*	2	2	80	19.2			
Arthropoda	Insecta	Trichoptera	Brachycentridae			*Micrasema sp.*		1					
Arthropoda	Insecta	Trichoptera	Glossosomatidae	Glossosomatinae	Glossosomatini	*Glossosoma sp.*	3	3					
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Arctopsychinae		*Arctopsyche sp.*							
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Arctopsychinae		*Parapsyche sp.*						1	
Arthropoda	Insecta	Trichoptera	Limnephilidae	Dicosmoecinae		*Ecclisomyia sp.*	10	5					1
Arthropoda	Insecta	Trichoptera	Limnephilidae	Limnephilinae	Chilostigmini	*Psychoglypha sp.*				19.2			
Arthropoda	Insecta	Trichoptera	Limnephilidae			*Limnephilidae*							
Arthropoda	Insecta	Trichoptera	Rhyacophilidae			*Rhyacophila sp.*	8	16					
Arthropoda	Insecta	Trichoptera	Uenoidae	Uenoinae		*Neothremma sp.*		2					
Arthropoda	Insecta	Trichoptera	Trichoptera			*Trichoptera*	1	1			1		
Arthropoda	Insecta	Insecta	Insecta			*Insecta*							
Mollusca	Bivalvia	Sphaeriida	Pisidiidae			*Pisidiidae*				230.4			
Platyhelminthes	Trepaxonemata	Neoophora	Planariidae			*Polycelis coronata*	1						

Appendix C7: CABIN Samples Taxonomy, 2023

						Biologica Sample ID	fb23-118-020	fb23-118-024	fb23-118-025
						Date Sampled	13-Aug-23	22-Aug-23	24-Aug-23
Phylum	Class	Order	Family	Subfamily	Tribe	Taxon	Treaty DS	Bell US Treaty	Bell DS Treaty
Arthropoda	Insecta	Plecoptera	Nemouridae	Nemourinae		*Zapada sp.*	3		
Arthropoda	Insecta	Plecoptera	Nemouridae			*Nemouridae*			
Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperlinae		*Isoperla sp.*			8
Arthropoda	Insecta	Plecoptera	Perlodidae	Perlodinae	Arcynopterygini	*Megarcys sp.*	7	87.5	32
Arthropoda	Insecta	Plecoptera	Perlodidae	Perlodinae	Diploperlini	*Cultus sp.*			
Arthropoda	Insecta	Plecoptera	Perlodidae			*Perlodidae*	6	387.5	3
Arthropoda	Insecta	Plecoptera	Taeniopterygidae	Brachypteryinae		*Taenionema sp.*		137.5	7
Arthropoda	Insecta	Plecoptera	Taeniopterygidae			*Taeniopterygidae*			
Arthropoda	Insecta	Plecoptera	Plecoptera			*Plecoptera*	1		3
Arthropoda	Insecta	Trichoptera	Brachycentridae			*Micrasema sp.*			
Arthropoda	Insecta	Trichoptera	Glossosomatidae	Glossosomatinae	Glossosomatini	*Glossosoma sp.*		50	
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Arctopsychinae		*Arctopsyche sp.*		75	
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Arctopsychinae		*Parapsyche sp.*			
Arthropoda	Insecta	Trichoptera	Limnephilidae	Dicosmoecinae		*Ecclisomyia sp.*			
Arthropoda	Insecta	Trichoptera	Limnephilidae	Limnephilinae	Chilostigmini	*Psychoglypha sp.*			
Arthropoda	Insecta	Trichoptera	Limnephilidae			*Limnephilidae*			
Arthropoda	Insecta	Trichoptera	Rhyacophilidae			*Rhyacophila sp.*			
Arthropoda	Insecta	Trichoptera	Uenoidae	Uenoinae		*Neothremma sp.*			
Arthropoda	Insecta	Trichoptera	Trichoptera			*Trichoptera*			
Arthropoda	Insecta	Insecta	Insecta			*Insecta*	1		
Mollusca	Bivalvia	Sphaeriida	Pisidiidae			*Pisidiidae*			
Platyhelminthes	Trepaxonemata	Neoophora	Planariidae			*Polycelis coronata*			

APPENDIX D NATURE METRICS RAW METABARCODING RESULTS

Appendix D1 Insect Results (June 2022 samples)

Appendix D2 Insect Results (November 2022 samples)

Appendix D3 Bulk Benthic Invertebrate Results (June, September and October 2022 samples)

Appendix D4 Mammals, Vertebrates and Fish Results (June 2022 samples)

Appendix D5 Mammals, Vertebrates and Fish Results (September 2022 samples)

Appendix D6 Mammals, Vertebrates and Fish Results (October 2022 samples)

Appendix D7 Mammals, Vertebrates and Fish Results (November 2022 samples)

Appendix D8 Insect Results (August 2023 samples)

Appendix D9 Bulk Benthic Invertebrate Results (August 2023 samples)

Appendix D10 Mammals, Vertebrates and Fish Results (July 2023 samples)

Appendix D11 Mammals, Vertebrates and Fish Results (August 2023 samples)

Appendix D12 Mammals, Vertebrates and Fish Results (September 2023 samples)

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Lumbricus*	*Lumbricus rubellus*	100.00		0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Lumbricus*	*Lumbricus rubellus*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Fridericia*	*Fridericia ratzeli*	98.59		0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Fridericia*				0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Fridericia*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Fridericia*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0.53	0.11
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Marionina*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Mesenchytraeus*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0.04	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0.55	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida						0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida					There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Limnodrilus*				0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae					2.42	0.32	0	0	0	2.18
Insects	Animalia	Annelida	Clitellata	Lumbriculida	Lumbriculidae	*Lumbriculus*				0	0.12	0	0	0	0.08
Insects	Animalia	Annelida	Clitellata							0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata							4.41	1.12	0.26	0	1	0.24
Insects	Animalia	Arthropoda	Arachnida	Ixodida	Ixodidae	*Ixodes*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Arachnida	Mesostigmata	Microgyniidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Arachnida	Mesostigmata	Parasitidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Arachnida	Mesostigmata	Trachytidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Arachnida	Mesostigmata					There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Arachnida	Mesostigmata					There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Eupodidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Rhagidiidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US of S. Unuk			Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Lumbricus*	*Lumbricus rubellus*																		
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Lumbricus*	*Lumbricus rubellus*																		
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Fridericia*	*Fridericia ratzeli*																		
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Fridericia*																			
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Fridericia*																			
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Fridericia*																			
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Marionina*																			
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Mesenchytraeus*																			
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae																				
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae																				
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae																				
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae																				
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae																				
Insects	Animalia	Annelida	Clitellata	Enchytraeida																					
Insects	Animalia	Annelida	Clitellata	Enchytraeida																					
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Limnodrilus*																			
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae																				
Insects	Animalia	Annelida	Clitellata	Lumbriculida	Lumbriculidae	*Lumbriculus*																			
Insects	Animalia	Annelida	Clitellata																						
Insects	Animalia	Annelida	Clitellata																						
Insects	Animalia	Arthropoda	Arachnida	Ixodida	Ixodidae	*Ixodes*																			
Insects	Animalia	Arthropoda	Arachnida	Mesostigmata	Microgyniidae																				
Insects	Animalia	Arthropoda	Arachnida	Mesostigmata	Parasitidae																				
Insects	Animalia	Arthropoda	Arachnida	Mesostigmata	Trachytidae																				
Insects	Animalia	Arthropoda	Arachnida	Mesostigmata																					
Insects	Animalia	Arthropoda	Arachnida	Mesostigmata																					
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Eupodidae																				
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Rhagidiidae																				

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2			S. Teigen US1			N. Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Lumbricus*	*Lumbricus rubellus*				0	0	0.03	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Lumbricus*	*Lumbricus rubellus*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Fridericia*	*Fridericia ratzeli*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Fridericia*					0	0	0	0	0.07	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Fridericia*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Fridericia*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Marionina*					0	0	0	0	0	0	0	0.17	0	0	0	0	0.06	0	0.15
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Mesenchytraeus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae						0	0	0	0	0	0	0	0	0	0	0	0	0	1.22	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae						0	0	0.07	0	0.12	0	0	0	0	0	0	0	0.19	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae						0	0	0	0	0.09	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Limnodrilus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae						0	1.67	2.09	1.76	1.13	0	0	1.19	0	2.08	4.82	2.09	6.87	7.56	8.21
Insects	Animalia	Annelida	Clitellata	Lumbriculida	Lumbriculidae	*Lumbriculus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata								1.48	4.19	1.21	1.1	2.46	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata								0	0.06	0.19	0.12	1.04	0	0.26	0.43	0	0.06	0.09	0.15	0.99	0.17	0.59
Insects	Animalia	Arthropoda	Arachnida	Ixodida	Ixodidae	*Ixodes*					0	0	0.07	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Arachnida	Mesostigmata	Microgyniidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Arachnida	Mesostigmata	Parasitidae						0	0	0	0	0	0	0	0	0.08	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Arachnida	Mesostigmata	Trachytidae						0	0	0	0	0	0	0	0	0	0	0.13	0	0	0	0
Insects	Animalia	Arthropoda	Arachnida	Mesostigmata							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Arachnida	Mesostigmata							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Eupodidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Rhagidiidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Lumbricus*	*Lumbricus rubellus*	0.04	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Lumbricus*	*Lumbricus rubellus*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Fridericia*	*Fridericia ratzeli*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Fridericia*		0.03	0	0	0	0	0	0	0		0	0	0	0.11	2.92	1.64	1.78	0.28	1.75
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Fridericia*		0	0	0	0	0	0	0	0		0	0	0	0	0.2	0.26	0	0	0.49
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Fridericia*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0.17	0	0.14
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Marionina*		0	0	0	0	0	0	0	0		0	0	0.12	0	0.09	0	0.06	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Mesenchytraeus*		0	0	0	0	0	0	0	0		0.04	0	0	0	0	0.05	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae			0	0.09	0	0.1	0	0	0	0		0	0.04	0	0.1	0	0	0.17	0.12	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae			0.07	0	0	0	0	0	0	0		0	0	0	0	0.2	0	0	0.32	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida				0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida				0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Limnodrilus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae			2	17.59	1.62	3.48	5.75	2.61	0	0		0	0	0.84	0	1.62	0.09	5.56	2.12	2.29
Insects	Animalia	Annelida	Clitellata	Lumbriculida	Lumbriculidae	*Lumbriculus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0.39	0	0	0
Insects	Animalia	Annelida	Clitellata					1.21	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata					0.16	0.16	0.06	0.14	0.04	0.28	1.34	0		0.45	0.14	0.36	0.65	3.31	5.07	1.69	0.59	1.02
Insects	Animalia	Arthropoda	Arachnida	Ixodida	Ixodidae	*Ixodes*		0.07	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Arachnida	Mesostigmata	Microgyniidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Arachnida	Mesostigmata	Parasitidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0.04
Insects	Animalia	Arthropoda	Arachnida	Mesostigmata	Trachytidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Arachnida	Mesostigmata				0	0	0	0	0	0.12	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Arachnida	Mesostigmata				0	0.06	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Eupodidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0.21	0	0	0
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Rhagidiidae			0.04	0	0	0	0	0	0	0		0	0	0.5	0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell US Treaty			Bell DS Treaty			Blank #1	Blank #2	Blank #3
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Lumbricus*	*Lumbricus rubellus*	8.04	1.17	0.67	0.43	1.03	0.58			
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Lumbricus*	*Lumbricus rubellus*	0	0.66	0.27	0.11	0	0.15			
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Fridericia*	*Fridericia ratzeli*	0	0	0	0.07	0.1	0			
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Fridericia*		0	0	0	0.64	0.76	0.32			
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Fridericia*		0	0	0	0	0	0			
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Fridericia*		0	0	0	0.04	0	0			
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Marionina*		0	0.04	0	0.03	0	0.04			
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Mesenchytraeus*		0	0	0	0	0	0			
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae			0	0	0	0	0	0			
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae			0	0.13	0.34	0	0	0			
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae			0	0	0	0	0	0			
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae			0	0	0.04	0	0	0			
Insects	Animalia	Annelida	Clitellata	Enchytraeida				0	0	0	0.04	0	0			
Insects	Animalia	Annelida	Clitellata	Enchytraeida				0	0	0.04	0	0	0			
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Limnodrilus*		0	0.26	0	0	0	0			
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae			1.25	1.32	0.99	3.15	12.16	1.39			
Insects	Animalia	Annelida	Clitellata	Lumbriculida	Lumbriculidae	*Lumbriculus*		0	0	0	0.08	0	0			
Insects	Animalia	Annelida	Clitellata					0.47	0.2	0.99	0.83	4.26	0.73			
Insects	Animalia	Annelida	Clitellata					0.16	0.87	0.32	0.49	3.22	0.08			
Insects	Animalia	Arthropoda	Arachnida	Ixodida	Ixodidae	*Ixodes*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Arachnida	Mesostigmata	Microgyniidae			0	0	0	0.06	0	0			
Insects	Animalia	Arthropoda	Arachnida	Mesostigmata	Parasitidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Arachnida	Mesostigmata	Trachytidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Arachnida	Mesostigmata				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Arachnida	Mesostigmata				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Eupodidae			0	0	0	0.09	0	0			
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Rhagidiidae			0	0	0	0	0	0			

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Daphnia*	*Daphnia dentifera*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Isotomidae					0.07	0.03	0	0	0	0
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Isotomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0.27	0	0	0
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Isotomidae					0.05	0	0	0	0	0
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Tomoceridae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Tomoceridae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Collembola	Poduromorpha	Hypogastruridae	*Willemia*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Collembola	Poduromorpha					There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Dicyrtomidae	*Dicyrtoma*	*Dicyrtoma maculosa*	99.30		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Diplopoda	Chordeumatida	Cleidogonidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Diplopoda	Chordeumatida	Cleidogonidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Hexanauplia	Calanoida	Diaptomidae	*Leptodiaptomus*				0	0	0.46	0	0	0
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida					There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Aegialiidae	*Psammoporus*	*Psammoporus lacustris*	99.30		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Amphizoidae	*Amphizoa*	*Amphizoa insolens*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Bembidion*	*Bembidion breve*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Bembidion*	*Bembidion planatum*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Bembidion*	*Bembidion platynoides*	99.30	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Calathus*	*Calathus advena*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Trechus*	*Trechus chalybeus*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dermestidae					0.09	0	0.28	0.03	0.15	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Agabus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Sanfilippodytes*	*Sanfilippodytes compertus*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Sanfilippodytes*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae					2.8	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae	*Ampedus*	*Ampedus phelpsi*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae	*Ampedus*	*Ampedus varipilis*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae	*Dalopius*	*Dalopius suspectus*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae	*Selatosomus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Alfocalea*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Anthobium*	*Anthobium reflexicolle*	99.29	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Arpedium*	*Arpedium brunnescens*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*	*Atheta terrestris*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*				0	0	0	0	0	0.42
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Bisnius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Deinopteroloma*	*Deinopteroloma subcostatum*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Gnathusa*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Liogluta*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Neothetalia*	*Neothetalia nimia*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Neothetalia*	*Neothetalia pallitarsis*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum consimile*	100.00		0	0	0	0	0	0.17
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum rotundicolle*	100.00		0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US of S. Unuk			Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Daphnia*	*Daphnia dentifera*																		
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Isotomidae																				
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Isotomidae																				
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Isotomidae																				
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Tomoceridae																				
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Tomoceridae																				
Insects	Animalia	Arthropoda	Collembola	Poduromorpha	Hypogastruridae	*Willemia*																			
Insects	Animalia	Arthropoda	Collembola	Poduromorpha																					
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Dicyrtomidae	*Dicyrtoma*	*Dicyrtoma maculosa*																		
Insects	Animalia	Arthropoda	Diplopoda	Chordeumatida	Cleidogonidae																				
Insects	Animalia	Arthropoda	Diplopoda	Chordeumatida	Cleidogonidae																				
Insects	Animalia	Arthropoda	Hexanauplia	Calanoida	Diaptomidae	*Leptodiaptomus*																			
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae																				
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida																					
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Aegialiidae	*Psammoporus*	*Psammoporus lacustris*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Amphizoidae	*Amphizoa*	*Amphizoa insolens*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Bembidion*	*Bembidion breve*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Bembidion*	*Bembidion planatum*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Bembidion*	*Bembidion platynoides*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Calathus*	*Calathus advena*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Trechus*	*Trechus chalybeus*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dermestidae																				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Agabus*																			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Sanfilippodytes*	*Sanfilippodytes compertus*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Sanfilippodytes*																			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae																				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae	*Ampedus*	*Ampedus phelpsi*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae	*Ampedus*	*Ampedus varipilis*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae	*Dalopius*	*Dalopius suspectus*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae	*Selatosomus*																			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Alfocalea*																			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Anthobium*	*Anthobium reflexicolle*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Arpedium*	*Arpedium brunnescens*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*	*Atheta terrestris*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*																			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*																			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Bisnius*																			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Deinopteroloma*	*Deinopteroloma subcostatum*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Gnathusa*																			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Liogluta*																			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Neothetalia*	*Neothetalia nimia*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Neothetalia*	*Neothetalia pallitarsis*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum consimile*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum rotundicolle*																		

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2			S. Teigen US1			N. Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Daphnia*	*Daphnia dentifera*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Isotomidae						0	0	0	0.15	0	0	0	0.35	0	0	0	0	0.14	0.05	0
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Isotomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Isotomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Tomoceridae						0	0	0	0	0	0	0	0.37	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Tomoceridae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Collembola	Poduromorpha	Hypogastruridae	*Willemia*					0	0.09	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Collembola	Poduromorpha							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Dicyrtomidae	*Dicyrtoma*	*Dicyrtoma maculosa*				0	0	0	0	0	0	0	0	0	0	0	0.04	0	0	0
Insects	Animalia	Arthropoda	Diplopoda	Chordeumatida	Cleidogonidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Diplopoda	Chordeumatida	Cleidogonidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Hexanauplia	Calanoida	Diaptomidae	*Leptodiaptomus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida							0	0	0.32	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Aegialiidae	*Psammoporus*	*Psammoporus lacustris*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Amphizoidae	*Amphizoa*	*Amphizoa insolens*				0	0	0	0	0	0	0	0	0	0	0	0.18	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Bembidion*	*Bembidion breve*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Bembidion*	*Bembidion planatum*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Bembidion*	*Bembidion platynoides*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Calathus*	*Calathus advena*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Trechus*	*Trechus chalybeus*				0	0	0	0	0	0	0	0	0	0	0	0.09	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dermestidae						0	0	0	0	0	0	0	0.16	0	0.06	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Agabus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Sanfilippodytes*	*Sanfilippodytes compertus*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Sanfilippodytes*					0	0	0	0	0	0	0	0	0	0	0	0.06	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae						0	0	0.59	0	0	0	0	0	0	0	0	0.19	0	0	0.81
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae	*Ampedus*	*Ampedus phelpsi*				0	0.74	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae	*Ampedus*	*Ampedus varipilis*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae	*Dalopius*	*Dalopius suspectus*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae	*Selatosomus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Alfocalea*					0	0	0	0	0	0	0	0	0	0	0	0.06	0	0	1.01
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Anthobium*	*Anthobium reflexicolle*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Arpedium*	*Arpedium brunnescens*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*	*Atheta terrestris*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Bisnius*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Deinopteroloma*	*Deinopteroloma subcostatum*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Gnathusa*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Liogluta*					0	0	0	0	0.09	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Neothetalia*	*Neothetalia nimia*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Neothetalia*	*Neothetalia pallitarsis*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum consimile*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum rotundicolle*				0	0	0	0	0	0	0	0	0	0.16	0.1	0.52	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Daphnia*	*Daphnia dentifera*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0.23	0	0.28
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Isotomidae			0	0	0	0	0	0	0	0		0	0	0.38	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Isotomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Isotomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Tomoceridae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Tomoceridae			0	0	0	0	0	0	0	0		0	0	0	0	0	0.04	0	0	0
Insects	Animalia	Arthropoda	Collembola	Poduromorpha	Hypogastruridae	*Willemia*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Collembola	Poduromorpha				0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0.06	0
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Dicyrtomidae	*Dicyrtoma*	*Dicyrtoma maculosa*	0	0	0	0	0	0	0	0		0	0	0	0	0	0.03	0	0	0
Insects	Animalia	Arthropoda	Diplopoda	Chordeumatida	Cleidogonidae			0	0.29	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Diplopoda	Chordeumatida	Cleidogonidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Hexanauplia	Calanoida	Diaptomidae	*Leptodiaptomus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida				0.35	0	0	0	0	0	0	0		0	0	0	0	0	0	2.86	0	1.49
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Aegialiidae	*Psammoporus*	*Psammoporus lacustris*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0.23	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Amphizoidae	*Amphizoa*	*Amphizoa insolens*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Bembidion*	*Bembidion breve*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Bembidion*	*Bembidion planatum*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Bembidion*	*Bembidion platynoides*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Calathus*	*Calathus advena*	0	0	0	0	0	0	0	0		0.06	0	0	0	0.11	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Trechus*	*Trechus chalybeus*	0.03	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dermestidae			0	0	0	0	0	0	0	0		0	0.05	0	0.54	0.05	0.03	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Agabus*		0	0	0	0	0	0	0	0		0	0	0	0	0.83	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Sanfilippodytes*	*Sanfilippodytes compertus*	0	0.13	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Sanfilippodytes*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae			0.51	0.13	0	0.09	0	0.64	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae	*Ampedus*	*Ampedus phelpsi*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae	*Ampedus*	*Ampedus varipilis*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae	*Dalopius*	*Dalopius suspectus*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae	*Selatosomus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Alfocalea*		0	0.4	0	0	0	0	0	0		0	0	0	0	0	0	0	1.93	0.98
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Anthobium*	*Anthobium reflexicolle*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Arpedium*	*Arpedium brunnescens*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*	*Atheta terrestris*	0	0	0	0.15	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*		0	0	0	0	0.41	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Bisnius*		0	0	0	0	0.78	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Deinopteroloma*	*Deinopteroloma subcostatum*	0	0	0	0	0	0	0	0		1.03	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Gnathusa*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Liogluta*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0.34	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Neothetalia*	*Neothetalia nimia*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0.13	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Neothetalia*	*Neothetalia pallitarsis*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0.07
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum consimile*	0	0	0	0.16	0	0	0	0		0	0	0	0	0.28	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum rotundicolle*	0	0.54	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell US Treaty			Bell DS Treaty			Blank #1	Blank #2	Blank #3
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Daphnia*	*Daphnia dentifera*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Isotomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Isotomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Isotomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Tomoceridae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Tomoceridae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Collembola	Poduromorpha	Hypogastruridae	*Willemia*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Collembola	Poduromorpha				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Dicyrtomidae	*Dicyrtoma*	*Dicyrtoma maculosa*	0	0	0.03	0	0	0.11			
Insects	Animalia	Arthropoda	Diplopoda	Chordeumatida	Cleidogonidae			0	0.11	0.18	0	0	0			
Insects	Animalia	Arthropoda	Diplopoda	Chordeumatida	Cleidogonidae			0	0	0	0	0	0.03			
Insects	Animalia	Arthropoda	Hexanauplia	Calanoida	Diaptomidae	*Leptodiaptomus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae			0	0	0.39	0	0	0			
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida				0	0	0	0.46	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Aegialiidae	*Psammoporus*	*Psammoporus lacustris*	0	0.17	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Amphizoidae	*Amphizoa*	*Amphizoa insolens*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Bembidion*	*Bembidion breve*	0	0	0.04	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Bembidion*	*Bembidion planatum*	0	0	0	0	0	0.04			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Bembidion*	*Bembidion platynoides*	0	0	0	0	0	0.19			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Calathus*	*Calathus advena*	0	0	0	0.17	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Trechus*	*Trechus chalybeus*	0	0.07	0	0.13	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dermestidae			0	0	0	0	0.42	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Agabus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Sanfilippodytes*	*Sanfilippodytes compertus*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Sanfilippodytes*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae			0	0	0	1.05	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae	*Ampedus*	*Ampedus phelpsi*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae	*Ampedus*	*Ampedus varipilis*	0	0	0	0	0	3.1			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae	*Dalopius*	*Dalopius suspectus*	0	0.92	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae	*Selatosomus*		0	0	0.58	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Alfocalea*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Anthobium*	*Anthobium reflexicolle*	0	0	0	0.07	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Arpedium*	*Arpedium brunnescens*	0	0.07	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*	*Atheta terrestris*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Bisnius*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Deinopteroloma*	*Deinopteroloma subcostatum*	0	0	0	0.27	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Gnathusa*		0	0	0.12	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Liogluta*		0	0	0.07	0.15	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Neothetalia*	*Neothetalia nimia*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Neothetalia*	*Neothetalia pallitarsis*	0	0	0	0.06	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum consimile*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum rotundicolle*	0	0	0	0	0	0			

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Orobanus*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Phlaeopterus*	*Phlaeopterus fusconiger*	99.30	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Phlaeopterus*	*Phlaeopterus houkae*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Phlaeopterus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Quedius*	*Quedius pediculus*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Quedius*	*Quedius velox*	100.00		0	0	0	0	0	0.78
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Quedius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Stictalia*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Tachinus*	*Tachinus frigidus*	99.30		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Unamis*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae					0	0.47	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera					There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0.27
Insects	Animalia	Arthropoda	Insecta	Coleoptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*	*Phytomyza ilicicola*	98.59		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Alliopsis*				0.38	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Botanophila*	*Botanophila hucketti*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Botanophila*	*Botanophila spinidens*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Botanophila*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*	*Delia florilega*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Eutrichota*	*Eutrichota parafacialis*	100.00		1.01	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Paregle*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae					0	0	0	0.81	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyzidae	*Anthomyza*	*Anthomyza vockerothi*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Bibio*	*Bibio xanthopus*	99.30		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Bibio*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Bibio*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Dilophus*	*Dilophus tibialis*	100.00		0	2.19	0	0.23	1.21	0.49
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Dilophus*	*Dilophus tibialis*	99.30		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Dilophus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Blephariceridae	*Blepharicera*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0.07	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Bolitophilidae	*Bolitophila*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Brachypogon*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*				0	0	0	0	0	1.42
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Palpomyia*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae					0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US of S. Unuk			Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Orobanus*																			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Phlaeopterus*	*Phlaeopterus fusconiger*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Phlaeopterus*	*Phlaeopterus houkae*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Phlaeopterus*																			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Quedius*	*Quedius pediculus*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Quedius*	*Quedius velox*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Quedius*																			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Stictalia*																			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Tachinus*	*Tachinus frigidus*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Unamis*																			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae																				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae																				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae																				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae																				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae																				
Insects	Animalia	Arthropoda	Insecta	Coleoptera																					
Insects	Animalia	Arthropoda	Insecta	Coleoptera																					
Insects	Animalia	Arthropoda	Insecta	Coleoptera																					
Insects	Animalia	Arthropoda	Insecta	Coleoptera																					
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*	*Phytomyza ilicicola*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Alliopsis*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Botanophila*	*Botanophila hucketti*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Botanophila*	*Botanophila spinidens*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Botanophila*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*	*Delia florilega*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Eutrichota*	*Eutrichota parafacialis*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Paregle*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyzidae	*Anthomyza*	*Anthomyza vockerothi*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Bibio*	*Bibio xanthopus*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Bibio*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Bibio*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Dilophus*	*Dilophus tibialis*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Dilophus*	*Dilophus tibialis*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Dilophus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Blephariceridae	*Blepharicera*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Bolitophilidae	*Bolitophila*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Brachypogon*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Palpomyia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae																				

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2			S. Teigen US1			N. Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Orobanus*					0	0.06	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Phlaeopterus*	*Phlaeopterus fusconiger*				0	0	0	0	0	0	0	0	0	0	0	0	0	0.17	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Phlaeopterus*	*Phlaeopterus houkae*				0	0	0.66	0	0	0	0	0	0	0	0	0	0.51	0	0.3
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Phlaeopterus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Quedius*	*Quedius pediculus*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Quedius*	*Quedius velox*				0	0	0.03	0.12	0.07	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Quedius*					0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Stictalia*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Tachinus*	*Tachinus frigidus*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Unamis*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae						0	0	0	0	0	0	0	0	6.43	0.56	0	0	0.16	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae						0	0	0	0.15	0.08	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae						0	0	0	0.12	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*	*Phytomyza ilicicola*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*					0	0	0	0	0	0	0	0	0	0	0.32	0.06	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Alliopsis*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Botanophila*	*Botanophila hucketti*				0	0	0	0	0.05	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Botanophila*	*Botanophila spinidens*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Botanophila*					0	0	0	0.4	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*	*Delia florilega*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Eutrichota*	*Eutrichota parafacialis*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Paregle*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae						0	0	0	0	0	0	0	0	0	0	0	0.28	0	0	0.73
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae						0	0	0	0.14	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyzidae	*Anthomyza*	*Anthomyza vockerothi*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Bibio*	*Bibio xanthopus*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Bibio*					0	0	0	0	0	0	0	0	0.21	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Bibio*					0	0.03	0	0.06	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Dilophus*	*Dilophus tibialis*				0.06	0.12	0.13	0.75	0.36	0	0	0	0	0.15	1.29	0.47	0.14	0.05	0.35
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Dilophus*	*Dilophus tibialis*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Dilophus*					0	0.47	0.23	0	0	0	0	0	0	0	0	0	0	0.88	0.45
Insects	Animalia	Arthropoda	Insecta	Diptera	Blephariceridae	*Blepharicera*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Bolitophilidae	*Bolitophila*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Brachypogon*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*					0	0	0	1.25	0.33	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*					0	0	0.23	0.71	0	0	0	0	0	0.93	0	0	0	0	0.29
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Palpomyia*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.9

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Orobanus*		0	0	0	0	0	0	0	0		0.97	0	0.86	0	0	0	0	0	3.58
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Phlaeopterus*	*Phlaeopterus fusconiger*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Phlaeopterus*	*Phlaeopterus houkae*	0.74	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Phlaeopterus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Quedius*	*Quedius pediculus*	0	0	0	0	0	0	0	0		0.47	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Quedius*	*Quedius velox*	0.03	0	0.06	0	0	0	0	0		0	0	0.04	0	0.7	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Quedius*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Stictalia*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Tachinus*	*Tachinus frigidus*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Unamis*		0	0.08	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			0	0	0	0	0	0	0	1.66		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0.09	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera				0	0	0	0	0	0.41	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera				0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera				0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera				0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*	*Phytomyza ilicicola*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*		0	0	0	0	0	0	0	0		0	0.41	0.06	0	0	0	1.26	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae			0	0	0	0	0	0	0	0		0.29	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Alliopsis*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Botanophila*	*Botanophila hucketti*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Botanophila*	*Botanophila spinidens*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Botanophila*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0.9	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*	*Delia florilega*	0	0	0.04	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*		0	0	0	0	0	0	0	0		0	0.05	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Eutrichota*	*Eutrichota parafacialis*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Paregle*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyzidae	*Anthomyza*	*Anthomyza vockerothi*	0	0	0	0.03	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Bibio*	*Bibio xanthopus*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Bibio*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Bibio*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Dilophus*	*Dilophus tibialis*	0.14	0.87	0.16	0.3	0	0.17	0.32	0.6		0	0.31	0	0	0.35	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Dilophus*	*Dilophus tibialis*	0.04	0	0	0.11	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Dilophus*		0.21	2.19	0	0	0	0	0	0		0	0	0	0	0	0	3.83	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Blephariceridae	*Blepharicera*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Bolitophilidae	*Bolitophila*		0	0	0	0	0	0	0	0		0.07	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Brachypogon*		0	0	0	0	0	0	0	0		0	9.68	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*		0	0	0	0.28	0	0	0	0		0	0	2.13	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*		0	0	0	0	0	0	0	0		0	0.93	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*		0.24	0	0	0	0.21	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Palpomyia*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	2.1

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell US Treaty			Bell DS Treaty			Blank #1	Blank #2	Blank #3
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Orobanus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Phlaeopterus*	*Phlaeopterus fusconiger*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Phlaeopterus*	*Phlaeopterus houkae*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Phlaeopterus*		0	0	0	0	2.53	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Quedius*	*Quedius pediculus*	0	0	0.03	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Quedius*	*Quedius velox*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Quedius*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Stictalia*		9.46	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Tachinus*	*Tachinus frigidus*	0	0	0	0	0	0.36			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Unamis*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			0	0	0	1.05	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			0	0.5	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			0	0	0	0.03	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Coleoptera				0	0	0	0	0	0.13			
Insects	Animalia	Arthropoda	Insecta	Coleoptera				0	0	0	0	0	0.07			
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*	*Phytomyza ilicicola*	0	0.8	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*		0	0	0.16	0.05	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*		0	0	0.08	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae			0	0	0	0	1.97	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae			0.21	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Alliopsis*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Botanophila*	*Botanophila hucketti*	0	0	0.05	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Botanophila*	*Botanophila spinidens*	0	0	0	0	4.21	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Botanophila*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*	*Delia florilega*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Eutrichota*	*Eutrichota parafacialis*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Paregle*		0	0	0.05	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyzidae	*Anthomyza*	*Anthomyza vockerothi*	0	0	0.06	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Bibio*	*Bibio xanthopus*	0	0.22	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Bibio*		0	0.11	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Bibio*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Dilophus*	*Dilophus tibialis*	0	0.91	0.22	0.58	2.92	0.21			
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Dilophus*	*Dilophus tibialis*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Dilophus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Blephariceridae	*Blepharicera*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Bolitophilidae	*Bolitophila*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Brachypogon*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*		0	0	1.43	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Palpomyia*		0	0	1.06	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			0	0	0	0	0	0.76			

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chaoboridae	*Chaoborus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chaoboridae	*Mochlonyx*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*	*Ablabesmyia monilis*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Acricotopus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Bilyjomyia*	*Bilyjomyia algens*	99.30		0	0	0	0	0.07	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Brillia*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*				0	0	0	0	0	0.26
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*				0	0.13	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus atrella*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*	99.30		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus maturus*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cladotanytarsus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Conchapelopia*	*Conchapelopia pallens*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*				0	0.5	0	0	0	0.3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus sylvestris*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*				0	0	0	0	4.85	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*				0	0	0	0	0.17	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*				1.55	0.55	1.09	0.64	0	1.22
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*				0	3.06	0	0.2	0	0.27
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	4.34	0	0.34	1.95	6.86
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*				0	0	0	0.04	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Dicrotendipes*	*Dicrotendipes modestus*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Dicrotendipes*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*	*Diplocladius cultriger*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*	*Eukiefferiella claripennis*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*				0	0.23	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*				0	0	0	0	0	0.23
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*				0	0	0.12	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*				0	0	0	0.06	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*				0	0	0	0	1.03	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*				0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US of S. Unuk			Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chaoboridae	*Chaoborus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chaoboridae	*Mochlonyx*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*	*Ablabesmyia monilis*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Acricotopus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Bilyjomyia*	*Bilyjomyia algens*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Brillia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus atrella*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus maturus*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cladotanytarsus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Conchapelopia*	*Conchapelopia pallens*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus sylvestris*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Dicrotendipes*	*Dicrotendipes modestus*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Dicrotendipes*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*	*Diplocladius cultriger*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*	*Eukiefferiella claripennis*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*																			

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2			S. Teigen US1			N. Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						0	0	0	0	0	0	0	0	0	0	0	0	0.16	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						0	0	0	0	0	0	0	0	0	0	0.03	0	0	0	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.84
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						0	0	0	0	0	0	0	0.31	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						0	0	0	0	0	0	0	0	0	0.08	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chaoboridae	*Chaoborus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chaoboridae	*Mochlonyx*					0	0	0	0.06	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*	*Ablabesmyia monilis*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Acricotopus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Bilyjomyia*	*Bilyjomyia algens*				0	0.15	0	0	0	0	0	0	0	0.17	0.33	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Brillia*					0	0	0	0	0	0	0	0	0.45	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*					0	0.31	0.38	0	0	0	0	0.45	0	0	0	0	0	0.79	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*					0	0	0.04	0	0	0	0	0.33	0.32	0.59	0.94	1.17	0.48	0.53	3.32
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus atrella*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus maturus*				0	0	0.04	0	0	0	0	0	0	0	0	0	0	0	0.1
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cladotanytarsus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Conchapelopia*	*Conchapelopia pallens*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*					0	0	0	0	0	0	0	0	0	0	0	0	0	0.64	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*					0	0	0.14	0	0	0	0	0	0	0	0.08	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus sylvestris*				0	0	0	0	0	0	0	0	0	0	0	0	0.14	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					0	0	0	0.44	1.85	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					0	0.22	0	0.09	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					0	0	0	0	0	0	0	0	0.36	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					1.02	7.32	2.66	3.59	3.22	0.04	3.7	3.03	0.09	0	0	0	0.07	0	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					0.05	0	2.98	3.31	0.91	0	0	0	0	10.78	8.46	7.12	3.57	1.96	6.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					0	1.02	0.48	0.23	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					0	0	1.15	0	2.12	0	0	0	0	0	0.69	0.29	0	0.45	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					0	0	0.51	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					0	0	0	0	0	0	0	0	0	0.35	0.59	0	0.36	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					0	0	0	0.09	0.05	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Dicrotendipes*	*Dicrotendipes modestus*				0	0	0	0	0.19	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Dicrotendipes*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*	*Diplocladius cultriger*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*					0	0	0.11	0	0	0	4.55	1.84	12.69	0.56	0.11	0	0.44	0.18	0.64
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*	*Eukiefferiella claripennis*				0	0	0	0	0.86	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*					0	1.32	0.15	0.54	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*					0	0.15	0.17	0.72	0.27	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*					0.16	0	0.16	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*					0	0	0	0.84	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*					0	0	0	0	0.04	0	0	0	0	0	0.09	0.04	0	0	0.25
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*					0	0	0.05	0	0	0	0.07	0.08	0.19	0	0.04	0.03	0.31	0	0.3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*					0	0	0	0.03	0	0	0	0	0	0	0.63	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*					0.03	0	0.39	0	0	0	0	0	0	0	0	0.31	0.56	0.2	2.45
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*					0	0	0	0	0	0	3.44	0	2.68	1.76	0	0.45	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*					0	0	0	0.36	0	0	0	0	0	0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			0	0	0.04	0	0	0	0	0		0	0	0	0	1.09	0	0	0.1	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0.34	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chaoboridae	*Chaoborus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	4.14	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chaoboridae	*Mochlonyx*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*	*Ablabesmyia monilis*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0.19	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Acricotopus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Bilyjomyia*	*Bilyjomyia algens*	0	0	0	0.04	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Brillia*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*		0.32	0	0	0.12	0	0	2.34	32.14		1.25	1.23	0.84	0	0	0.57	1.15	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*		0	0	0.05	0	0	0	0	0		0	0	0	0	0	0	0	6.12	1.91
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus atrella*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	3.1	0.22	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus maturus*	0.04	0	0	0	0	0	0	0		0	0.25	0.09	0	0	0.09	0	0.04	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cladotanytarsus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Conchapelopia*	*Conchapelopia pallens*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*		0	0	0	0	0	0	0	0		0	0	0	0.13	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*		0	0	0	0.08	0	0.16	0	0		0	0	0	0.98	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*		0.12	0	0	0.17	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0.06	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus sylvestris*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		0	0	0	0	0	0	0	0		0	0	0	0	0.18	0	0	13.36	11.35
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0.26	0.81	3.42
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		0	0	0	0	0	0	0.28	0		0	0.05	0.28	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		0	0	0	0	0	0	0	0		0	0	0.18	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		2.66	0.25	0.21	0.1	0	0.14	0.8	0.66		0	0	0.88	0	0.22	0	0.11	0.26	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		2.86	4.15	0.59	2.44	0	2.13	0	0		0	0	0	0	6.86	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0.46	0.21	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		1.24	0	0	0	0	0	0	0		0	0	0	0.25	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0.59	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0	0	0	0	0	0.03	0	0		0	0.3	0	0	0	0	0	0.24	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0	0	0	0.51	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Dicrotendipes*	*Dicrotendipes modestus*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Dicrotendipes*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*	*Diplocladius cultriger*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*		0.09	0.35	0	0	0	0.04	0	0		0	0	0	0	0.04	0	0.36	0.93	2.87
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0.54	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*	*Eukiefferiella claripennis*	0	0	0	0	0	1.15	0	0		0	0	0	0	0.75	0.36	0	0	0.24
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*		0.16	0	0	0	0	0	0	0		0.14	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*		0.18	0	0	0	0	0	0	0		0.12	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*		0.17	0	0	0	0	0	0	0		0	0	0.35	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*		0	0	0	0	0	0	0	0		0	0	0	0	0	3.71	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*		0.06	0.08	0	0.07	0	0.11	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0.3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		0.36	1.11	0.45	1.18	0.66	0.07	0	0		0	0	1.68	0	0	3.1	3.81	0.34	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		0	0	0.14	0.43	0	0	0	0		0	0	0	0	0	0	0.36	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		0	0	0	0	0.57	0	0	0		0	0	0	0	0	0	0	0.48	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell US Treaty			Bell DS Treaty			Blank #1	Blank #2	Blank #3
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			1.49	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			0	0	0	0.14	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			0	0	0.08	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chaoboridae	*Chaoborus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chaoboridae	*Mochlonyx*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*	*Ablabesmyia monilis*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Acricotopus*		0	0	0.04	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Bilyjomyia*	*Bilyjomyia algens*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Brillia*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*		0	0.41	0.07	0.43	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus atrella*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*	0	0	0	0	0	0.77			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus maturus*	0	0	0	0	0.12	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*		0	0.92	0.42	0.94	0	0.12			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*		0	0.28	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cladotanytarsus*		0	0	0	0	0	0.77			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Conchapelopia*	*Conchapelopia pallens*	0	0.44	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*		0	0	0	0	0.05	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus sylvestris*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		0.08	0	0.22	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0	1.22	0.63	0.17	0	2.16			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0	0.27	0.46	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0	1.72	0.92	0.88	1.96	0.75			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0	0	0	0.2	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0	0.03	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0.55	0.04	0	0	0	0.39			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0	0.03	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Dicrotendipes*	*Dicrotendipes modestus*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Dicrotendipes*		0	0	0	0.03	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*	*Diplocladius cultriger*	0	0	0	0	0	0.09			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*	*Eukiefferiella claripennis*	0	0	0	0	2.61	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*		0	0	0	0	0	0.2			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*		0	0	0	0	0	0.18			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*		0	0	0.1	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*		6.37	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*		0	0	0	0	0	0.04			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		0	0	0	1.12	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		0	0	1.12	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		0	0	0	0	0	0			

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*	*Hydrobaenus fusistylus*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*				0	0	0	0	0.27	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Kiefferulus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*				0	0	0	0.08	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*				0	0	0	0	0	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes pumilio*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*				0	0	0.06	0	0	0.96
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*	*Metriocnemus eurynotus*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*				0	2.33	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*				0	0	0	0	0	0.73
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Microchironomus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra lacustris*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra logani*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*	99.30		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra recurvata*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				1.34	0.1	0	0.13	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0	0	0	0	0.5
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0.04	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0.36	0	0	0	0.94
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0	0	0	0.21	0.38
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				3.24	0	0	0	0	0.22
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	4.43	0	0	0.17	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0	0	0	0.47	0.36
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0	0	0	0	0.49
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0	0	0	0.88	0.42
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Microtendipes*				0	0	0	0	0.06	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	1.22	0.56	0	0.1	0.33
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	2.44	0	0	0	2.56
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	0	0	0	0.04	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	0	0	0.22	0.21	0.13
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	0.15	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US of S. Unuk			Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*	*Hydrobaenus fusistylus*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Kiefferulus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes pumilio*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*	*Metriocnemus eurynotus*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Microchironomus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra lacustris*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra logani*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra recurvata*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Microtendipes*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*																			

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2			S. Teigen US1			N. Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*	*Hydrobaenus fusistylus*				0	0	0	0	0	0	0.82	3.71	7.84	0.04	0	0	2.17	1.36	1.29
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*					0	2.16	1.15	0	0.1	0	11.95	3.17	8.16	0.49	1.15	0.74	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*					0	0.25	0	0	0	0	6.87	2.82	1.18	0.05	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*					0	0	0	0	0	0	1.68	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Kiefferulus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*					0	0	0	0	0	0	0	0	0	0.38	0.21	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes pumilio*				0	0	0.06	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					0.04	0.24	0.34	0.09	0.56	0	0	0	1.58	0.35	0	0	0	0.86	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					0.06	0	0	0	0	0	0	0	8.8	0	0.64	0	0	0	0.38
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					0	0	0	0	0	0	0.17	0	0	0	0	0	1.05	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					0	0	0	0	0	0	0	0	0.38	0	0	0	0	0	0.22
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					0	0	0	0	0	0	0	0	0	0	0	0.06	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					0	0	0.08	0	0	0	0	0	0	0	0	0	0.09	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					0	0	0	0	0	0	0	0	0	0	0	0.04	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*	*Metriocnemus eurynotus*				0	0.17	0	0	0.38	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*					0	0	0	0	0	0	0	0	0	0	0	0	0.08	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*					0	0	0	0.04	0	0	0.13	0	0.33	0	0	0	0.51	0.4	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*					0	0	0	0	0	0	0	0	0	0.32	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Microchironomus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra lacustris*				0	0	0.39	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra logani*				0	0	0	0	0.09	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*				0	0	0	0.06	0	0	0	0	0	0.06	0	0.35	0	0	0.14
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra recurvata*				0	0	0	0	0	0	0	0	0	0	0	0	0.45	0.07	1.24
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					0	0	0	0.8	0	0	0	0.86	0	0	0	0.66	2.89	0.13	1.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					0	0.17	0.09	0.46	0	0	0.93	4.32	0.51	0.12	1.17	0.54	0	0.12	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					0	0	0.36	4.11	0.06	0	4.45	0.14	5.77	4.86	0.34	8.88	0	2.34	0.3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					0	0	0.22	0	0.13	0	0	0	0	0	0.14	0	0	0	0.22
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					0	0	0	0	0	0	6.64	0.28	0.18	0	0	0	0	0	0.13
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					0	0.25	0.38	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					0	0	0.22	0	0	0	0	0	0	0	0	0	0.18	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					0	0	0.13	0.52	0	0	0	0	0	2.09	0	1.17	1.91	1.08	0.27
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					0	0	0	0	0	0	0	0	1.88	0	0	0	2.61	0	0.38
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					0	0	0	0	0	0	0	0.05	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					0.04	0.46	0.98	0	0	0	0	0	0	0.35	0	0	1.59	0.97	1.16
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					0	0	0.05	0.37	0	0	0.3	0.76	1.93	0.96	0.73	0.08	0	0.26	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					0	0	0.2	0	0	0	0	0	0	0	0	0	0.05	0.07	1.16
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					0	0	0	0	0	0	0	0	0	0	0	0	0.76	0.17	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					0	0	0	0	0.16	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					0	0	0	0	0	0	0.89	0	0	0	0	0	0.22	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Microtendipes*					0	0.37	0.07	0.1	0	0	0	0	0	0	0	0.1	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					0	0	0	8.1	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					0	0.04	0.2	0.34	0.1	0	0	0	0	0.17	0.24	0.07	0.24	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					0	1.57	0.87	1.41	0.54	0	0.14	0	0	0.21	0	0	0	0	0.29
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					0.04	0.58	0.71	0.58	0.62	0	0	0	0	0	0.2	0.21	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					0	0	0	0	0	0	0	0	0	0	0	0	0.39	0	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*	*Hydrobaenus fusistylus*	0	0.53	0	0	0	0	0	0		0	0	0	0	0	0	0	0.04	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*		1.19	0	0	0	0	0	0	3.98		0	0	0	0.14	0.28	0	0.38	0.46	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Kiefferulus*		0	0	0	0	0	0.07	0	0		0	0	0	0	0	0	0.42	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*		0	0	0.04	0	0	0	0	0		0	0	0	0	0	3.21	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*		0	0	0	0	0	0	0	0		0	0	0	0	0	0.07	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes pumilio*	0.08	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0.22	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0.36	0.6	0.13	0.41	0.12	0.34	1.37	0		0	0	0.59	80.24	4.72	13.11	0	7.72	2.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0	0	0	0	0	0.54	1.16	0		0	0	0	0	3.08	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0	0.11	0.03	0.64	0.51	0.88	0	0		0	0	0.43	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0.07	0	0.05	0.15	0	0	0	0		0	0.03	0.21	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0	0	0	0.04	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*	*Metriocnemus eurynotus*	0	0	0	0.16	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		0	0	0	0	0.79	0.03	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		0	0	0	0.14	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		0	0	0.03	0.06	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Microchironomus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra lacustris*	0.36	0	0	0.18	0.79	0	0	0		0	0.34	0	0	0	0	0	0.85	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra logani*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*	0	0	0	0.07	0	0	0	0		0	0	0	0	0	0	0	0	2.01
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*	0	0	0	0	0	0	0	0		0	0	0.09	0	0	0	0	0.11	0.35
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra recurvata*	0	0	0.05	0.88	0.75	0	0	0		0	0	0	0	0	0	1.83	1.06	0.93
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0	0.36	0	0.72	0	0		0	0	0.39	0	0.05	2.79	1.09	4.45	1.01
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0.08	3.33	0.15	0.53	0	0.62	0	0		4.78	0.51	0	0	2.56	4.49	0.43	0.13	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0.38	0	0.3	0.43	0	0.9	0	0		0	0	3.96	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0.18	0	0	0.03	1.11	0.88	0	0		0	0	0	0	0	0	6.12	2.17	2.55
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0.86	0	0	0	0	0	0		0	0	0	0	0	0	0.08	0.64	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0.36	0	0	0.27	0.37	0.05	0.57	0.92		0.15	0.05	0.36	0	0	0	0	1.55	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0.19	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0.11	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0	0	0	0	0	0		0	0	0	0	0	0.04	1.35	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0	0	0	0	0	0		0	0.41	0	1.1	0.57	1.37	1.43	0.23	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0.83	0.29	0.2	0	0.03	0.32	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0.04	0.2	0	0.07	0	0.22	0	0.14		0	0	0	0	0	0.04	0.52	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0.19	0	0.09	0.04	0.23	0.2	0	0.21		0.77	0	0	0	0.37	0	0	0.06	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0.09	0.08	0	0	0.04	0	0		0	0	0.29	0	0	1.46	0	0.53	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0	0	0	0	0	0		0.09	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0.09	0.04	0	0	0	0		0	0	1.21	0	0	0	0.09	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0	0.28	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0	0	0	0.03	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Microtendipes*		0.08	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0	0	0.21	0	0		0	0	0	0	0	0	0	0.19	2.52
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0.2	0	0	0.07	0	0.17	0	0		0.19	0.22	0.04	0	0.11	0.06	0	0.04	1.38
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0.89	0.62	0	0	0	0	0	0		0	0	0	0	0	0	1.3	0.91	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0.74	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0.17	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell US Treaty			Bell DS Treaty			Blank #1	Blank #2	Blank #3
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		0	0	0.05	0.07	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*	*Hydrobaenus fusistylus*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*		0.45	0.53	0.21	0	0	0.12			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*		0.46	0.27	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Kiefferulus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*		0	0.36	0	0	0	0.05			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes pumilio*	0	0.08	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		1.05	0.26	0.69	1.48	0.54	0.07			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0	0	0	0.06	0	0.2			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0	0	0	0.1	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0	0	0	0	0	0.09			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0	0	0	0	0	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*	*Metriocnemus eurynotus*	0	0	0	0.09	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		1.9	0.17	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		0	0	0	0.72	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		0.64	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Microchironomus*		0	1.49	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra lacustris*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra logani*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*	0	0.5	0	0	0	0.1			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*	0	0	0	0.03	0	0.04			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra recurvata*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0.6	0	0.05	0	1.39			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0.87	0.4	0.41	0.39	2.16	0.18			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0	0.3	0	0.61			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0.07	0.07	0.09	0	0.27			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0	0	0	0.14			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0	0.09	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0	0.12	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0	0.52	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0	0.09	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0	0.08	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0.06	0.11	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0	0.24	0	0.12			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0	0	0	0.09			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Microtendipes*		0	0	0.09	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		2.75	0	0.49	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0.04	0.37	0.27	0.47	0.21	0.35			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	1.21	0.84	1.34	0	2.32			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0.06	0.04	0	0.13			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0	0	0.87			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0.54	0	0	0	0.1			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0	1.13	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0.03	0.49	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0.26	0.03	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0.22	0.04	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0.15	0	0	0			

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	0	0	0	0	0.12
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	0	0	0	0	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pagastia*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladopelma*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*				1.61	0.95	0	0	0	1.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paraphaenocladius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paraphaenocladius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratanytarsus*	*Paratanytarsus austriacus*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratanytarsus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratanytarsus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parochlus*	*Parochlus kiefferi*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parorthocladius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Polypedilum*				0	0	2.54	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*	*Procladius denticulatus*	99.30		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*				0	0.23	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*	*Psectrocladius barbimanus*	100.00		0	0	0	0	0.22	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*	*Psectrocladius obvius*	100.00		0	0.08	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrotanypus*	*Psectrotanypus dyari*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psilometriocnemus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psilometriocnemus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psilometriocnemus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Radotanypus*	*Radotanypus florens*	98.59		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*	*Rheocricotopus robacki*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*				0	0	0.95	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stictochironomus*				0	0	0	0	0.07	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus anderseni*	99.30		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus anderseni*	98.59		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus heliomesonyctios*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus miriforceps*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*				0	0	0	0.05	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*				0	0	0	0.14	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*				0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US of S. Unuk			Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pagastia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladopelma*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paraphaenocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paraphaenocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratanytarsus*	*Paratanytarsus austriacus*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratanytarsus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratanytarsus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parochlus*	*Parochlus kiefferi*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parorthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Polypedilum*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*	*Procladius denticulatus*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*	*Psectrocladius barbimanus*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*	*Psectrocladius obvius*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrotanypus*	*Psectrotanypus dyari*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psilometriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psilometriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psilometriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Radotanypus*	*Radotanypus florens*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*	*Rheocricotopus robacki*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stictochironomus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus anderseni*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus anderseni*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus heliomesonyctios*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus miriforceps*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*																			

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2			S. Teigen US1			N. Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					0	0.09	0.03	0	0.07	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					0	0	0.05	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					0	0	0	0	0	0	0	0	0	0.04	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					0	0	0	0	0	0	0	0	0.05	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pagastia*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.32
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladopelma*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*					0.28	2.24	4.83	0.21	0.32	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*					0.1	1.61	0.53	0.56	1.28	0	0	0	0	0.07	0	2.44	1.97	0.78	1.23
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.21
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*					0	0	0.04	0	0	0	0	0	0	0	0	0	0.1	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*					0	0	0.05	0	0.03	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paraphaenocladius*					0	0	0	0	0	0	0	0	0	0	0.15	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paraphaenocladius*					0	0	0	0	0	0	0	0	0	0.44	0	0.4	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratanytarsus*	*Paratanytarsus austriacus*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratanytarsus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratanytarsus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parochlus*	*Parochlus kiefferi*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parorthocladius*					0.6	0.36	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Polypedilum*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*	*Procladius denticulatus*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*					0	0	0	0	0	0	0	0	0	0	0.59	0.09	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*	*Psectrocladius barbimanus*				0	0	0.16	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*	*Psectrocladius obvius*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*					0	0	0	0	0	0	0	0	0	0	0	0.85	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrotanypus*	*Psectrotanypus dyari*				0	0	0	0	0	0	0	0	0	0	0.12	0.06	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psilometriocnemus*					0	0	0	0	0	0	0	0	0	1.4	0.67	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psilometriocnemus*					0	0	0.14	0	0	0	0	0	0	0	0	0	0	0.52	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psilometriocnemus*					0	0	0	0	0	0	0	0	0	0.08	0	0.32	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Radotanypus*	*Radotanypus florens*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*	*Rheocricotopus robacki*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*					0	0	0.95	0.17	0.07	0	0	0	0	0.04	0	0	0.98	0.73	0.7
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*					0	0.81	0	0.26	0	0	0	0	0	0	0	1.04	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*					0	0	0	0	0	0	0	0	0	0	0.22	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*					0	0	0	0	0	0	0	0	0.24	0	0	0.06	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*					0	0	0.07	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*					0	0	0	0	0	0	0.25	0	0.19	0	0	0.04	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*					0	0	0	0	0	0	0	0	0	0	0	0	0.42	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stictochironomus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus anderseni*				0.14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus anderseni*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus heliomesonyctios*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus miriforceps*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					0	0	0	0.22	0.34	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					0	0	0	0.26	0	0	0	0	0	0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0.03	0	0	0	0	0	0	0		0	0	0	0	0	0	0.04	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0.04	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0	0	0	0	0		0	0	0.05	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0	0.03	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pagastia*		0	0	0	0.1	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladopelma*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		5.1	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		0.49	1.84	0.21	0.3	0.68	0.27	1.54	7.45		4.15	7.5	5.74	2.45	1.7	3.45	0.46	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		0	0	0	0	0	0	3.92	0		0	0.63	0	0	0	0.33	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0.24	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		0.04	0	0	0	0	0	0	0		0	0	0.04	0	0	0	0	0.03	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		0	0	0	0	0	0.12	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		0.05	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paraphaenocladius*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paraphaenocladius*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratanytarsus*	*Paratanytarsus austriacus*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratanytarsus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratanytarsus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0.72	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parochlus*	*Parochlus kiefferi*	0	0	0	0.03	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parorthocladius*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Polypedilum*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*	*Procladius denticulatus*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*		0	0	0	0	0	0	0	0		0	0	0	0	0.42	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*	*Psectrocladius barbimanus*	0.18	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*	*Psectrocladius obvius*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrotanypus*	*Psectrotanypus dyari*	0	0	0	0	0	0	0.3	0		0	0	0	0	0.46	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psilometriocnemus*		0	0.69	0.05	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psilometriocnemus*		0.15	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psilometriocnemus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Radotanypus*	*Radotanypus florens*	0	0	0	0.37	0	0.3	0	0		0	0	0	0	0	0	0	0	2.17
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*	*Rheocricotopus robacki*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	4.94	0.91
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*		1.01	1.5	0.13	0.19	0	0	0	1.7		0.48	0	0	0	0.07	0	0	0	0.84
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		0	1.08	0	0	0	3.81	0	0		0	0	0	0	0	0	0	0.5	5.79
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0.31	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		0	0	0	0.26	0	0	0	0		0	0	0.6	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		0	0	0	0	1.04	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0.2	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		0.07	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*		0	0	0	0.57	0.23	0	0	0		0.48	0	0	0	4.03	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stictochironomus*		0	0	0	0	0	0.14	0	0		0	0	0.1	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus anderseni*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus anderseni*	0	0	0	0	0	0	0	0		0	0	0.25	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus heliomesonyctios*	0	0	0	0	0	0	0	0		0	0	0	0	0.07	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus miriforceps*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		0	0	0	0	0	0	8.54	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	2.15
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		0	0	0	0.26	0	0.05	0	0		0	0	0	0	0.05	0	0	1.19	0.3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell US Treaty			Bell DS Treaty			Blank #1	Blank #2	Blank #3
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pagastia*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladopelma*		0	1.39	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		0.5	0.5	0.3	0.16	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		1.72	0.35	0	0.36	0	0.49			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		0	0.1	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		0	0.51	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paraphaenocladius*		0	0	0	0	0	0.26			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paraphaenocladius*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratanytarsus*	*Paratanytarsus austriacus*	0	0	0	0	0	0.07			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratanytarsus*		0	0	0	0.1	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratanytarsus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parochlus*	*Parochlus kiefferi*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parorthocladius*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Polypedilum*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*	*Procladius denticulatus*	0	0	0.15	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*		0	1.15	0.16	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*		0	0	0	0	0	0.66			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*		0	0	0	0	0.06	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*	*Psectrocladius barbimanus*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*	*Psectrocladius obvius*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		0	0	0	0	0	0.14			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrotanypus*	*Psectrotanypus dyari*	0	0.24	0	0.09	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psilometriocnemus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psilometriocnemus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psilometriocnemus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Radotanypus*	*Radotanypus florens*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*	*Rheocricotopus robacki*	0	0	0	0.1	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*		0	0.12	0.11	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		0	5.1	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		0	0	0.49	0.53	0	0.96			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		0	0	0.38	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		0	0	0.33	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		0	0.13	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*		0	0	0.68	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*		0	0	0.23	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*		0	0	0	0.11	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stictochironomus*		0	0.07	0.79	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus anderseni*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus anderseni*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus heliomesonyctios*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus miriforceps*	0	0	0	0	0	0.2			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		0	1.61	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		0	0	0.06	0.37	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		0	0	0	0	0	0			

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Thienemannimyia*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Zalutschia*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	6.49	29.99	0.5	4.09	9.84
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	84.9	0.14	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					7.1	6.06	3.4	0.53	1.12	3.69
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0.04	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	7.68	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					28.17	0	0	0	1.68	2.52
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0.43	4.06	0.22	0	2.21
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	2.61	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0.16	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0.48	0	0.22	0.27	3.34
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	1.28	5.54	0	4.03	2.19
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	2.81	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					4.79	0	0	0.85	0	0.26
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0.86	0	0.96	0	2.58
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					5.5	0.22	0	0	0	0.64
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	1.57
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0.3	0	0	1.83	0.1
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	2.22	0	0	0	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	1.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0.42
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0.03	0.45	0.26	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US of S. Unuk			Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Thienemannimyia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Zalutschia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2			S. Teigen US1			N. Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					0	0	0.06	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					0	0	0	0	0	0	0	0	0	0	0.07	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Thienemannimyia*					0	0	0	0.09	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Zalutschia*					0	0	0	0	0	0	0	0	0	0.54	1.28	0.07	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	99.9	0	0	0	0.1	0	0	0.34	0.3	0.16
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.19	1.2	0.18	0	0	0	0	0.95	0.23	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						90.68	0	0	0.51	0	0	0	0	0	0	0.09	0	0.54	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.66	7.71	3.24	3.89	3.72	0.03	0	0	0	1.62	0	0.79	1.1	1.23	11.13
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.15	0.53	1.62	0.34	8.13	0	2.3	0	6.58	0.56	2.39	0.9	4.91	0	1.25
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0.39	0.65
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	3.14	0	0	0.03	0	0	0	0	10.17	1.47	12.03	0	0.85	2.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0.04	0.36	0	0.78	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.4	0	0	0	0	0	0	0	0	0	0	0.73	1.86
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	1.4	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	1.06	0	0.29
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0.41	0.15
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0.16	0.47	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0.17	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0.77	0	2.36	0	0	20.5	12.77	9.73	1.24	0.92	0.82	5.14	0	2.81
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0.18	0.75	0	0.61	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0.94	0	0	0	0	0	0	0	0.05	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.06	0.1	1.89	1.11	0.14	0	2.96	0	0.15	0	0	0.83	0.35	0	0.18
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0.47	2.87	0.29	0	0	1.56	0	0	0.16	0.16	0.24	1.02	2.87	3.11
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.03	0.18	0.53	1.79	1.44	0	0	2.18	0	0.4	0.07	0	0	0.25	0.93
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	7.98	0.63	0	0.17	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.41	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.43	1.34	0	0	0	0	0	2.72	6.68	3.6	3.92	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0.06	0	2.31	0.83	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.32	0	0	0	0	0	0	0.98	0.86	0.8	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	1.03	0.18	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.36	0	0	0	0	0	0	0	0.6	0	0.42	0	1.89
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.11	1.25	1	0.73	0.74	0	0	0	0	0.8	1.43	0.63	0.3	0.15	0.43
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.05	0.1	0	0	0	5.23	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0.8	2.17	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0.57	0	0	0	0	0	0	0	0	0.67	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.04	0	0.22	0.27	0.25	0	0	0	0	1.71	0.51	1.63	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	1.17	1.08	0.48	1.2	0	0	0	0	0	0.09	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0.24	0.31	0.6	1.01	0	0	0	0	0.62	0.59	0.49	0.28	0	0.65
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.03	1.73	1.23	1.56	0	0	0	0	0	2.58	4.19	3.57	0.73	0.11	1.19
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.24	0.04	0.38	0	0	0	0	0.38	0.92	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		0.05	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0.07	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		0.09	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		0	0	0	0	0	0	0	0		0	0	0	0	0.08	0	0.04	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Thienemannimyia*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Zalutschia*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	2.4	0.04	2.44	0	0	0	0		1.88	2.72	2.69	0	0	0	3.24	1.08	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.19	0.41	0.07	0.1	0.26	0	0	0.66		1.81	1.35	3.95	0	8.34	5.39	0.74	0.64	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.06	0.26	0	0	0	0		0	0	0.22	0	0.54	0	0	2.03	4.14
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			3.22	2.37	0.4	0.92	0	0.04	0	0		0	0.16	0.62	0	0.28	2.27	0	0.91	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			1.38	0	0	2.45	2.09	0	0	0		0	3.26	4.22	0	0	6.58	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.16	0	0	0	0	0	0		0.93	0.29	1.8	0	0.64	0	0	6.65	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	3.41	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.39	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0.92	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.43	0	0	0.64	0	1.67	0	0		0	0	0	0	0	5.49	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			1.4	0	0.24	0.27	0	0.45	0	0		6.86	0	3.85	0	0	0.19	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	5.37	0	0	0	0	0	0		0	2.58	1.9	0	0.03	0	0.12	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	2.68	5.98	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		1.62	0.06	4.7	0	0.95	0	0.42	0.52	0.33
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0.23	0	0		1.13	0	0	0	0	0	0.61	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.23	1.32	1.3	1.52	0	0		0	0	0	0	2.07	0	0.26	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.85	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0.93	1.45
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			1.88	0.33	0	0	0	0	0	0		0	0	0	4.31	0	0	0	0	5.25
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			2.64	1.75	0.52	2.5	4.12	2.58	0	0		2.09	4.54	3.85	0.12	0.5	0	0.94	2.48	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.55	0	0.22	0.77	0	0	0	0		0	0	0.74	0	0	0.07	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.4	4.9	0.14	1.05	0	0	0	0		0	0	0	0	0	0	0	0	1.38
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	2.42
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0.18	0	0		0	0	0	0	0	0	9.42	1.57	2.29
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.4	0.04	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0.56	0	0.61	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.3	0	0	0.96	3.06	0.17	0	0		0	0	0	0	0	0	0	0.15	0.84
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.17	1.18	0	0	0	0	0	0		0	0	0	0	0.16	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		2.38	0	0.42	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.3	0	0	0.37	0	0.09	0	0		0	1.49	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	5.86	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	1.93	0	0	0	0.67	0	0		2.46	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.99	0	0	0.26	0.13	0.19	0	0		0	0	0	0	0	0	0	1.01	0.12
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.04	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	2.37	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.22	0	0.04	0	0.08	0.11	0	0		0.03	0	0.16	0	0.59	0	0.41	0.75	1.54
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			1.2	0	0	0	0.03	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.29	0	0.24	0.33	1.22	0	4.4	0		0	0	0.45	0	0.21	0	0.4	0	0.38
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			1.23	0	0.37	0.5	0	0.14	0	0		0	0	0	0	0.79	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.22	0.08	0	0.13	0.56	0	0.81	0		0.47	0	0.12	0	0	0	0.24	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell US Treaty			Bell DS Treaty			Blank #1	Blank #2	Blank #3
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		0	0	0.17	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		0	0.16	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Thienemannimyia*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Zalutschia*		0	0	0	0	0	0.87			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			13.02	2.41	0.91	0.6	0	0.07			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			1.02	6.96	5.89	3.55	1.76	2.94			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	6.7	0.08	0	0	4.97			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.29	0	0.14	0	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	1.03	1.26	21.73	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			2.01	2.11	1.14	12.53	0	1.84			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			3.69	1.48	0.36	0	0	0.94			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.77	0	0.56	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	4	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	1.26	0.35	9.34	0.11			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	4.21	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.28	0.48	0	4.82	0.35			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.1	0.53	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.9	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	1.57	0.09	0	0.11			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.13	0	0.19			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.25	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.48	0	0	0.04			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	2.35	0.36	0.48	0	1.57			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.09	0.53	0.28	0	0.47			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.19	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.58	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.37	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.33	0.46	1.36	0	0.08			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			1.22	0	0.28	0.95	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.37	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.05	0	0	0.7			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.2	1.21	0.42	0	0.04			

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					2.16	0.4	0.96	0.38	0.77	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0.05	0.42	0.4	0	0.37	0.25
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0.64	0	0	0	1.42
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	1.2
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0.04	2.22	0	1.33	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	1.25	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0.49	0	0	1.42	0.28
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0.71	1.6	0	0	0.1	0.39
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0.09	2.21	0.42
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	1.4	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	1.67	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	1.37	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0.25	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	1.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	1.33	0.58
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0.36	0	0	0	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	1.22	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	1.96	0	0.17	0.08	0.16
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0.53
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0.4	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0.06	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US of S. Unuk			Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2			S. Teigen US1			N. Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0.54	0	0.18	0.16	0	0.41	5.26	0	0.42	0.47	0.11	0	2.51	0.47
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.04	0	0.09	0.41	0	0	0	0	0	0.57	4.86	2.37	0.55	0.63	0.4
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.2	0.09	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0.79	1.61	3.34	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.17	0.06	0	0	0	0	0	0	0.83	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0.3	0.14	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.17	0	0	0	0	0	0	2.51	0.99	1.57	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0.13	0.15	0.07	0	0	0	0	0	1.21	0.2	0.06	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.04	1.59	1.4	1.95	4.34	0	0	0	0	0	0	0	0	0	0.93
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.13	0	0	0.67	0.06	0	0	0	0	0.65	1.17	0.84	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0.06	0.19	0	0	0	0	4.38	0	0	0	0	0	0	0.17
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.15	0	0	0	0.49	0	0	1.07	0.35	0.43	0	0.06	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	2.75	0	0	0	0.1	0	0.62
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0.26	0.22	0.14	0.09	0	0	0	0	0.64	0.35	1.66	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	3.28	0.66	1.41
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.06	0	0	0	0	0	0	0	0	0	0	0	0.31
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.1	0	0.22	0	0	0	0	0	0.06	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.06	0.61	0.66	0.82	0.17	0	0.78	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.18	0	0	0	0	0	0	0.37	0.78	0	0.74	1.22	1.22
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.03	0	0	0	1.24	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.58	0	0	0	0	0	0	0.04	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.15	0.68	0.38	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0.03	0.7	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.26	0	0	0	0	0	0	0	0	0.42	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0.09	0	0	0	0	0	0	0	0	0	0.18	0.18
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	2.83	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.09	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0.65	1.06	0	0	0.14
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0.07	0	0	3.37	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.03	0.12	0.12	0	0	0	0	0	0	0.69	1.21	0.68	0.99	0.1	0.86
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.07	0.14	0	0	0	0	0	0.03	0	0.7	0.09	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.48	0	0	0	0	0	0	0.22	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0.13	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	2.65	1.06	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.25	0	0	0	0	0	0	0	0	0.06	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0.12	1.24	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.18	0.22	0.17	0.14	0.41	0	0.25	0	0	0	0	0.37	0	0.44	0.28
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.15	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	2.13	1.22	0.42	0	0	1.36	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.34	0.17	0.08	0.08	0	0.33	0.12		0.35	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.07	0	0	0.65	0	0.22	0	1.54		0	0	0.66	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.2	0	0	0	0.08	0	0	0		0	0.34	0	0	0.04	0	0	0.76	1.47
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	2.43	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0.61	0.09		1.84	0	1.33	0.93	0.64	0	0.13	0.6	1.13
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.13	1.06	0.1	0	0	0	0	0		0	0	0	0	0.04	0	0.13	0	0.74
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.16	0.04	0.12	0.09	0	0	0	0		0	1.71	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.17	0	0	0.07	0	0.03	0	0		0	0	0	0.25	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			1.42	0	0	0.12	0	0	0	0		0	0.16	0	0	1.61	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.29	0	0	0	0		0	0	0	0	2.7	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0.73	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0.06	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.2	0	0.19	0	0	0	0	0		0	0	0	0	0	0	0.79	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.16	1.1	0	0.29	0.36	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.06	0	0	0	0		0	0	0.82	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0.28	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	1.08	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.25	0	0	0	0	0.07	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	1.04	0	0.32	0	0	0	0.58
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.05	0	0	0	0	0	0	0		0	1.18	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.11	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.68	0	0	0	0	0	0	0		0	0	0	0	0.14	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.16	0	0	0.06	0	0.05	0	0		0	0	0	0	0	0	1.38	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0.16	0.03	0	0.22		0	0.08	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.61	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.44	0	0	0.19	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.18	0	0	0.24	0	0.59	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.1	0	0	0	0		0	1.16	0.11	0	0.18	0	0.55	0.38	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	1.6	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.47	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.08	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.61	0.51	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0.66	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.1	0.13	0.1	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.06	0.07	0	0.05	0	0.08	0	0		1.06	0	0	0	0	0	0	0.39	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.46	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0.13	0	2.96	0		0	0.15	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.24	0	0	0.86	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.17	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0.39	1.48	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.14	0	0	0	0	0	0	0		0	0	0.05	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0.37	0	0.14	0.64	0.1	0.22	0.5
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.35	0	0.25	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0.77	0	0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell US Treaty			Bell DS Treaty			Blank #1	Blank #2	Blank #3
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			1.01	0.53	0.84	0.91	0.43	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.27	0.84	0.04	0.21	0	0.04			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.04	2.94	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.35	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.26	0	2.06			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			3.16	2.49	1.55	0.64	0	4.27			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.04	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.21	0.22	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.84	0	0	0.61			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0.05			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	1.24	0	1.3			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.03	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0.41			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.07	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.86	0.34	0.16	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.3	0.53	0	0.38	0.22			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.17	0	0	0.38			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.32	0	0.83	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.69	0	0.22	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.06	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.14	0	0	0.12			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.41	0	0	0	0	0.15			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.1	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0.34			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0.22			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.68	0	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.54	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			1.07	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0.1	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.56	0	0.18	0	0	0			

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0.25
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0.21	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0.55	0	0	0	0.35
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0.07	0	0	0.12	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0.12
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0.15	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0.63	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0.12
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0.19
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0.21
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0.96	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US of S. Unuk			Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2			S. Teigen US1			N. Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	1.4	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0.04	0.51	0	0	0	0	0.92	0.51	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.13	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0.69	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0.07	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0.64	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.04	0	0	0	0	0	0	0	0	0	0.15	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0.08	0.08	0.62	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.28	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.07	0	0.41	0	0	0	0	0.37	0.05	0.53	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.1	0.09	0	0	0	0	0	0.06	0.29	0	0.54	0	0.6
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	1.07	0	0.29	0	0	0.03	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.1	0	0	0	0	0	0	0	0	0.13	0	0.63	0.32
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.31	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0.44	0.54	0.16	0	0	0.95	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0.23	0.06	0.33	0.12	0	0	0	0	0	0	0	0	0.13	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0.03	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	1.53	0	0	0.16	0	0.09	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0.14	0	0	0	0.41	0.17	0	0	0.1	0.07	0.09	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0.06	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.34	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0.39	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0.06	0	0	0.15	0	0	0	0	0.03	0.87	0.05	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.09	0	0	0	0	0	0	0	0	0	0.25	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.07	0	0	0	0.32	0	0	0	0.09	0	0.44	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0.61	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0.26	0	0.14	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0.27	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.14	0	0	0	0	0	0	0	0	0	0	0	0	0	0.24
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0.05	0	0.28
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0.83	0	0.68	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0.05	0	0	0	0.09	0.17
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0.37	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.15	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0.15	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0.06	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0.07	0	0.18	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.15	0	0	0	0	0	0	0	0	0	0.32	0.06	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0.07	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0.05	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.41	0	0.13	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.55	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.13	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0.4	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0.57	0	0.09	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.34	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.04	0	0	0.17	0.87	0.26	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.46	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.29	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0.14		0	0	0	0	0	0	0	0.2	0.36
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.05	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.08	0.06	0	0.28	0.66	0	0	0		0	0	0	0	0.74	0.3	0.09	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.03	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.12	0	0.03	0.36	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.27	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0.47	0	0	0.17	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.07	0	0	0	0	0	1.3	0		0.07	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0.68	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0.04	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.04	0	0.03	0.12	0		0	0	0.14	0	0	0.08	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.15	0	0	0	0		0.05	0	0	0	0	0	0.08	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.25	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.33	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.32	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.07	0	0	0	0	0	0	0		0	0	0	0	0.04	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.05	0	0	0	0	0	0	0		0	0.31	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0.34	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0.29	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0.22	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.03	0	0	0	0.23		0	0	0.32	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.35	0	0.15	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.19	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.17	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.17	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.3	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.03	0.23	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0.21	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.12	0	0	0.04	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.1	0.15	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0.23	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.15	0	0	0	0.09	0	0		0	0	0	0	0	0	0	0	0.24
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell US Treaty			Bell DS Treaty			Blank #1	Blank #2	Blank #3
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.66	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0.53			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.35	0.4	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.03	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.66	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.2	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.37	0	0	0.5	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.04	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.16	0	0	0.2			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.32	0	0.24	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.22	0	0.06	0	0.13			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.06	0.23	0	0.25			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.45	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.16	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.29	0	0.04	0	0.09			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.16	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.04	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.17	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0.1			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.17	0	0	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.14	0	0	0	0	0.09			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.06	0	0	0.19			

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0.69	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0.04	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0.21	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0.15	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0.1	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0.14	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US of S. Unuk			Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2			S. Teigen US1			N. Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0.05	0.11
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0.03	0	0	0	0	0	0	0	0	0.27
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0.27	0	0	0	0	0.08	0.05	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0.04	0	0	0	0	0	0	0.09	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0.04	0	0.21	0	0	0	0	0	0.18	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0.47	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.17
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.14	0	0	0	0	0	0	0	0	0	0	0	0.1
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0.18	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0.15	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0.03	0	0	0.2	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0.09	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0.1	0	0.06	0	0	0	0	0	0	0	0	0	0.05	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0.09	0.16	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0.74	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0.23	0.16	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0.06	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0.17	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0.29	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0.08	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0.06	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0.11	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0.21	0.83		0	0	0.5	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0.2	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0.08	0	0	0	0	0	0.2	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0.34	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0.44	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0.47		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0.23	0	0.14	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0.08	0	0	0	0	0	0	0	0.17
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0.18	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0.3	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.15	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.1	0	0.11	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.1	0.03	0.1	0	0.09	0	0		0	0	0.13	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0.1	0	0	0.18	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.06	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0.16	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0.07	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.1	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0.06	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0.11	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0.06	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell US Treaty			Bell DS Treaty			Blank #1	Blank #2	Blank #3
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.15	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.03	0	0.15	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.03	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.13	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.03	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.14	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0.66	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.12	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.12	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0.04	0.52	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.14	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.05	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0.2	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.04	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.03	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culex*				0	0.33	0	0.09	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Cylindrotomidae	*Cylindrotoma*	*Cylindrotoma distinctissima*	100.00		0	0	0	0	0.06	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Cylindrotomidae	*Cylindrotoma*				0	0	0	0	1.95	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Dixidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae	*Hirtodrosophila*				0	0	0.61	0.22	0.08	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Chelifera*	*Chelifera palloris*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*	*Rhamphomyia rivalis*	99.30	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Trichoclinocera*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae					2.78	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ephydridae	*Parydra*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia aethiops*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia metallipennis*	99.30		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia mollissima*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia subpellucens*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Lauxaniidae	*Lauxania*	*Lauxania shewelli*	100.00		0	0.24	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*	*Dicranomyia halterata*	99.30		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*				0	0	0	0	0	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Erioptera*				0	0	0	0.22	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Hexatoma*				0	0	0	0	0	1.01
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Limonia*	*Limonia nubeculosa*	98.59		0	0	0	0	0	1.28
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*	*Molophilus oligacanthus*	100.00		0	0	0	0.3	0	0.41
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*				0	1.15	0	0.82	0	2.77
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Ormosia*	*Ormosia affinis*	100.00		0	0	0	0	0	1.73
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Symplecta*	*Symplecta cana*	100.00		0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US of S. Unuk			Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culex*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Cylindrotomidae	*Cylindrotoma*	*Cylindrotoma distinctissima*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Cylindrotomidae	*Cylindrotoma*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Dixidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae	*Hirtodrosophila*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Chelifera*	*Chelifera palloris*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*	*Rhamphomyia rivalis*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Trichoclinocera*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ephydridae	*Parydra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia aethiops*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia metallipennis*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia mollissima*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia subpellucens*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Lauxaniidae	*Lauxania*	*Lauxania shewelli*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*	*Dicranomyia halterata*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Erioptera*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Hexatoma*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Limonia*	*Limonia nubeculosa*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*	*Molophilus oligacanthus*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Ormosia*	*Ormosia affinis*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Symplecta*	*Symplecta cana*																		

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2			S. Teigen US1			N. Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0.04	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0.05	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0.03	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0.09	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0.09	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0.03	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0.06	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0.06	0.1	0.1	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0.03	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0.03	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culex*					0	0	0	0	0	0	0	0	0.16	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Cylindrotomidae	*Cylindrotoma*	*Cylindrotoma distinctissima*				0	0	0.24	0	0	0	0	0	0	0	0	0	0.12	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Cylindrotomidae	*Cylindrotoma*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Dixidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae						0	0	0	0.07	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae	*Hirtodrosophila*					0	0	0	0.03	0.74	0	0	0	0	0.07	0.52	0.4	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Chelifera*	*Chelifera palloris*				0	0	0	0	0.85	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*					0	0	0	0	0	0	0	2.87	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*	*Rhamphomyia rivalis*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*					0	0	0	0.09	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Trichoclinocera*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae						0	0	0	0	0	0	0	0	0	0.06	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae						0	0	0	0	0	0	0	0	0	0	0	0.04	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ephydridae	*Parydra*					0	0	0	0	0	0	0.05	2.4	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia aethiops*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia metallipennis*				0	0	0	0	0	0	0	0	0	0	0	0	0	0.05	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia mollissima*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia subpellucens*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Lauxaniidae	*Lauxania*	*Lauxania shewelli*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*	*Dicranomyia halterata*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*					0	0.22	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*					0	0	0	0	0	0	0.22	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Erioptera*					0	0.98	0	1.13	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Hexatoma*					0	0	0.04	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Limonia*	*Limonia nubeculosa*				0	0.21	2	1.39	1.12	0	0.34	0	1.08	0.22	1.5	0.35	0.05	0.84	0.98
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*	*Molophilus oligacanthus*				0.09	0	0.26	0.22	1.4	0	2.3	3.43	1	0.32	1.54	1.21	0.87	0.34	2.17
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*					0.06	0.17	0.27	0.22	0	0	0	0	0	0.9	1.84	0.97	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Ormosia*	*Ormosia affinis*				0	0	0	0	2.13	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Symplecta*	*Symplecta cana*				0	0	0	0	0	0	0	0	0	0	0	0.03	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.04	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0.03	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culex*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Cylindrotomidae	*Cylindrotoma*	*Cylindrotoma distinctissima*	0.2	0	0	0	0	0	0	0		0	0	0	0	0.95	0.97	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Cylindrotomidae	*Cylindrotoma*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Dixidae			0	0	0	0	0	0	0	0		0	0	0	0	0.79	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae			0	0	0	0.17	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae	*Hirtodrosophila*		0	0	0	0	0	0.16	0	0		0	0	0	0	0	0	0	0.16	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Chelifera*	*Chelifera palloris*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*	*Rhamphomyia rivalis*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Trichoclinocera*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ephydridae	*Parydra*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia aethiops*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia metallipennis*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia mollissima*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia subpellucens*	0	0	0	0	0.28	0	0	0		0	0	0	0	0.06	0.07	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Lauxaniidae	*Lauxania*	*Lauxania shewelli*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*	*Dicranomyia halterata*	0	0	0	0	0	0.1	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Erioptera*		0	1.26	0.05	0.27	0	0	0	0		0	0	0	0	0.22	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Hexatoma*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Limonia*	*Limonia nubeculosa*	1.9	0.91	0.36	0.07	0.05	0.22	1.27	0		1.7	7.38	6.85	0	5.92	3.02	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*	*Molophilus oligacanthus*	0.26	1.01	0.21	1.02	0.29	0.17	0	2.49		0	0.77	0.94	0	0	0.27	0.7	0.84	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*		0.3	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Ormosia*	*Ormosia affinis*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Symplecta*	*Symplecta cana*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell US Treaty			Bell DS Treaty			Blank #1	Blank #2	Blank #3
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.04	0.04	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0	0	0.08	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culex*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae			0.77	0	0.53	0.22	0	0.27			
Insects	Animalia	Arthropoda	Insecta	Diptera	Cylindrotomidae	*Cylindrotoma*	*Cylindrotoma distinctissima*	0	0.11	0	0	0	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Cylindrotomidae	*Cylindrotoma*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Dixidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae			0	0.53	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae	*Hirtodrosophila*		0.6	0.17	0.18	0.21	0	0.32			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Chelifera*	*Chelifera palloris*	0	0	0	0.29	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*		0	0.17	0	0	0	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*	*Rhamphomyia rivalis*	0	0	0	0	0	0.88			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Trichoclinocera*		0.05	0.23	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			0	0	0.64	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			0	0	0	0	0	0.07			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			0	0.03	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ephydridae	*Parydra*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia aethiops*	0	0.63	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia metallipennis*	0.22	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia mollissima*	0	0.11	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia subpellucens*	0	0	0	0.11	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Lauxaniidae	*Lauxania*	*Lauxania shewelli*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*	*Dicranomyia halterata*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*		0	0	0	0	0	1.12			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*		0	0	0	0.03	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Erioptera*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Hexatoma*		0	0	0	0.06	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Limonia*	*Limonia nubeculosa*	2.95	1.23	1.46	1.96	0	1.79			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*	*Molophilus oligacanthus*	0	0.95	0.1	0.13	0	0.46			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Ormosia*	*Ormosia affinis*	0	0	0	1.8	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Symplecta*	*Symplecta cana*	0	0	0	0	0	0			

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae					0	0.74	0.18	0	1.25	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae					9.92	0	2.15	0.56	0	1.69
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0.06	0.44	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Lonchaeidae	*Lonchaea*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Lonchaeidae	*Lonchaea*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Caricea*	*Caricea alma*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Caricea*	*Caricea erythrocera*	100.00		0	0.21	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Coenosia*	*Coenosia impunctata*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Coenosia*	*Coenosia minor*	99.30		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Helina*				0	0	0	0	0.14	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*				0	0.07	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Allodia*	*Allodia septentrionalis*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*	*Boletina groenlandica*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*				0	1.08	0.65	0	7.38	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*				0	0	0.91	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*				0	0.99	1.24	0	0.63	0.21
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*				0	0	0	0.25	0.49	1.37
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*				0	0	0.5	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*				0.63	0.62	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*				0	0	0	0	0	0.43
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Docosia*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*				0	0	0.12	0	1.31	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*				0	0	0	0	0	0.54
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Neuratelia*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Opsion*	*Opsion nigra*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Sciophila*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Sciophila*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Tricyphona*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae					1.36	0	0	0.19	1.48	0.58
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae					0	0.18	0	0	0	0.54
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae					0.34	0.37	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae					0	0	0	0.09	0	0.27
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae					0	0	0	0.27	0	0.36
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae					0	0	0	0	0	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae					0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US of S. Unuk			Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Lonchaeidae	*Lonchaea*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Lonchaeidae	*Lonchaea*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Caricea*	*Caricea alma*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Caricea*	*Caricea erythrocera*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Coenosia*	*Coenosia impunctata*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Coenosia*	*Coenosia minor*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Helina*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Allodia*	*Allodia septentrionalis*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*	*Boletina groenlandica*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Docosia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Neuratelia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Opsion*	*Opsion nigra*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Sciophila*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Sciophila*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Tricyphona*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae																				

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2			S. Teigen US1			N. Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						0.21	1.17	0.95	2.26	0.09	0	0	2.52	0.35	0.78	0	0.06	0.59	1.41	0.49
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						0	0	0.29	0	0	0	0	0	0	0	0.44	0.46	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						0.03	1.8	0.32	0	0.59	0	0	0	0.36	0.12	0	0.35	0	0.18	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						0.07	0.27	0	0	0	0	0.61	1.56	0	0	1.47	0.25	2.17	0.89	0.2
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						0	0.48	0	0	0	0	0	0	1.11	0.48	0	0.14	0	0.22	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						0	0	0.15	0	0	0	0	0	0	0	0.03	0.07	0.28	0.14	1.3
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						0	0	0	0	0	0	0	0	0	0	0	0	0.46	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						0	0	0.37	0.31	0	0	0	0	0	0.29	0.52	0	0	0.08	0.33
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						0	0	0	0	0	0	0	0	0	0.66	0.04	0	0	0.45	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						0	0	0	0	0	0	0	0	0	0	0.09	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						0	0	0	0	0	0	0	0	0	0	0.16	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Lonchaeidae	*Lonchaea*					0	0	0	1.41	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Lonchaeidae	*Lonchaea*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Caricea*	*Caricea alma*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Caricea*	*Caricea erythrocera*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Coenosia*	*Coenosia impunctata*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Coenosia*	*Coenosia minor*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Helina*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*					0	0	0	0	0	0	0	0	0	0	0	0	1.02	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae						0	0.27	0	0	0	0	0	0	0	0	0.16	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Allodia*	*Allodia septentrionalis*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*	*Boletina groenlandica*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*					0	1.66	0.75	0.3	14.74	0	0	0.83	0.19	10.06	0	0.08	4.37	42.5	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*					0	0	0.08	0	0	0	0	0	0	0	0	0	0.26	0	0.31
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*					0	0.24	0.41	0.47	0.07	0	0	0	0	0.09	0	0	0.52	0.16	0.81
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*					0	0	0	0	0.76	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*					0	0.23	0.13	0.19	0	0	0	0	0	0.19	0.19	0.17	0	0	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*					0	0	0	0.23	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*					0	0	0.4	0	0	0	0	0	0	0.26	0	0.28	0.21	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*					0	0	0	0	0	0	0.12	0	0.32	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*					0	0	0.06	0.33	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*					0	0	0	0	0	0	0	0	0	0	0.43	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*					0	0	0	0.05	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Docosia*					0	0	0.8	0	0	0	0	0	0	0	0	0	0	0	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*					0	0	0.09	0	0	0	0	0	0	0	0	0.1	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Neuratelia*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Opsion*	*Opsion nigra*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Sciophila*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Sciophila*					0	0	0	0	0	0	0	0	0	0	0	0	0	0.12	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae						0	0	0.09	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae						0	0	0	0	0	0	0	0	0	0	0	0	0.11	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*					0	0	0	0.48	0	0	0	0	0	0	0	0.22	0	0	0.24
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Tricyphona*					0	0	0	0.09	0	0	0	0	0	0	0	0.04	2.28	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						0.04	0	0.24	0.56	0	0	0	0	0	0.6	1.29	1.04	0	0.3	1.28
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						0	0	0.09	0	0	0	0	0	0	0.12	1.45	0.33	0	0	0.12
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						0	0	0	0	0	0	0	0	0	1.23	0.2	0.72	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						0	0.07	0	0.03	0.37	0	0	0	0	0	0.29	0.11	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						0	0.35	0	0	0	0	0	0	0	0.22	0	0	0	0	0.26
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						0.05	0	0	0	0	0	0	0	0	0.05	0	0.06	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						0	0	0	0	0	0	0	0	0	0.18	0	0	0.11	0	0.06

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			1.03	0	0	1.02	0	0.32	0	2.72		0	0	0.05	5.46	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0.28	0	0	0.11	0	0.54	0	0		2.19	1.64	0.57	0	0.6	0	0	0.38	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0.33	0	0	0.05	0.03	0	1.01	0		0.66	0	0.74	0	0.09	0.29	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0	0.53	0.19	0.22	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0	0	0	0	0	0	0	0		0	1.38	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0.14	0	0	0	0	0	0.88	0		0	0	0.24	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0	0	0	0	0	0.05	0	0		0	0	0	0	0	0	0.19	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0.36	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0.37	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Lonchaeidae	*Lonchaea*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Lonchaeidae	*Lonchaea*		0	0	0	0	0	0.09	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Caricea*	*Caricea alma*	0	0	0	0.06	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Caricea*	*Caricea erythrocera*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Coenosia*	*Coenosia impunctata*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Coenosia*	*Coenosia minor*	0	0	0	0	0	0	0	0		0	0	0	0	0.71	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Helina*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*		0	0	0	0	0	0	0	0		0	0.06	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Allodia*	*Allodia septentrionalis*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0.78	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*	*Boletina groenlandica*	0	0	0	0.17	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0.66	1.69	87.65	35.74	36.08	60.97	16.8	0		39.1	1.59	1.83	0	4.73	1.99	0	1.21	1.49
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0.06	0	0.03	0	0	0	12.08	0		0.46	0	1.35	0	0.5	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0.43	1.73	0.11	0.34	0	0.13	0.09	1.46		1.07	2.56	0.52	0	0.91	0.59	0.53	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0.08	0.35	0	0.13	0	0.04	0	0.25		0.31	0	0.58	0	0.26	0.37	2.72	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0	0	0.04	0	0	0	0.15	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0.31	0	0.05	0.1	0	0.33	0.35	0		0.43	0	0	0	0.09	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0	0	0	0.28	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0.34	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0	0	0	0	0	0	0	0		0	0	0	0	0.78	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0	0	0.14	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0.05	0	0	0	0	0	0	0		0	0	0	0	0.18	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0	0	0.08	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0	0	0.11	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0	0	0	0.05	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0	0	0	0	0	0	0	0		0	0	0.05	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Docosia*		0.81	0	0	0	0	0.07	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0.1	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*		0.08	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Neuratelia*		0	0.15	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Opsion*	*Opsion nigra*	0	0	0	0	0	0	0	0		0.04	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Sciophila*		0	0	0	0	0	0	0	0		0	0	0	0	0	4.21	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Sciophila*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae			0	0	0	0	0	0.07	0	0		0	0	0	0	0	0.22	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae			0.09	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae			0	0	0	0	0	0	0	0		0	0.14	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*		0	0	0	0.14	0.82	0.04	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*		0	0	0.18	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Tricyphona*		0	1.19	0	0.18	0	0	0	0		0	0	0	0	0	0	2.23	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0.28	1.18	0	0	0.11	0.7	0	0		0	2.46	0	0	1.62	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0.07	0	0.04	0	0	0	0	0		1.39	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0	0	0	0.2	0	0.07	0	0.08		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0	0	0	0	0	0.04	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0	0	0.03	0	0	0	0	0.59		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0	0	0	0.03	0	0	0	0		0	0	0	0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell US Treaty			Bell DS Treaty			Blank #1	Blank #2	Blank #3
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0	0.26	0.54	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0	0	0.55	0.59	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0	0.06	0.06	0.03	1.14	0.04			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0.56	0	0	0.07	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0	0	0	0.27	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0	0.12	0	0	0.84	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0	0	0	0.2	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Lonchaeidae	*Lonchaea*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Lonchaeidae	*Lonchaea*		0	0	0.05	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Caricea*	*Caricea alma*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Caricea*	*Caricea erythrocera*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Coenosia*	*Coenosia impunctata*	0	0	0	0	0	0.22			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Coenosia*	*Coenosia minor*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Helina*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae			0	0	0.04	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Allodia*	*Allodia septentrionalis*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*	*Boletina groenlandica*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		1.74	2.44	18.73	19.8	0	22.64			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0	0	0.27	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0.24	0.12	0.09	0.39	0	0.2			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0	0	0.14	0	0.72	0.07			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0	0	0.45	0	0	0.06			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0	0	0.37	0	0	0.04			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Docosia*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Neuratelia*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Opsion*	*Opsion nigra*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Sciophila*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Sciophila*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae			0	0	0.05	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*		0	0.13	0	0.15	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Tricyphona*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0	0	0	0.44	0	0.4			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0	0.04	0	0	0	0.12			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0	0	0	0.12	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0	0	0	0	0.41	0.07			

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Kerophora*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia lucifrons*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia robusta*	100.00		0	0	0	0	0.19	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Phora*				0	0	0	0	0.04	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Triphleba*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Pneumia*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Psychoda*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ptychopteridae	*Ptychoptera*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ragadidae	*Iteaphila*	*Iteaphila bifida*	100.00		0	0	0	0	0.16	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ragadidae	*Iteaphila*	*Iteaphila macquarti*	100.00		0	0	0	0	1.31	0.12
Insects	Animalia	Arthropoda	Insecta	Diptera	Ragadidae	*Iteaphila*	*Iteaphila recta*	98.59		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ragadidae	*Iteaphila*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae					0	0	0	0	0.28	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Cordilura*	*Cordilura atrata*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Scatopsidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*	*Prosimulium exigens*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*				0	0.28	9	0	1.7	3.28
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*				0	0	0	0	0	0.73
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*	99.30		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Stegopterna*	*Stegopterna xantha*	99.30		0.06	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Aptilotus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Terrilimosina*	*Terrilimosina schmitzi*	100.00		0	0	0	0	0	0.76
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Melanostoma*				0	0.43	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Parasyrphus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Platycheirus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Platycheirus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Platycheirus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Sphegina*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Thaumaleidae	*Androprosopa*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula penobscot*	99.30		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula platymera*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula subtenuicornis*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*				2.04	0.11	3.61	0	0.07	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*				0	0	0	0	0	0.31
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*				0	0	0	0	0	0.25
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae					0	0.29	0	0	0	2.99
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae					0	0	0	0	0.66	0.18
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae					0	0	0	0	1.57	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae					0.44	1.75	0	0	0	0.16
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae					0	0	0	0.06	0.09	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae					0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US of S. Unuk			Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Kerophora*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia lucifrons*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia robusta*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Phora*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Triphleba*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Pneumia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Psychoda*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ptychopteridae	*Ptychoptera*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ragadidae	*Iteaphila*	*Iteaphila bifida*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Ragadidae	*Iteaphila*	*Iteaphila macquarti*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Ragadidae	*Iteaphila*	*Iteaphila recta*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Ragadidae	*Iteaphila*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Cordilura*	*Cordilura atrata*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Scatopsidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*	*Prosimulium exigens*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Stegopterna*	*Stegopterna xantha*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Aptilotus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Terrilimosina*	*Terrilimosina schmitzi*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Melanostoma*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Parasyrphus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Platycheirus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Platycheirus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Platycheirus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Sphegina*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Thaumaleidae	*Androprosopa*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula penobscot*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula platymera*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula subtenuicornis*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae																				

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2			S. Teigen US1			N. Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						0	0.08	0	0	0	0	0	0	0	0	0	0.09	0	0	0.19
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Kerophora*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia lucifrons*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia robusta*				0	0	0.28	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Phora*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Triphleba*					0	0.11	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Pneumia*					0	0.19	0.06	0	0	0	0	0	0	0	0	0	0	0	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Psychoda*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae						0	0	0.06	0.13	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ptychopteridae	*Ptychoptera*					0	0	0	0	0	0	0	0	0	0	0	0	0.22	0.8	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ragadidae	*Iteaphila*	*Iteaphila bifida*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ragadidae	*Iteaphila*	*Iteaphila macquarti*				0.1	0.3	0.25	0.16	0.27	0	0	0.06	0.23	0	0.15	0	0	0	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Ragadidae	*Iteaphila*	*Iteaphila recta*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ragadidae	*Iteaphila*					0	0	0	0	0	0	0	0	0	0	0	0	0	0.24	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae						0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Cordilura*	*Cordilura atrata*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Scatopsidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*					0	0.26	0.37	0.73	0.23	0	0	0	0	0	0	0	0.13	0.06	0.12
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*	*Prosimulium exigens*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*					0.04	0.17	0.32	0	0.04	0	0	0	0	0.21	0.23	0.48	0.82	2.4	1.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*				0	0	0.12	0	0	0	0	0	0	0	0	0.53	0.28	1.05	1.17
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*					0	0	0	0	0	0	0	2.65	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Stegopterna*	*Stegopterna xantha*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Aptilotus*					0	0	0.04	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Terrilimosina*	*Terrilimosina schmitzi*				0	0.18	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Melanostoma*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Parasyrphus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Platycheirus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Platycheirus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Platycheirus*					0	0	0	0	0	0	0	0	0	0	0	0.03	0	0	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Sphegina*					0	0	0	0	0	0	0	0	0	0	0	0.04	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae						0	1.36	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Thaumaleidae	*Androprosopa*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula penobscot*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula platymera*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula subtenuicornis*				0	0.48	0.53	0.03	0.17	0	0.13	0.64	0.15	0.22	0.2	0.34	2.23	0.26	1.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					0	0.56	0.32	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					0	0	0	0.03	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					0	0.13	0	0.05	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					0	0	0	0	0	0	0	1.13	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					0	0	0.19	0.09	0.56	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					0	0.09	0	0	0	0	0	0	0	0	0	0	0	0.18	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					0	0	0	0	0.04	0	0	0	0	0	0	0	0	0	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae						0.03	0	0.32	0	0.2	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae						0	0.42	0.04	0.72	0	0	0	0	0	0	0	0.14	0.06	0.14	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae						0	0	0	0	0	0	0	0	0	0	0	0.5	0	0	0.39
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae						0	0	0	0	0	0	0	0	0	0	0.2	0.16	0	0.22	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae						0	0.12	0	0.1	0	0	0	0	0	0.11	0	0	0	0	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae						0	0	0	0	0.11	0	0	0	0	0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0	0	0	0	0.21	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0.09	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Kerophora*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia lucifrons*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia robusta*	0.28	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Phora*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Triphleba*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Pneumia*		0.07	0	0	0	0	0	0	0		0	0.43	0	0	0	0.04	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Psychoda*		0	0.04	0	0	0	0	0	0		0	1.09	0.06	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae			0.05	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ptychopteridae	*Ptychoptera*		0	0.17	0.08	0.68	0	0.09	0	0		0	0	0	0	0	2.64	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ragadidae	*Iteaphila*	*Iteaphila bifida*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ragadidae	*Iteaphila*	*Iteaphila macquarti*	0.25	0	0	0.1	0.2	0.33	0.1	0		0	0	0	0	0	0	0	0.07	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ragadidae	*Iteaphila*	*Iteaphila recta*	0	0	0	0.43	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ragadidae	*Iteaphila*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Cordilura*	*Cordilura atrata*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Scatopsidae			0	0	0	0	0	0	0	0		0.47	0	0	0	0.18	0.5	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*		0.36	1.38	0.09	0.26	0.12	0.11	0	0		0	0.07	0	0	1.19	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*	*Prosimulium exigens*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*		0.28	0.48	0.28	0.58	0	0.15	0	0		0.14	0.3	0.62	0	0	0	0.8	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*	0.14	3.02	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Stegopterna*	*Stegopterna xantha*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Aptilotus*		0.04	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Terrilimosina*	*Terrilimosina schmitzi*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Melanostoma*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Parasyrphus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Platycheirus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Platycheirus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Platycheirus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Sphegina*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae			0	0	0	0.5	0	0.38	0	0		0	0	0	0	0	0	2.94	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae			0	0	0	0	0	0.05	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Thaumaleidae	*Androprosopa*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula penobscot*	0	0	0	0	2.46	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula platymera*	0	0	0	0	0.1	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula subtenuicornis*	0.47	0.66	0.09	0.39	0	0	0	0.22		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0.3	2.56	0	0.31	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0.03	0	0	0.06	0	0	0	0		0	0	0	0	0	0	3.93	0.17	1.3
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0	0	0	0	0	0	0	0		0	0	1.08	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0.21	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0	0	0	0	0	0.11	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0	0	0.05	0.09	0	0	0	0		0	0	0	0	0	0.11	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0.35	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0.05	0.87	0.1	0	0	0	0	1.32		1.94	0	0.21	0	0.98	0	0.8	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0	0	0	0	0	0	0.65	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0	0	0	0.57	0	0.18	0	0		0.62	0	0	0	0	0.07	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0.39	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0	0	0	0	0	0	0	0		0	0	0	0	0.03	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell US Treaty			Bell DS Treaty			Blank #1	Blank #2	Blank #3
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0	0	0	0.14	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Kerophora*		0	0	0	0.04	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia lucifrons*	0.03	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia robusta*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		0	0	0	0	0	0.07			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		0	0	0	0	0	0.04			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Phora*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Triphleba*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Pneumia*		0	0.06	0	0.09	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Psychoda*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae			3.5	0	0.14	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae			0	0	0	0	0	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ptychopteridae	*Ptychoptera*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ragadidae	*Iteaphila*	*Iteaphila bifida*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ragadidae	*Iteaphila*	*Iteaphila macquarti*	0	0	0.3	0.04	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ragadidae	*Iteaphila*	*Iteaphila recta*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ragadidae	*Iteaphila*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae			0	0	0	0.09	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Cordilura*	*Cordilura atrata*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Scatopsidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*		0.06	0	0.35	0.35	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*	*Prosimulium exigens*	0	0	0	0.41	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*		0	0	0.56	0.19	0	0.26			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*	0	0	0	0	0	0.16			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		0	0.05	0	0.05	0	0.5			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		0	0.13	0	0.16	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		0	0.08	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Stegopterna*	*Stegopterna xantha*	0	0	0	0.17	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Aptilotus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Terrilimosina*	*Terrilimosina schmitzi*	0	0	0.28	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Melanostoma*		0	0.09	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Parasyrphus*		0	0.11	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Platycheirus*		0.32	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Platycheirus*		0	0	0	0	0.1	0.09			
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Platycheirus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Sphegina*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae			0	0	0.25	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Thaumaleidae	*Androprosopa*		0	0	0	0	0	0.56			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula penobscot*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula platymera*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula subtenuicornis*	0.71	0.13	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0	0	0	0.44	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0.27	0.48	0	0.07	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0	0	0.12	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0	0.53	0	0.34	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0	0	0	0	0	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0	0	0.03	0	0	0.05			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0	0	0	0	0	1.41			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0	0	0.31	0.1	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0	0	0	0	0	0.39			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0	0.4	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0	0	0	0.15	0	0.22			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0	0	0	0	0	0			

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae	*Trichocera*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae					0	0	0	0	0.14	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0.17	0.88	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0.35	0	0	0.98	0.18
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0.09	0	0.46
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0.34
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0.82	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0.49	0.33
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0.17	0	0.44
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0.03	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0.15	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera					There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0.04	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0.04	0
Insects	Animalia	Arthropoda	Insecta	Diptera					There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US of S. Unuk			Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae	*Trichocera*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae																				
Insects	Animalia	Arthropoda	Insecta	Diptera

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2			S. Teigen US1			N. Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae						0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae	*Trichocera*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae						0	0	0	0	0.94	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0.04	0	0.66	0	0	0	0	0	0.12	0	0	0.44	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0.05	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0.1	0.08	0.29	0.4	0.24	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0.09	0	0	0	0	0	0	0.22	0	0	0.09	0.43
Insects	Animalia	Arthropoda	Insecta	Diptera							0.04	0.48	0.17	0.25	0.03	0	0	0	0	0	0	0	0	0	0.11
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0.63	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0.4	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0.05	0	0.03	0	0	0	0	0	0.04	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0.78	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0.08	0.05	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0.12	0.07	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0.05	0	0	0	0	0	0	1.05	0.22	0.53	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0.24	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.31
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.32
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0.16	0	0.21	0.69	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0.05	0	0.07	0.03	0	0	0	0	0	0	0	0.06	0	0.12
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0.03	0.09	0.2	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0.17	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0.08	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0.17	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0.18	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0.14	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0.06	0	0	0	0.05	0.1
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0.15	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0.35	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0.04	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0.06	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0.12	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0.05	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0.05	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0.11	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae	*Trichocera*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae			0	0	0	0	0	0	0	0		0	0	0	0	0	0.39	0	0	0.16
Insects	Animalia	Arthropoda	Insecta	Diptera				0.04	0	0	0	0.16	0	0	0		0	0	0	0	0	0	0	0	3.47
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0.28	0	0	0	0	0	7.33		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	4.14	5.44		0	0	2.11	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0.83	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0.28	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0.45	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0.32	0.04	0.05	0.05	0.21	0	1.07		0.76	0	0.66	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0.14	0.35	0	0.05	0	0	0	0		0	0	0.89	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0.26	0	0	0	0		0	0	0	0	0.7	0	0	0.22	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0	0		0.64	0.35	0	0	0	0	0	0.75	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0.04	0.66	0	0	0	0	0	0		0	0	0	0	0	0	0.23	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0.03	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0.29	1.73	0.14	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0.05	0	0.04	0.07	0	0	0	0		0	0	0	0	0	0.27	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0	0		0	0.45	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0.19	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0.04	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0.36	0	0	0	0	0	0		0	0	0.13	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0.13	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0.06	0	0	0	0	0	0	0		0	0	0.4	0	0	0.03	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0.16	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0	0		0.2	0.15	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0.06	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0.15	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0.48	0.26		0.14	0	0	0	0.23	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0.14	0.33	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0.12	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0	0		0.35	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0	0		0	0	0.17	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0.13	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0	0		0	0	0	0.12	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0.15	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0.04	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0.04	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0	0	0		0	0	0	0	0	0.04	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell US Treaty			Bell DS Treaty			Blank #1	Blank #2	Blank #3
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae	*Trichocera*		0	0	0	0.09	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae			0	0	0.51	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				1.37	1.76	0	0	0	0.44			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0.28			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	1.14	0.29	0	0.39			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				1.83	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0.1	0	0.4	0	0.06			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0.82	1.7	0.74	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0.08	0	0	0.66			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0.28	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0.03	0	0.34	0.25	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0.32	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0.27	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0.04			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0.22	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0.1	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0.04	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0.08	0	0	0.27	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0.18	0.41	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0.48	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0.15	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0.14			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0.04	0	0.07			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0.13	0.06	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0.08	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0.04	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0.05			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0	0	0	0			

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	1.58	0.52	0	0.37	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella dorothea*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygma*				0	0	0.16	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus grandis*	99.30		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*				0.05	2.27	0.05	0.1	1.09	1.66
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae					0.6	0.8	0.1	0	1.81	0.42
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae					0.14	1.92	0.21	0	0.32	0.33
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	1.27	0	0.1	0	0.6
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0.05	0	0
Insects	Animalia	Arthropoda	Insecta	Hemiptera					There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Eurytomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Pteromalidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Dolerus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Tenthredo*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Eriocraniidae	*Eriocrania*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Hepialidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Lyonetiidae	*Lyonetia*	*Lyonetia prunifoliella*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Lyonetiidae	*Lyonetia*	*Lyonetia pulverulentella*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Acleris*				0	0	0	0	0.12	0
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Epinotia*	*Epinotia trigonella*	98.59	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius ovalis*	100.00		0	0	0	0	0.28	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia coloradensis*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia confusa*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia nana*	100.00		0	0	15.85	0.4	7.8	2.95
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia petila*	100.00		0	3.85	0	0.36	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*				0	0	0	0.7	0	2.04
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Eucapnopsis*	*Eucapnopsis brevicauda*	99.30		0	0.43	0	0.29	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia vedderensis*	99.30	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia spenceri*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US of S. Unuk			Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*																			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*																		
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*																		
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella dorothea*																		
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygma*																			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*																			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*																			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus grandis*																		
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*																			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*																			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae																				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae																				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae																				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae																				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*																			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*																			
Insects	Animalia	Arthropoda	Insecta	Hemiptera																					
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Eurytomidae																				
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Pteromalidae																				
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Dolerus*																			
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Tenthredo*																			
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Eriocraniidae	*Eriocrania*																			
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Hepialidae																				
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Lyonetiidae	*Lyonetia*	*Lyonetia prunifoliella*																		
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Lyonetiidae	*Lyonetia*	*Lyonetia pulverulentella*																		
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Acleris*																			
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Epinotia*	*Epinotia trigonella*																		
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius ovalis*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia coloradensis*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia confusa*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia nana*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia petila*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*																			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Eucapnopsis*	*Eucapnopsis brevicauda*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia vedderensis*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia spenceri*																		

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2			S. Teigen US1			N. Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*					0	0	0.2	0	0	0	0	0	0	0.12	0.06	0.39	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*				0.38	9.55	0.94	4.98	3.45	0	0	0	0	0.28	0.29	0.33	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*				0	0	0	0	0.06	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella dorothea*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygma*					0	0	0.37	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*					0	0.08	0	0.15	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*					0	0	0	0	0	0	0	0	0	0	0.04	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus grandis*				0	0	0.13	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*					0.08	1.56	0.66	1.45	4.28	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*					0.03	1.03	0.23	0.34	0.15	0	0	0	0	0	0	0.09	0	0.04	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae						0	0.1	0.21	0.24	0.4	0	0	0	0	0.04	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae						0	0.34	0.62	0.52	0.1	0	0	0	0	0.3	0	0	0.15	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae						0	0	0	0	0	0	0	0	0	0.06	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*					0	0.09	0.16	0.1	0.77	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*					0	0	0	0	0	0	0	0	0	0	0.04	0.03	0	0	0
Insects	Animalia	Arthropoda	Insecta	Hemiptera							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Eurytomidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Pteromalidae						0	0	0	0.03	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Dolerus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Tenthredo*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Eriocraniidae	*Eriocrania*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Hepialidae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.04
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Lyonetiidae	*Lyonetia*	*Lyonetia prunifoliella*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Lyonetiidae	*Lyonetia*	*Lyonetia pulverulentella*				0	0.03	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Acleris*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Epinotia*	*Epinotia trigonella*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius ovalis*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia coloradensis*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia confusa*				0	0	0	0	0	0	0	0	0	0.33	0.22	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia nana*				0	1.06	2.34	0	0	0	13.33	4.84	3.17	0	0.06	1.5	1.79	1.33	0.04
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia petila*				0.17	0	0.35	0.49	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*					0	0.18	0.04	1.18	0.96	0	0	0	0	2.7	2.44	1.33	0.66	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Eucapnopsis*	*Eucapnopsis brevicauda*				0	2.34	0.87	0.78	2.22	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia vedderensis*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia spenceri*				0	0	0	0.22	0	0	0	0	0	0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*		0.19	0	0	0	0	0	0	0		0	0	1.99	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*	1	0	0	0.04	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella dorothea*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygma*		0.29	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus grandis*	0.09	0	0	0	0.47	0	0	0		0	0.71	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*		0.63	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*		0.24	0.21	0.1	0.22	0.17	0.25	0	0		0	0	0	0	0.03	0	0.06	0.82	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			0.19	0.09	0.04	0.13	0	0	0.11	0.11		0	0	0.04	0	0	0.7	0	0.29	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			0.57	0.14	0.06	0.21	0	0.25	0	0		0	0	0	0	0.26	0.12	0.17	0	0.04
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*		0.19	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Hemiptera				0	0	0	0	0	0	0	0		0	0	0	0	0	0	0.09	0	0
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Eurytomidae			0	0	0	0	0	0.06	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Pteromalidae			0	0.28	0	0	0	0	0	0		0	0	0.26	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Dolerus*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Tenthredo*		0	0.07	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Eriocraniidae	*Eriocrania*		0	0	0	0	0	0	0	0		0	0.1	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Hepialidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Lyonetiidae	*Lyonetia*	*Lyonetia prunifoliella*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0.06
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Lyonetiidae	*Lyonetia*	*Lyonetia pulverulentella*	0	0	0	0.05	0	0	0	0		0	3.14	0	0	0	0	0	0.04	0
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Acleris*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Epinotia*	*Epinotia trigonella*	0	0	0	0	0	0	0	0		0	0	0	0	0.22	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius ovalis*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia coloradensis*	0	0	0	0.82	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia confusa*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0.26	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia nana*	2.29	2.51	0.04	1.96	0	1.5	7.78	9.99		0	0	2.71	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia petila*	0.32	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		0.04	0	0	0	0	0	0	0		0	0	0	0	0	0	2.33	0.51	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Eucapnopsis*	*Eucapnopsis brevicauda*	0.91	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia vedderensis*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia spenceri*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell US Treaty			Bell DS Treaty			Blank #1	Blank #2	Blank #3
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*		0	0	0.08	1.14	0	0			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*	0.63	1.49	0.41	0.34	0	0.33			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella dorothea*	0	0.35	0	0	0	0.7			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygma*		0	0.31	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		0	0.04	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus grandis*	0	0	0	0.06	5.01	0			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*		0	0.23	0.86	0.52	0	0.42			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*		0	0.47	0.7	0.17	0	0.43			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			0.93	0.66	0.41	0.88	0	0.7			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			0	0.08	0.23	0	0	0.58			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			0	0.11	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*		0.14	0	0.27	0	0	0.04			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Hemiptera				0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Eurytomidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Pteromalidae			0	0	0	0	0.04	0			
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Dolerus*		0	0	0.08	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Tenthredo*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Eriocraniidae	*Eriocrania*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Hepialidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Lyonetiidae	*Lyonetia*	*Lyonetia prunifoliella*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Lyonetiidae	*Lyonetia*	*Lyonetia pulverulentella*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Acleris*		0	0.08	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Epinotia*	*Epinotia trigonella*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius ovalis*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia coloradensis*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia confusa*	0	0.04	1	0.11	0	0.44			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia nana*	0	0.23	0.39	0.84	0	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia petila*	0	0.2	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		0	1.57	0.78	1.82	0	0.05			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Eucapnopsis*	*Eucapnopsis brevicauda*	0	0.34	0	0	0	0.08			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia vedderensis*	0	0	0	0.07	0	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia spenceri*	0	0	0	0.27	0	0			

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Utacapnia*	*Utacapnia columbiana/Utacapnia trava*	99.30	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Alloperla*	*Alloperla serrata*	99.30		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Kathroperla*	*Kathroperla perdita*	99.29	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0.08	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*	*Plumiperla diversa*	100.00		0	3.52	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*				0	0	3.81	0.4	5.22	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa borealis*	100.00		0	0	0	0	0	0.17
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa coloradensis*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa fidelis*	99.30		0	4.58	0	0	1.35	0.3
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa revelstoka*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa urticae*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0.04
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa oregonensis*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0.11	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Despaxia*	*Despaxia augusta*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra projecta*	100.00		0	0	0.09	0	0	0.12
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra occidentalis*	99.30		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*				0	0	0.55	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Perlomyia*	*Perlomyia utahensis*	98.59	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0.03	0	0	0	0.06
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta decepta*	100.00		0	0	0	0	0.54	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta delicatula*	100.00		0	0	0	0	0	0.3
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*	100.00		0	0.59	0	0	0	0.4
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada columbiana*	100.00		1.96	0.48	1.28	1.11	1.17	0.76
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	100.00		6.65	0.38	0	0	0.16	0.32
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes/Zapada oregonensis*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla sordida*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*				0	0	0	0	2.07	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Diura/Isoperla*	*Diura bicaudata/Isoperla sobria*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*				4.41	2.39	0	0.25	4.62	1.28
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae					0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera						0	4.62	0.2	0.11	0	1.22
Insects	Animalia	Arthropoda	Insecta	Psocodea	Mesopsocidae	*Mesopsocus*				0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Psocodea	Philotarsidae	*Philotarsus*	*Philotarsus californicus*	98.59		0	0	0	0	0	0.04
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Trichadenotecnum*	*Trichadenotecnum majus*	100.00		0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US of S. Unuk			Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Utacapnia*	*Utacapnia columbiana/Utacapnia trava*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Alloperla*	*Alloperla serrata*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Kathroperla*	*Kathroperla perdita*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*	*Plumiperla diversa*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*																			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*																			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*																			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa borealis*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa coloradensis*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa fidelis*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa revelstoka*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa urticae*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa oregonensis*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*																			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*																			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Despaxia*	*Despaxia augusta*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra projecta*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra occidentalis*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*																			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Perlomyia*	*Perlomyia utahensis*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae																				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta decepta*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta delicatula*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada columbiana*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes/Zapada oregonensis*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae																				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla sordida*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*																			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*																			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*																			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Diura/Isoperla*	*Diura bicaudata/Isoperla sobria*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*																			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae																				
Insects	Animalia	Arthropoda	Insecta	Plecoptera																					
Insects	Animalia	Arthropoda	Insecta	Psocodea	Mesopsocidae	*Mesopsocus*																			
Insects	Animalia	Arthropoda	Insecta	Psocodea	Philotarsidae	*Philotarsus*	*Philotarsus californicus*																		
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Trichadenotecnum*	*Trichadenotecnum majus*																		

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2			S. Teigen US1			N. Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Utacapnia*	*Utacapnia columbiana/Utacapnia trava*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Alloperla*	*Alloperla serrata*				0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Kathroperla*	*Kathroperla perdita*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*	*Plumiperla diversa*				0.04	1.47	0.44	0	0	0	0	0	0	0	0	0	12.36	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*					0.43	1.33	0.64	3.01	0	0	1.78	0	0.54	0.48	1.03	2.21	0	0	0.84
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*					0.28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa borealis*				0	0	0.11	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa coloradensis*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa fidelis*				0.15	2.08	0.87	0.49	0	0	0	0	0	2.81	0.96	0.42	0.73	0.52	0.86
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa revelstoka*				0	0	0	0	0	0	0	0	0	0	0	0	0	0.06	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa urticae*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa oregonensis*				0	0	0	0	0.7	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Despaxia*	*Despaxia augusta*				0	2.88	0.3	0	0.98	0	0	0	0	0.26	2.96	4.87	0	0.12	0.35
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra projecta*				0	0.09	0.22	0	0.07	0	0	0	0	0.1	4.15	0.11	0.15	0.58	0.03
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra occidentalis*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Perlomyia*	*Perlomyia utahensis*				0	0	0	0	0	0	0	0	0	0	0.1	0.03	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae						0	0	14.9	0.05	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta decepta*				0	0	0.54	0.03	0.58	0	0	0	0	2.01	4.03	2.03	0	0.08	0.32
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta delicatula*				0	0	0	0	0	0	0	0	0	0	0	0.34	0	0	0.47
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*				0.1	1.84	1.76	1.4	0	0	0	0	0	0	0.17	1.09	0.38	0.06	0.12
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada columbiana*				0.09	0.21	0.83	0.76	0.68	0	0	0	0	0.11	0.79	0.21	0.42	0.06	0.16
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*				0	0.16	0.16	1.3	0.65	0	0	0	0	0.41	0.64	0.15	0.13	0	0.17
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*				0	1.88	0	2.09	0	0	0	0	0	0	0	0.26	0	1.7	0.47
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes/Zapada oregonensis*				0	0.21	0.41	0.04	0	0	0	0	0	0	0.6	0.14	0.18	0.72	0.39
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla sordida*				0	0.48	0.04	0	0.51	0	0	0	0	0.54	0.52	0.43	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*					0	0	0	0	0	0	0	0	0	0	0	0.04	0	0.26	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*				0	0	0	0	0	0	0	0	0	0	0	0.03	0.21	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*					0	0	0.06	0	0	0	0	0	0	0	0	0	0	0	1.07
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Diura/Isoperla*	*Diura bicaudata/Isoperla sobria*				0	0	0	0	1.74	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*					0.35	0	0.27	0.83	3.99	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*				0.03	1.13	1.67	2.92	0.39	0	0	0	0	0.15	0	0	0	0	0.26
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae						0.07	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera							0	0.09	0.08	0.06	0	0	0	0	0	0	0	0	0	0.1	0.38
Insects	Animalia	Arthropoda	Insecta	Psocodea	Mesopsocidae	*Mesopsocus*					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Psocodea	Philotarsidae	*Philotarsus*	*Philotarsus californicus*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Trichadenotecnum*	*Trichadenotecnum majus*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Utacapnia*	*Utacapnia columbiana/Utacapnia trava*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Alloperla*	*Alloperla serrata*	0	0.21	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Kathroperla*	*Kathroperla perdita*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*	*Plumiperla diversa*	0.47	0	0	0.45	0	0	0	0		0	0	0	0	0	0	0	2.08	5.17
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*		0.73	0	0	2.53	0	0	0	0		0	0	0	0	0.21	0	0	4.16	1.81
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa borealis*	0.12	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa coloradensis*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa fidelis*	0.86	0.85	0.04	0.24	0	0.51	0	0		0.49	20.58	0	0	5.18	2.04	1.08	0	0.61
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa revelstoka*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa urticae*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa oregonensis*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*		0	0	0	0	0	0	0	0		0	0	0	0	1	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*		0	0.28	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Despaxia*	*Despaxia augusta*	0.29	1.15	0.05	0.8	0	0	0	5.41		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra projecta*	0.23	0.2	0	0.32	0.04	0	0.64	4.53		0	0.12	0.34	0.07	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra occidentalis*	0	0	0	0	0	0	0	0.13		0	0	0.04	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Perlomyia*	*Perlomyia utahensis*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae			15.64	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta decepta*	0.6	0	0.06	0.17	0	0	0	0		0	0	0	0	0.06	0	0	1.87	0.44
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta delicatula*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*	1.8	0.3	0.12	0	0	0	0	0		0	0	0	0	0.93	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada columbiana*	0.9	0.78	0.03	0.32	0	0.18	0	1.61		1.6	1.61	0.97	0	1.12	0.09	1.31	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	0.15	0.37	0	0.43	0	0	0	0		0.24	0	0.85	0	0.46	0.61	0	1.24	0.31
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	0	0	0	0	0	0	0	0		1.19	0	0	0.26	0	9.83	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes/Zapada oregonensis*	0.45	0	0.1	2.43	0.23	0.32	4.13	1.23		1.18	0	0.69	0	0.1	0	0	0.04	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	2.69	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla sordida*	0.04	0	0	0.23	0	0.09	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*	0	0	0	0	0	0	0	0		0	0	0	0	0.05	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		0.05	0	0	0.62	0	0	0	0		0	0.34	4.89	0	0	0	3.23	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		0	0	0	0	0	0	0	0		0	0	0	0	0.12	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Diura/Isoperla*	*Diura bicaudata/Isoperla sobria*	0	0	0	0.82	0	0.04	0	0		0.11	0	0	0	0	0	0.59	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*		0.29	0	0	0	2.04	0	0	0		0	0	0	0	0.8	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*	1.79	1.14	0.41	0.37	1.99	0.84	0	0		0	0	0	0	0	0.16	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera				0.08	0	0	0.46	0	0.08	0	0		0.82	0.52	0	0.42	3.51	0	2.59	2.94	0.33
Insects	Animalia	Arthropoda	Insecta	Psocodea	Mesopsocidae	*Mesopsocus*		0	0	0	0.22	0	0.06	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Psocodea	Philotarsidae	*Philotarsus*	*Philotarsus californicus*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Trichadenotecnum*	*Trichadenotecnum majus*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell US Treaty			Bell DS Treaty			Blank #1	Blank #2	Blank #3
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Utacapnia*	*Utacapnia columbiana/Utacapnia trava*	1.8	0	0	0.04	0.36	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Alloperla*	*Alloperla serrata*	0	0	0.09	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Kathroperla*	*Kathroperla perdita*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*	*Plumiperla diversa*	0.97	0.31	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*		2.66	4.97	10.63	0	0	1.91			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*		0	0.4	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa borealis*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa coloradensis*	0	0	0	0.3	0	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa fidelis*	2.31	0.22	0.84	0.47	0	0.66			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa revelstoka*	0	0	0	0	0	0.17			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa urticae*	0	0.44	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa oregonensis*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Despaxia*	*Despaxia augusta*	2.84	0	0	0.75	0	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra projecta*	0	0.03	0.32	0.08	0	0.48			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra occidentalis*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Perlomyia*	*Perlomyia utahensis*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae			0	0	0.1	0	0	0.87			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta decepta*	0	0	0	0	0	0.06			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta delicatula*	0	0	0	0.07	0	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*	0	0	0.8	0	0	0.16			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada columbiana*	0.1	0.44	0.74	0	1.52	0.12			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	0.47	0.41	0.4	1.16	1.29	1.56			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	0	0	0.08	0	0	0.48			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes/Zapada oregonensis*	0	0.25	0.57	0	0	1.15			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla sordida*	0	0.47	0.27	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*	0.04	0.05	0.18	0	0.38	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		2.78	0	0.12	0	0	0.03			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Diura/Isoperla*	*Diura bicaudata/Isoperla sobria*	0	0.64	0.58	0.04	0	0.08			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*		0	0.07	0.53	0.5	0	0.3			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*	0	0	0.08	0.31	0	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae			0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Plecoptera				0.92	1.98	0.45	0.14	0.08	1.2			
Insects	Animalia	Arthropoda	Insecta	Psocodea	Mesopsocidae	*Mesopsocus*		0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Psocodea	Philotarsidae	*Philotarsus*	*Philotarsus californicus*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Trichadenotecnum*	*Trichadenotecnum majus*	0	0	0.05	0	0	0			

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Apataniidae	*Allomyia*	*Allomyia tripunctata*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Brachycentridae	*Micrasema*	*Micrasema bactro*	100.00		0	0.88	1.07	0	0	0.04
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma hoodi*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma roafi*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Cryptochia*	*Cryptochia pilosa*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Ecclisocosmoecus*	*Ecclisocosmoecus scylla*	100.00		0	0	0.23	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Hesperophylax*	*Hesperophylax designatus*	100.00		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Lenarchus*	*Lenarchus vastus*	100.00		0	0.12	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila rickeri*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila verrula*	100.00		0	0.28	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes ruthae*	98.59		0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes sierra*	100.00		0.17	0.12	0.09	0	0	0.17
Insects	Animalia	Arthropoda	Insecta							0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta							0.96	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta							0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta							0	0	0	0	0	0
Insects	Animalia	Arthropoda	Ostracoda	Podocopida					There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	2.84	0	0	0	0
Insects	Animalia	Arthropoda	Ostracoda						There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US of S. Unuk			Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Apataniidae	*Allomyia*	*Allomyia tripunctata*																		
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Brachycentridae	*Micrasema*	*Micrasema bactro*																		
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma hoodi*																		
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma roafi*																		
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Cryptochia*	*Cryptochia pilosa*																		
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Ecclisocosmoecus*	*Ecclisocosmoecus scylla*																		
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Hesperophylax*	*Hesperophylax designatus*																		
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Lenarchus*	*Lenarchus vastus*																		
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila rickeri*																		
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila verrula*																		
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes ruthae*																		
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes sierra*																		
Insects	Animalia	Arthropoda	Insecta																						
Insects	Animalia	Arthropoda	Insecta																						
Insects	Animalia	Arthropoda	Insecta																						
Insects	Animalia	Arthropoda	Insecta																						
Insects	Animalia	Arthropoda	Ostracoda	Podocopida																					
Insects	Animalia	Arthropoda	Ostracoda																						

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2			S. Teigen US1			N. Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Apataniidae	*Allomyia*	*Allomyia tripunctata*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Brachycentridae	*Micrasema*	*Micrasema bactro*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma hoodi*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma roafi*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Cryptochia*	*Cryptochia pilosa*				0	0	0	0	0	0	0	0	0	0	0	0.05	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Ecclisocosmoecus*	*Ecclisocosmoecus scylla*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Hesperophylax*	*Hesperophylax designatus*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Lenarchus*	*Lenarchus vastus*				0	0	0	0	0	0	0	0	0	0.07	0.04	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila rickeri*				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila verrula*				0.1	0.52	0.64	0	0	0	0	0	0	0	0	0.26	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes ruthae*				0	0	0	0	0.05	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes sierra*				0.11	0.43	0.2	0.57	0.21	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta								0	0	0	0	0.53	0	0	0	0	0	0	0	0	0.34	0
Insects	Animalia	Arthropoda	Insecta								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta								0	0	0	0	0.08	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Ostracoda	Podocopida							0	0.43	0.08	0	0	0	0	0	0	0.89	0	0	0	0.95	1.32
Insects	Animalia	Arthropoda	Ostracoda								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Apataniidae	*Allomyia*	*Allomyia tripunctata*	0	0	0	0	0	0	0	0		0.12	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Brachycentridae	*Micrasema*	*Micrasema bactro*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma hoodi*	0	0	0	0.12	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma roafi*	0	0	0	0	0	0	0	0		0	0	0	0	0	0.09	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Cryptochia*	*Cryptochia pilosa*	0	0	0	0	0	0	0	0		0	0	0.45	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Ecclisocosmoecus*	*Ecclisocosmoecus scylla*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Hesperophylax*	*Hesperophylax designatus*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0.31	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Lenarchus*	*Lenarchus vastus*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila rickeri*	0	0	0	0	0	0	0	0		0	0	0.48	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila verrula*	0.67	0	0.09	0	0	0	0	0		0.06	0	0.03	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes ruthae*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes sierra*	0.19	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta					0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta					0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta					0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta					0	0	0	0	0	0	0	0		0	0	0	0	0	0	0.04	0	0
Insects	Animalia	Arthropoda	Ostracoda	Podocopida				0.07	0	0.24	0.08	15.82	0	10.24	0		0	0	0	0	1.91	0	0	0	0
Insects	Animalia	Arthropoda	Ostracoda					0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0

Appendix D1: eDNA Metabarcoding Results from Samples Run against the Insects Primer, June 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell US Treaty			Bell DS Treaty			Blank #1	Blank #2	Blank #3
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Apataniidae	*Allomyia*	*Allomyia tripunctata*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Brachycentridae	*Micrasema*	*Micrasema bactro*	0	0.34	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma hoodi*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma roafi*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Cryptochia*	*Cryptochia pilosa*	0	0	0.41	0	0	0.41			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Ecclisocosmoecus*	*Ecclisocosmoecus scylla*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Hesperophylax*	*Hesperophylax designatus*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Lenarchus*	*Lenarchus vastus*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila rickeri*	0.5	0	0	0.03	0	0			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila verrula*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes ruthae*	0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes sierra*	0.22	0.24	0	0	0.77	0			
Insects	Animalia	Arthropoda	Insecta					0	0.2	0	0.09	0	0.23			
Insects	Animalia	Arthropoda	Insecta					0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta					0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Insecta					0	0	0	0	0	0			
Insects	Animalia	Arthropoda	Ostracoda	Podocopida				0	0	1.33	0.45	0	0.48			
Insects	Animalia	Arthropoda	Ostracoda					0	0	0	0	0	0.18			

Notes:
Blank cells indicate samples which failed to amplify and therefore eDNA metabarcoding was not successful

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US of S. Unuk			Unuk DS of S. Unuk		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Lumbricus*	*Lumbricus rubellus*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Lumbricus*	*Lumbricus rubellus*	100.00		0	0				0						
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Fridericia*				0	0				0						
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Marionina*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Nais*				0	0				0						
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae					0	0				0						
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae					0	0				0						
Insects	Animalia	Annelida	Clitellata	Lumbriculida	Lumbriculidae	*Lumbriculus*				0	0				0.01						
Insects	Animalia	Annelida	Clitellata							0.86	0				0.03						
Insects	Animalia	Annelida	Clitellata							0	0				0						
Insects	Animalia	Arthropoda	Arachnida						There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Dicyrtomidae	*Dicyrtoma*				0	0				0						
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Dicyrtomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0.04						
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Sminthurididae	*Sminthurides*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Acanthocyclops*	*Acanthocyclops capillatus*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Diacyclops*	*Diacyclops nanus*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Nebria*	*Nebria gebleri*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Nebria*				0	0				0.16						
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Trechus*	*Trechus chalybeus*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dermestidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Agabus*	*Agabus tristis*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elmidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Deinopteroloma*	*Deinopteroloma subcostatum*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Neothetalia*	*Neothetalia pallitarsis*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum consimile*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum rotundicolle*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Orobanus*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Quedius*	*Quedius velox*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Stictalia*				0	0				0						

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US			Sulphurets DS			Teigen US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Lumbricus*	*Lumbricus rubellus*																		
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Lumbricus*	*Lumbricus rubellus*																		
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Fridericia*																			
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Marionina*																			
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae																				
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Nais*																			
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae																				
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae																				
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae																				
Insects	Animalia	Annelida	Clitellata	Lumbriculida	Lumbriculidae	*Lumbriculus*																			
Insects	Animalia	Annelida	Clitellata																						
Insects	Animalia	Annelida	Clitellata																						
Insects	Animalia	Arthropoda	Arachnida																						
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Dicyrtomidae	*Dicyrtoma*																			
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Dicyrtomidae																				
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Sminthurididae	*Sminthurides*																			
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Acanthocyclops*	*Acanthocyclops capillatus*																		
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Diacyclops*	*Diacyclops nanus*																		
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae																				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Nebria*	*Nebria gebleri*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Nebria*																			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Trechus*	*Trechus chalybeus*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dermestidae																				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Agabus*	*Agabus tristis*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae																				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elmidae																				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Deinopteroloma*	*Deinopteroloma subcostatum*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Neothetalia*	*Neothetalia pallitarsis*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum consimile*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum rotundicolle*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Orobanus*																			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Quedius*	*Quedius velox*																		
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Stictalia*																			

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Teigen DS			S. Teigen US2			S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Lumbricus*	*Lumbricus rubellus*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Lumbricus*	*Lumbricus rubellus*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Fridericia*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Marionina*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Nais*		0		0					0				0	0.01	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae			0		0					1.63				0	0.94	0	0.05	0.07	0.46	0.64
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata	Lumbriculida	Lumbriculidae	*Lumbriculus*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata					0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Annelida	Clitellata					0.03		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Arachnida					0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Dicyrtomidae	*Dicyrtoma*		0		0					0				0	0	0	0	0	0.09	0
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Dicyrtomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Sminthurididae	*Sminthurides*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Acanthocyclops*	*Acanthocyclops capillatus*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Diacyclops*	*Diacyclops nanus*	0		0					0				0	0.04	0	0	0	0	0
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae			0		0					0				0	0	0	0	0	0.04	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Nebria*	*Nebria gebleri*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Nebria*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Trechus*	*Trechus chalybeus*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dermestidae			0		0					0				0.06	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Agabus*	*Agabus tristis*	0		0					0				0	0.07	0	0.01	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae			0		0					0				0	0	0	0.01	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elmidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Deinopteroloma*	*Deinopteroloma subcostatum*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Neothetalia*	*Neothetalia pallitarsis*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum consimile*	0		0					0				0	0	0	0	0	0.18	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum rotundicolle*	0		0					0				0	0.51	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Orobanus*		0		0					0				0	0	0	0	0	0.36	0.2
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Quedius*	*Quedius velox*	0		0					0				0	0	0	0	0	0.06	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Stictalia*		0		0					0				0	0	0	0	0	0	0

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Lumbricus*	*Lumbricus rubellus*	0	0	0														0.02	0.09
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Lumbricus*	*Lumbricus rubellus*	0	0	0														0.05	0.02
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Fridericia*		0	0	0														0.04	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Marionina*		0	0	0														0.01	0
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae			0	0	0														0	0.03
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Nais*		0	0	0														0	0
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae			0	0.13	1.12														0.77	0.43
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae			0	0.02	0.17														0	0
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae			0	0	0.04														0	0
Insects	Animalia	Annelida	Clitellata	Lumbriculida	Lumbriculidae	*Lumbriculus*		0	0	0														0	0
Insects	Animalia	Annelida	Clitellata					0	0	0														0.03	0
Insects	Animalia	Annelida	Clitellata					0	0	0														0.02	0
Insects	Animalia	Arthropoda	Arachnida					0	0	0														0	0.02
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Dicyrtomidae	*Dicyrtoma*		0	0	0														0	0
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Dicyrtomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Sminthurididae	*Sminthurides*		0	0	0														0.06	0
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Acanthocyclops*	*Acanthocyclops capillatus*	0	0	0.02														0	0
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Diacyclops*	*Diacyclops nanus*	0	0	0.01														0	0
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Nebria*	*Nebria gebleri*	0	0	0														0.03	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Nebria*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Trechus*	*Trechus chalybeus*	0	0	0														0.03	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dermestidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Agabus*	*Agabus tristis*	0	0.06	0														0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae			0	0.68	0.03														0.16	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elmidae			0	0	0														0	0.16
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Deinopteroloma*	*Deinopteroloma subcostatum*	0	0	0.02														0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Neothetalia*	*Neothetalia pallitarsis*	0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum consimile*	0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum rotundicolle*	0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Orobanus*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Quedius*	*Quedius velox*	0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Stictalia*		0	0.1	0														0	0

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4	Blank 5	Blank 6	Blank 7	Blank 8	Blank 9
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Lumbricus*	*Lumbricus rubellus*												
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Lumbricus*	*Lumbricus rubellus*												
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Fridericia*													
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Marionina*													
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae														
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Nais*													
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae														
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae														
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae														
Insects	Animalia	Annelida	Clitellata	Lumbriculida	Lumbriculidae	*Lumbriculus*													
Insects	Animalia	Annelida	Clitellata																
Insects	Animalia	Annelida	Clitellata																
Insects	Animalia	Arthropoda	Arachnida																
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Dicyrtomidae	*Dicyrtoma*													
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Dicyrtomidae														
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Sminthurididae	*Sminthurides*													
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Acanthocyclops*	*Acanthocyclops capillatus*												
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Diacyclops*	*Diacyclops nanus*												
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae														
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Nebria*	*Nebria gebleri*												
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Nebria*													
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Trechus*	*Trechus chalybeus*												
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dermestidae														
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Agabus*	*Agabus tristis*												
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae														
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elmidae														
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Deinopteroloma*	*Deinopteroloma subcostatum*												
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Neothetalia*	*Neothetalia pallitarsis*												
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum consimile*												
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum rotundicolle*												
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Orobanus*													
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Quedius*	*Quedius velox*												
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Stictalia*													

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US of S. Unuk			Unuk DS of S. Unuk		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Insecta	Coleoptera						0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Dilophus*	*Dilophus tibialis*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Brachystomatidae	*Heleodromia*	*Heleodromia chillcotti*	98.59		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chaoboridae	*Chaoborus*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*	*Ablabesmyia monilis*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Acricotopus*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*				0	0				2.9						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*	99.30		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus maturus*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus melanescens*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Conchapelopia*	*Conchapelopia pallens*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus obnixus*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus sylvestris*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus tibialis*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0.36						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*				0.03	0.12				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Dicrotendipes*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*	*Eukiefferiella claripennis*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*				0	1.74				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*	*Hydrobaenus fusistylus*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes schnelli*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*	*Metriocnemus eurynotus*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra recurvata*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra subletteorum*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	2.15				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0				0.92						

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US			Sulphurets DS			Teigen US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae																				
Insects	Animalia	Arthropoda	Insecta	Coleoptera																					
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Dilophus*	*Dilophus tibialis*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Brachystomatidae	*Heleodromia*	*Heleodromia chillcotti*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chaoboridae	*Chaoborus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*	*Ablabesmyia monilis*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Acricotopus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus maturus*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus melanescens*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Conchapelopia*	*Conchapelopia pallens*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus obnixus*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus sylvestris*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus tibialis*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Dicrotendipes*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*	*Eukiefferiella claripennis*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*	*Hydrobaenus fusistylus*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes schnelli*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*	*Metriocnemus eurynotus*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra recurvata*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra subletteorum*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Teigen DS			S. Teigen US2			S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			0		0					0				0	0	0	0	0	0	0.4
Insects	Animalia	Arthropoda	Insecta	Coleoptera				0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Dilophus*	*Dilophus tibialis*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Brachystomatidae	*Heleodromia*	*Heleodromia chillcotti*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			0		0					0				0	0.04	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chaoboridae	*Chaoborus*		0		0					0				0	0	0	0	0	0	0.1
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*	*Ablabesmyia monilis*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Acricotopus*		0		0					0				0	0.05	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*		0		0					0				0	0	0	0.06	0	0.03	0.16
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*		0		0					0				0	0	0.02	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus maturus*	0		0					0				0	0.02	0	0.03	0	0	0.01
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus melanescens*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Conchapelopia*	*Conchapelopia pallens*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*		0		0					0				0	0	0	0	0	0	0.01
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus obnixus*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus sylvestris*	0		0					0				0	0.18	0	0	0	0.03	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus tibialis*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		0		0					0				0	0	0	0	0	0.05	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		0		0					0				0	0.18	0.04	0.03	0	0.1	0.26
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0		0					1.19				0	6.93	0.28	0.46	94.18	2.72	4.34
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0		0					0				0	0	0	0.02	2.84	0.47	0.72
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		3.54		0					0				0	0	0	0	0.02	0.58	0.57
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0		0					0				0	0.18	0.01	0.05	0	0.23	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0.37		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0.01		0					0				0	0	0	0	0	0.05	0.01
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Dicrotendipes*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*		0		0					0				0	0.43	0.02	0.01	0	0.09	0.18
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*	*Eukiefferiella claripennis*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*		0.15		0					0				0	0	0	0	0	0	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*		0		0					0				0	0	0	0	0.01	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		0		0					0				0	0.54	0	0.04	0	0.4	0.28
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		0		0					0				0	0	0	0.01	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*	*Hydrobaenus fusistylus*	0		0					0				0	0.1	0	0.02	0	0.05	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*		0.64		0					0				0	0	0	0	0	0	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes schnelli*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0		0					0				0	0	0	0.02	0	0.08	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0		0					0				0	0	0	0	0	0.01	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0		0					0				0	0	0	0	0	0	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0		0					0				0	0	0.01	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*	*Metriocnemus eurynotus*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		0		0					0				0	0.03	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*	0		0					0				0	0	0	0	0	0.02	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*	0		0					0				0	0.01	0	0.02	0	0.02	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra recurvata*	0		0					0				0	1.84	0.08	0	0	1.14	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra subletteorum*	0		0					0				0	0.55	0.05	0.13	0	0.94	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		4.42		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0		0					4.78				0	3.19	0.15	0.26	0.06	0.82	2.54
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0		0					2.48				0	2.39	0.04	0.12	0	0.2	1.48
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0		0					0				0	0	0	0	0	0.05	1.52

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Coleoptera				0	0.07	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*		0	0	0														0	0.19
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Dilophus*	*Dilophus tibialis*	0	0	0														0.03	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Brachystomatidae	*Heleodromia*	*Heleodromia chillcotti*	0	0	0														0.02	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			0	0	0														0.02	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chaoboridae	*Chaoborus*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*	*Ablabesmyia monilis*	0	0.14	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Acricotopus*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*		0	2.54	0.28														0	0.32
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*	0	2.5	0.17														0.14	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus maturus*	0	0	0.03														0.14	0.18
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus melanescens*	0	0.13	0.09														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*		0	0	0														0.28	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Conchapelopia*	*Conchapelopia pallens*	0	0	0														0.29	0.15
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*		0	1.19	0.05														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*		0	0	0														0.01	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus obnixus*	0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus sylvestris*	0	0.26	0.02														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus tibialis*	0	0.15	0.02														0.03	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		0	0	0.15														0.11	0.16
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		0	0.04	0.32														0.01	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		0	0.07	0.03														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0	0	0.02														0.45	0.3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0	0	0														0.04	0.85
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0	1.1	0.07														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0	0	0														0.12	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0	0	0														0.18	0.19
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Dicrotendipes*		0	0	0														0.03	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*		0	0.2	0.06														0.02	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*	*Eukiefferiella claripennis*	0	0	0.32														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*		0	0	0														0.07	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		0	4.67	0.76														0.03	0.4
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		0	0.11	0														0.02	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*	*Hydrobaenus fusistylus*	0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*		0	0	0														0.64	0.24
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*		0	0.02	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes schnelli*	0	0.23	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0	0.06	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0	0	0.04														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*	*Metriocnemus eurynotus*	0	0	0														0.13	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		0	0.01	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*	0	0.18	20.46														0	0.1
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*	0	0.25	0.2														0.06	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra recurvata*	0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra subletteorum*	0	8.7	2.77														0.8	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	3.72	0.45														0.21	0.3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0														0.02	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0.54	0.39														0.91	0.14
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0														0	0

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4	Blank 5	Blank 6	Blank 7	Blank 8	Blank 9
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae														
Insects	Animalia	Arthropoda	Insecta	Coleoptera															
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Dilophus*	*Dilophus tibialis*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Brachystomatidae	*Heleodromia*	*Heleodromia chillcotti*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chaoboridae	*Chaoborus*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*	*Ablabesmyia monilis*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Acricotopus*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus maturus*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus melanescens*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Conchapelopia*	*Conchapelopia pallens*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus obnixus*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus sylvestris*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus tibialis*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Dicrotendipes*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*	*Eukiefferiella claripennis*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*	*Hydrobaenus fusistylus*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes schnelli*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*	*Metriocnemus eurynotus*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra recurvata*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra subletteorum*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*													

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US of S. Unuk			Unuk DS of S. Unuk		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0				0.43						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pagastia*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladopelma*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*				0	5.8				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*				0	1.71				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratanytarsus*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratanytarsus*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parorthocladius*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Polypedilum*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*	*Procladius denticulatus*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*	*Psectrocladius barbimanus*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*	*Psectrocladius platypus*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrotanypus*	*Psectrotanypus dyari*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psilometriocnemus*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Radotanypus*	*Radotanypus florens*	98.59		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*	*Rheocricotopus robacki*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*				0	0				2.25						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus bathophilus*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus miriforceps*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus niger*	98.59		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Zalutschia*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Zavrelimyia*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US			Sulphurets DS			Teigen US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pagastia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladopelma*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratanytarsus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratanytarsus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parorthocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Polypedilum*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*	*Procladius denticulatus*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*	*Psectrocladius barbimanus*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*	*Psectrocladius platypus*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrotanypus*	*Psectrotanypus dyari*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psilometriocnemus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Radotanypus*	*Radotanypus florens*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*	*Rheocricotopus robacki*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus bathophilus*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus miriforceps*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus niger*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Zalutschia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Zavrelimyia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Teigen DS			S. Teigen US2			S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0		0					0				0	0.55	0.09	0.11	0.04	2.5	1.18
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		2.15		0					0				0	0.24	0.04	0.16	0.02	0	0.12
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0		0					0				0	0.92	0.04	0.06	0	0.06	0.36
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0		0					0				0	1.02	0.06	0.06	0	0.13	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0		0					0				0	0	0	0	0	0	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0		0					0				0	0.03	0	0.01	0	0.18	0.33
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0		0					0				0	0	0	0	0	0.03	0.1
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0		0					0				0	0.16	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0		0					0				0	0.08	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0		0					0				0	0.04	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pagastia*		0		0					0				0	0.06	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladopelma*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		0		0					3.24				0	0.98	0.07	0.02	0.03	0.73	0.67
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		0		0					0				0	0	0	0	0	0	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		0		0					0				0	0.03	0	0	0	0	0.01
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratanytarsus*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratanytarsus*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parorthocladius*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Polypedilum*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*	*Procladius denticulatus*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*		0		0					0				0	0	0	0.01	0	0.06	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*	*Psectrocladius barbimanus*	0.84		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*	*Psectrocladius platypus*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		0		0					0				0	0.67	0	0.06	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		0		0					0				0	0	0	0	0	0	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrotanypus*	*Psectrotanypus dyari*	0		0					0				0	0	0	0	0.02	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psilometriocnemus*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Radotanypus*	*Radotanypus florens*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*	*Rheocricotopus robacki*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*		0		0					0				0	0.28	0.05	0.06	0	0	0.5
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*		0		0					0				0	0	0	0	0	0	0.11
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus bathophilus*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus miriforceps*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus niger*	0		0					0				0	0	0	0	0	0	0.01
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		0		0					0				0	0	0	0	0	0.26	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		0		0					0				0	0	0	0	0	0.02	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Zalutschia*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Zavrelimyia*		0		0					0				0	0	0	0	0	0	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0.02	0	0	0.55	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.08		0					16.32				0	0.65	0	0.13	0	0.26	0.22

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0.53	0.17														0.37	0.57
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0														0.38	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	1.19	0.18														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0.48	0.1														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0.7	0.03														0.31	0.21
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0.15														0.31	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0.18	0.08														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0														0	0.12
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0.22	20.75														0.12	0.32
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0.79														0	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0														0.25	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0														0.27	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0.02														0.36	1.19
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0														0.07	0.1
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0	0	0														0.02	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pagastia*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladopelma*		0	0	0														0.45	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		0	0.61	0.03														0.15	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		0	0.2	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		0	0	0														0.06	0.35
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		0	0	0.01														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratanytarsus*		0	0	0														0	1.28
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratanytarsus*		0	0	0														0	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parorthocladius*		0	0	0														0	0.16
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Polypedilum*		0	0	0														0.02	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*	*Procladius denticulatus*	0	0.19	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*		0	0.2	0.01														0.01	0.56
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*	*Psectrocladius barbimanus*	0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*	*Psectrocladius platypus*	0	0.12	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		0	0.59	0.09														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		0	0	0														0	0.24
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		0	0.1	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		0	0	0														0.05	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrotanypus*	*Psectrotanypus dyari*	0	0.71	0.12														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psilometriocnemus*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Radotanypus*	*Radotanypus florens*	0	0.27	0.02														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*	*Rheocricotopus robacki*	0	0.06	0.1														0.15	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*		0	0.74	0.06														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus bathophilus*	0	0.63	0.13														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus miriforceps*	0	0.01	0														0.09	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus niger*	0	0	0														0	0.11
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		0	1.95	0.7														0.08	0.68
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		0	0.04	0.04														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Zalutschia*		0	0	0														0.23	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Zavrelimyia*		0	0	0.02														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			100	0	0														0	0.2
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.96	0.34														0.09	0.31

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4	Blank 5	Blank 6	Blank 7	Blank 8	Blank 9
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pagastia*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladopelma*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratanytarsus*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratanytarsus*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parorthocladius*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Polypedilum*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*	*Procladius denticulatus*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*	*Psectrocladius barbimanus*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*	*Psectrocladius platypus*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrotanypus*	*Psectrotanypus dyari*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psilometriocnemus*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Radotanypus*	*Radotanypus florens*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*	*Rheocricotopus robacki*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus bathophilus*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus miriforceps*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus niger*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Zalutschia*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Zavrelimyia*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US of S. Unuk			Unuk DS of S. Unuk		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0.03				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	10.83				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	2.56				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					30.6	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	2.42				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				3.29						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0.13						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	3.02				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				1.68						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0.84				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0.68				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0.04						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	1.46	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US			Sulphurets DS			Teigen US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																				

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Teigen DS			S. Teigen US2			S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	14.35	1.23	1.73	0.12	8.28	8.79
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		100					0				0	0	0	0.01	0	0.55	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0.05	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0.68	94.5	0.03	0	0.73	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0.92	0.23	89.36	0.09	3.8	3.36
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			9.5		0					0				0	0.58	0	0.01	0	0.27	0.8
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0.29	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			4.39		0					1.64				0	1.94	0.21	0.25	0.04	4.92	2.47
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0.02	0.01	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.62		0					0.43				0	1.21	0.06	0.36	0.26	5.2	5.23
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0.48	0.21
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					3.78				0	1.01	0	0.02	0	0.26	0.74
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			5.59		0					0				0	0	0	0	0	0.09	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	2.91	0.33	0.32	0	0.76	2.72
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	3.77	0.09	0.08	0.13	0.47	0.14
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			2.52		0					0				0	0.04	0	0.01	0	0.23	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0.01	0	0	0.12
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					1.03				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					2.35				0	0.57	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0.04	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0.09	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.17		0					0.06				0	0.17	0	0.09	0	0.14	0.28
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0.01
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.42		0					0				0	0.24	0.03	0.13	0	0.39	0.4
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0.64	0	0.1	0	0.67	0.32
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0.48				0	0	0	0.01	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0.03	0	0.73
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0.56	0.05	0.07	0	0.61	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0.56	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0.81				0	0	0	0.02	0.02	0.02	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.65		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0.02	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	31.86	12.22														2.95	6.17
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0.17	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.45	23.12														0.19	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.03														2.79	2.32
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.15	0.02														0.68	1.74
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.05	7.03														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.05	0.01														2.78	2.8
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	7.78	0.79														0.91	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.88	0.18														0.07	0.14
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														2.28	3.34
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.95	0.3														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0.05	1.23
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	2.21	0														0.77	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0.22	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	1.33	0.17														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.05														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.01														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.93														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0.67	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0.24	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	1.77
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0.87	1.13
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	1.11	0.23														0.26	0.38
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0.44	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0.88	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.04	0.05														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.87														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.02														0.15	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.12	0.04														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.04														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0.37	0.43
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.39	0.03														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0.32	0

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4	Blank 5	Blank 6	Blank 7	Blank 8	Blank 9
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae														

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US of S. Unuk			Unuk DS of S. Unuk		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					0	0				0					

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US			Sulphurets DS			Teigen US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae																			

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Teigen DS			S. Teigen US2			S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.24		0					0				0	0	0.02	0.01	0	0.07	0.17
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.39		0					0				0	0	0	0	0.01	0	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0.07				0	0.36	0.02	0	0	0	0.29
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0.25	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0.11
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0.36	0.19
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0.03	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0.03				0	0	0	0.01	0	0.18	0.01
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0.38	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0.03	0.02	0	0	0.22
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0.03	0	0.05	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0.18	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.25		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0.23	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0.03	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.12		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0.01	0	0	0	0.1
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0.15	0	0	0	0.07	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0.06				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.02		0					0				0	0	0	0	0	0	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0.01	0	0	0.07	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0.01	0	0	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0.02	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0.02	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0.01
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0.01	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0.02	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0.01	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culex*		0		0					0				0.02	0	0	0	0	0	0

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0.4	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0.04	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0.36	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0.12	0.89
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.27	0.02														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.35	0.01														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0.23
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.14	0														0.16	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.15	0.08														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0.22
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.09	0.28														0.05	0.01
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.27	0.04														0.11	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.16	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0.14	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0.07	0.27
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0.15
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0.14
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.12														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0.09	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.11	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.03														0.08	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0.06	0.13
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0.06	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.05	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0.03	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0.03	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.04														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0.02	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0.02	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0	0.01														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.02	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0	0.02	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culex*		0	0	0														0	0

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4	Blank 5	Blank 6	Blank 7	Blank 8	Blank 9
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae													

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US of S. Unuk			Unuk DS of S. Unuk		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae	*Drosophila*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Clinocera*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Antocha*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*				0	0				0.18						
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Hexatoma*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*	*Molophilus oligacanthus*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*	*Coelosia gracilis*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Sciophila*				0	0				4.12						
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Tricyphona*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia largifrontalis*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Pneumia*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Psychoda*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Ptychopteridae	*Ptychoptera*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*	*Helodon pleuralis*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Rachispoda*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Melanostoma*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Sphegina*	*Sphegina brachygaster*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae					0	1				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera						0	1.32				5.33						
Insects	Animalia	Arthropoda	Insecta	Diptera						3.47	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0.4				0						
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0				0						

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US			Sulphurets DS			Teigen US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae	*Drosophila*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Clinocera*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Antocha*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Hexatoma*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*	*Molophilus oligacanthus*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*	*Coelosia gracilis*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Sciophila*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Tricyphona*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia largifrontalis*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Pneumia*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Psychoda*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ptychopteridae	*Ptychoptera*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*	*Helodon pleuralis*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Rachispoda*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Melanostoma*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Sphegina*	*Sphegina brachygaster*																		
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*																			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae																				
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae																				
Insects	Animalia	Arthropoda	Insecta	Diptera																					
Insects	Animalia	Arthropoda	Insecta	Diptera																					
Insects	Animalia	Arthropoda	Insecta	Diptera																					
Insects	Animalia	Arthropoda	Insecta	Diptera																					
Insects	Animalia	Arthropoda	Insecta	Diptera																					
Insects	Animalia	Arthropoda	Insecta	Diptera																					
Insects	Animalia	Arthropoda	Insecta	Diptera																					
Insects	Animalia	Arthropoda	Insecta	Diptera																					
Insects	Animalia	Arthropoda	Insecta	Diptera																					
Insects	Animalia	Arthropoda	Insecta	Diptera																					
Insects	Animalia	Arthropoda	Insecta	Diptera																					
Insects	Animalia	Arthropoda	Insecta	Diptera																					
Insects	Animalia	Arthropoda	Insecta	Diptera																					
Insects	Animalia	Arthropoda	Insecta	Diptera																					
Insects	Animalia	Arthropoda	Insecta	Diptera																					
Insects	Animalia	Arthropoda	Insecta	Diptera																					
Insects	Animalia	Arthropoda	Insecta	Diptera																					
Insects	Animalia	Arthropoda	Insecta	Diptera																					
Insects	Animalia	Arthropoda	Insecta	Diptera																					
Insects	Animalia	Arthropoda	Insecta	Diptera																					
Insects	Animalia	Arthropoda	Insecta	Diptera																					

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Teigen DS			S. Teigen US2			S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae	*Drosophila*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Clinocera*		0		0					0				0	0.33	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Antocha*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*		0		0					0.03				0	0	0	0	0	0.07	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*		0		0					0				0	0	0	0	0	0.04	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Hexatoma*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*	*Molophilus oligacanthus*	0		0					0				0	0	0	0.03	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0		0					0				0	0	0.06	0.05	0	0.15	0.24
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*	*Coelosia gracilis*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Sciophila*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*		0		0					0				0	0	0	0	0	0.2	0.17
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*		0		0					0				0	0	0	0.03	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Tricyphona*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0		0					0				0	1.27	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0		0					0				0	0.68	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0		0					0				0	0	0	0	0	0.07	0.2
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia largifrontalis*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Pneumia*		0		0					0				0	0.01	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Psychoda*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ptychopteridae	*Ptychoptera*		0		0					0				0	0.11	0.03	0	0	0.14	0.18
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*	*Helodon pleuralis*	0		0					0				0	0	0	0	0	0	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*		0		0					0.05				0	0.05	0	0	0.04	0.65	0.34
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*		0		0					0.03				0	0.8	0.02	0.01	0	0.65	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*	0.29		0					0				0	0.48	0.04	0.08	0	0	0.35
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Rachispoda*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Melanostoma*		0		0					0.23				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Sphegina*	*Sphegina brachygaster*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0		0					0				0	0	0	0	0	0.11	0.1
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0		0					0				0	0	0	0	0.07	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0		0					0				0	0	0	0	0	0.14	0.48
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae			0		0					0				0	0	0	0	0	0.01	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0.15		0					4.25				0	0.14	0.03	0.03	0	1.1	0.3
Insects	Animalia	Arthropoda	Insecta	Diptera				0		0					0				0	0	0.03	0.1	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0		0					0				0	0	0	0	0	0.06	0.26
Insects	Animalia	Arthropoda	Insecta	Diptera				0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0		0					0				0	0.71	0	0.06	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0		0					0				0	0.55	0.01	0.06	0	0.88	1.15
Insects	Animalia	Arthropoda	Insecta	Diptera				0		0					0				0	0.28	0	0	0	0	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera				0		0					0				0	0	0	0	0	0	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera				0		0					0				0	0.01	0	0	0	0.07	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0		0					0				0	0.07	0	0.02	0	0.08	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera				0		0					0				0	0.34	0	0.01	0	0	0.1
Insects	Animalia	Arthropoda	Insecta	Diptera				0		0					0				0	0	0	0	0	0	0.15
Insects	Animalia	Arthropoda	Insecta	Diptera				0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0		0					0				0	0	0	0	0	0.06	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0		0					0				0	0	0	0	0	0.09	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0		0					0				0	0.09	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0		0					0				0	0.05	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0		0					0				0	0	0	0	0	0	0

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae			0	0	0														1.71	2.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae	*Drosophila*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae			0	0.26	0.01														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Clinocera*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Antocha*		0	0	0														0.07	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*		0	0	0														0.01	0.12
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Hexatoma*		0	0	0														0.03	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*	*Molophilus oligacanthus*	0	0.59	0.06														0.54	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0	0.48	0														0.12	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0	0.13	0.01														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*	*Coelosia gracilis*	0	0	0														0.25	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Sciophila*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Tricyphona*		0	0.46	0.04														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0	0.5	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0	0.04	0.05														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0	0.38	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0	0.06	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0	0.06	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia largifrontalis*	0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Pneumia*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Psychoda*		0	0.01	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Ptychopteridae	*Ptychoptera*		0	0.29	0.1														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*	*Helodon pleuralis*	0	0	0														0.08	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*		0	0.44	0														0.04	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*	0	0.05	0														0	0.1
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		0	0	0														0.1	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		0	0	0														0.13	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Rachispoda*		0	0.2	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae			0	0.76	0.12														0.19	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae			0	0.05	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Melanostoma*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Sphegina*	*Sphegina brachygaster*	0	0	0														0	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0	0.02	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0	0.12	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0	0.43	0.01														0.38	0.15
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0	0	0.01														0.14	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0	0	0.02														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0														0.9	0.42
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0														0.88	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0														0.37	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0.5	0														0.69	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0.29	0.04														0.08	0.23
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0.02														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0														0	0.2
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0.2	0.04														0.05	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0.1	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0														0.03	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0.03														0	0

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4	Blank 5	Blank 6	Blank 7	Blank 8	Blank 9
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae	*Drosophila*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Clinocera*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Antocha*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Hexatoma*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*	*Molophilus oligacanthus*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*	*Coelosia gracilis*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Sciophila*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Tricyphona*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia largifrontalis*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Pneumia*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Psychoda*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Ptychopteridae	*Ptychoptera*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*	*Helodon pleuralis*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Rachispoda*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Melanostoma*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Sphegina*	*Sphegina brachygaster*												
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*													
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae														
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae														
Insects	Animalia	Arthropoda	Insecta	Diptera															
Insects	Animalia	Arthropoda	Insecta	Diptera															
Insects	Animalia	Arthropoda	Insecta	Diptera															
Insects	Animalia	Arthropoda	Insecta	Diptera															
Insects	Animalia	Arthropoda	Insecta	Diptera															
Insects	Animalia	Arthropoda	Insecta	Diptera															
Insects	Animalia	Arthropoda	Insecta	Diptera															
Insects	Animalia	Arthropoda	Insecta	Diptera															
Insects	Animalia	Arthropoda	Insecta	Diptera															
Insects	Animalia	Arthropoda	Insecta	Diptera															
Insects	Animalia	Arthropoda	Insecta	Diptera															
Insects	Animalia	Arthropoda	Insecta	Diptera															
Insects	Animalia	Arthropoda	Insecta	Diptera															
Insects	Animalia	Arthropoda	Insecta	Diptera															
Insects	Animalia	Arthropoda	Insecta	Diptera															
Insects	Animalia	Arthropoda	Insecta	Diptera															
Insects	Animalia	Arthropoda	Insecta	Diptera															
Insects	Animalia	Arthropoda	Insecta	Diptera															
Insects	Animalia	Arthropoda	Insecta	Diptera															
Insects	Animalia	Arthropoda	Insecta	Diptera															
Insects	Animalia	Arthropoda	Insecta	Diptera															

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US of S. Unuk			Unuk DS of S. Unuk		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0				0						
Insects	Animalia	Arthropoda	Insecta	Diptera						0	0				0						
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis tricaudatus*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella dorothea*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus grandis*	99.30		4.92	2.35				0.04						
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*				5.68	2.73				0.17						
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae					1.57	9.25				4.72						
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae					6.92	0.93				1.16						
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0.2				0						
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera						0	0				0						
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera						0	0				0						
Insects	Animalia	Arthropoda	Insecta	Hemiptera					There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Acleris*				0	0				0.03						
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius ovalis*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Arsapnia*	*Arsapnia pileata*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Bolshecapnia*	*Bolshecapnia milami*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia gracilaria/Capnia petila*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia cheama*	98.59	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia coloradensis*	98.57		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia confusa*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia petila*	100.00		0	2.31				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	1.86				36.02						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*				0	0				0						

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US			Sulphurets DS			Teigen US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera																					
Insects	Animalia	Arthropoda	Insecta	Diptera																					
Insects	Animalia	Arthropoda	Insecta	Diptera																					
Insects	Animalia	Arthropoda	Insecta	Diptera																					
Insects	Animalia	Arthropoda	Insecta	Diptera																					
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*																			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis tricaudatus*																		
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*																		
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella dorothea*																		
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*																		
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*																			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*																			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus grandis*																		
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*																			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*																			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae																				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae																				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae																				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae																				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*																			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera																					
Insects	Animalia	Arthropoda	Insecta	Hemiptera																					
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Acleris*																			
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius ovalis*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Arsapnia*	*Arsapnia pileata*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Bolshecapnia*	*Bolshecapnia milami*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia gracilaria/Capnia petila*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia cheama*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia coloradensis*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia confusa*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia petila*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*																			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*																			

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Teigen DS			S. Teigen US2			S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera				0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0		0					0				0	0	0	0.02	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0		0					0				0	0	0.02	0.01	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis tricaudatus*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*	0.18		0					0				0	0	0	0	0	0.02	0.02
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella dorothea*	0.02		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*	0.04		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus grandis*	2.13		0					0				0	0	0	0	0.01	0.42	0.23
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*		2.43		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*		0.44		0					0				0	0.31	0.02	0.25	0.01	0.43	0.31
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			5.9		0					0				0	0.03	0	0	0.02	0.94	0.72
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			0.05		0					0				0	0.1	0	0	0	0.29	0.28
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			0		0					0.12				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*		0.04		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera				0		0					0.16				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Hemiptera				0		0					0				0	0	0	0	0	0.01	0
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Acleris*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius ovalis*	0		0					0				0	0.06	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Arsapnia*	*Arsapnia pileata*	0		0					0				0	0	0.01	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Bolshecapnia*	*Bolshecapnia milami*	0		0					0				0	0.43	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia gracilaria/Capnia petila*	0		0					0.3				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia cheama*	1.42		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia coloradensis*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia confusa*	0		0					0				0	0	0	0	0	0	0.05
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia petila*	0		0					0.02				0	0.28	0	0.02	0	0.08	0.13
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		0.04		0					27.37				99.92	9.43	0.35	0.91	0.25	12.82	11.87
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		0.97		0					1.09				0	0.28	0	0	0	0.58	0

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0														0.03	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0														0.02	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0														0.01	0
Insects	Animalia	Arthropoda	Insecta	Diptera				0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis tricaudatus*	0	0	0														0	0.02
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*	0	0	0														0.16	0.12
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella dorothea*	0	0	0														0.02	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*	0	0	0														0.05	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		0	0	0														0.03	0.05
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		0	0	0														0.01	0.02
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus grandis*	0	0	0														0.95	1.39
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*		0	0	0														7.97	6.51
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*		0	0	0														4.84	5.86
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			0	0	0														0.79	0.19
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			0	0	0														2.14	2.87
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			0	0	0														0.17	0.44
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera				0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Hemiptera				0	0	0.02														0	0
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Acleris*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius ovalis*	0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Arsapnia*	*Arsapnia pileata*	0	0	0														0.03	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Bolshecapnia*	*Bolshecapnia milami*	0	0	0														0.25	0.94
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia gracilaria/Capnia petila*	0	0	0														0	0.04
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia cheama*	0	0	0														1.73	2.5
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia coloradensis*	0	0	0.1														1.16	0.85
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia confusa*	0	0	0														0.86	0.28
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia petila*	0	0	0														0.11	0.22
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		0	1.58	0.16														2.79	3.83
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		0	0	0														0.42	0.35

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4	Blank 5	Blank 6	Blank 7	Blank 8	Blank 9
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Diptera															
Insects	Animalia	Arthropoda	Insecta	Diptera															
Insects	Animalia	Arthropoda	Insecta	Diptera															
Insects	Animalia	Arthropoda	Insecta	Diptera															
Insects	Animalia	Arthropoda	Insecta	Diptera															
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*													
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis tricaudatus*												
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*												
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella dorothea*												
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*												
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*													
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*													
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus grandis*												
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*													
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*													
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae														
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae														
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae														
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae														
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*													
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera															
Insects	Animalia	Arthropoda	Insecta	Hemiptera															
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Acleris*													
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius ovalis*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Arsapnia*	*Arsapnia pileata*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Bolshecapnia*	*Bolshecapnia milami*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia gracilaria/Capnia petila*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia cheama*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia coloradensis*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia confusa*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia petila*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*													
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*													

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US of S. Unuk			Unuk DS of S. Unuk		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Eucapnopsis*	*Eucapnopsis brevicauda*	99.30		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia spenceri*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Utacapnia*	*Utacapnia columbiana/Utacapnia trava*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Alloperla*	*Alloperla serrata*	98.59		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*	*Plumiperla diversa*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*				0	2.61				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa borealis*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa coloradensis*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa fidelis*	99.30		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa revelstoka*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Despaxia*	*Despaxia augusta*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra projecta*	100.00		0.73	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta decepta*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta delicatula*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Soyedina*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes/Zapada oregonensis*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*	100.00		0	0				2.22						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada columbiana*	100.00		13.58	13.66				7.9						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada frigida*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	100.00		14.95	5.99				6.56						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	2.73				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Diura/Isoperla*	*Diura bicaudata/Isoperla sobria*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla petersoni*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla sordida*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*	100.00		0	0.04				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*	98.59		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*				13.39	20.23				18.65						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*				0	0				0						

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US			Sulphurets DS			Teigen US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*																			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*																			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*																			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Eucapnopsis*	*Eucapnopsis brevicauda*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia spenceri*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Utacapnia*	*Utacapnia columbiana/Utacapnia trava*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae																				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Alloperla*	*Alloperla serrata*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*	*Plumiperla diversa*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*																			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa borealis*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa coloradensis*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa fidelis*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa revelstoka*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*																			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Despaxia*	*Despaxia augusta*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra projecta*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta decepta*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta delicatula*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Soyedina*																			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes/Zapada oregonensis*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada columbiana*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada frigida*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae																				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Diura/Isoperla*	*Diura bicaudata/Isoperla sobria*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla petersoni*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla sordida*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*																			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae																				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*																			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*																			

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Teigen DS			S. Teigen US2			S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		0		0					0				0	0.16	0	0	0	0	0.13
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		0		0					0				0	0	0	0	0	0	0.09
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Eucapnopsis*	*Eucapnopsis brevicauda*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia spenceri*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Utacapnia*	*Utacapnia columbiana/Utacapnia trava*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae			0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Alloperla*	*Alloperla serrata*	0		0					0				0	0	0	0	0	0	0.05
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*	*Plumiperla diversa*	0		0					0				0	0.11	0	0.01	0	0.05	0.07
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*		0		0					2.56				0	0.35	0.03	0.03	0.01	0	0.28
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa borealis*	0		0					0				0	0.01	0	0	0	0	0.04
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa coloradensis*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa fidelis*	0		0					0				0	1.44	0	0.03	0.04	0.38	0.22
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa revelstoka*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*		0		0					0				0	0	0	0	0	0.03	0.09
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Despaxia*	*Despaxia augusta*	0		0					0				0	0.39	0	0.06	0	0.5	0.32
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra projecta*	0		0					1.89				0	0.1	0	0	0	0.02	0.04
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta decepta*	0		0					0				0	1.18	0.07	0.11	0	1.06	0.46
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta delicatula*	0		0					0				0	0	0	0	0	0	0.01
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Soyedina*		0		0					0.48				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes/Zapada oregonensis*	0		0					0				0	3.15	0.15	0.23	0.07	2.85	1.15
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*	0.34		0					7.61				0	0.91	0.15	0.48	0.13	1.88	1.56
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*	0.24		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada columbiana*	6.02		0					4.66				0	4.86	0.1	0.41	0.24	6.54	5.87
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada frigida*	0		0					0				0	0.17	0	0	0	0	0.12
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	3.28		0					7.87				0	9.8	0.54	1.39	0.42	9.8	8.21
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	0		0					0				0	2.47	0.02	0.11	0.06	0.59	0.09
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae			0		0					0				0	0.11	0	0	0	0.08	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Diura/Isoperla*	*Diura bicaudata/Isoperla sobria*	0		0					0				0	0	0	0	0	0	0.03
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla petersoni*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla sordida*	0		0					0.02				0	0.13	0.02	0	0.02	0.25	0.13
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*	0.18		0					0				0	0	0	0	0	0.05	0.05
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*	0.02		0					0				0	0.05	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		2.03		0					0				0	0	0	0.05	0	0.02	0.3
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae			0.03		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*		23.76		0					0.65				0	0.87	0.03	0.12	0.06	1.45	2.01
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*		0		0					0				0	0	0	0.03	0	0.07	0

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		0	0	0														0.05	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Eucapnopsis*	*Eucapnopsis brevicauda*	0	0	0														0.08	0.11
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia spenceri*	0	0	0														0.41	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Utacapnia*	*Utacapnia columbiana/Utacapnia trava*	0	0	0														0.55	0.57
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae			0	0	0														0	0.29
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Alloperla*	*Alloperla serrata*	0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*	*Plumiperla diversa*	0	0	0														0.12	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*		0	0.88	0														0.34	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa borealis*	0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa coloradensis*	0	0	0														0.64	0.2
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa fidelis*	0	0.3	0														0	0.16
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa revelstoka*	0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Despaxia*	*Despaxia augusta*	0	0	0														0.08	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra projecta*	0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta decepta*	0	0.07	0.1														0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta delicatula*	0	0.32	0														0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Soyedina*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes/Zapada oregonensis*	0	0	0														0.05	0.72
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*	0	0.19	0.02														0.47	1.46
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*	0	0	0														0.58	0.11
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada columbiana*	0	0.84	0														1.41	0.67
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada frigida*	0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	0	0.3	0														13.89	9.34
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	0	0	0														1.6	0.09
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Diura/Isoperla*	*Diura bicaudata/Isoperla sobria*	0	0.27	0.11														1.67	1.56
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla petersoni*	0	0	0														0.11	0.02
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla sordida*	0	0	0														0	0.05
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*	0	0	0														0.34	0.87
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*	0	0	0														0.03	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		0	0	0														0.07	0.11
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae			0	0	0														0	0.07
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*		0	0	0														14.47	15.58
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*		0	0	0														0.77	0.16

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4	Blank 5	Blank 6	Blank 7	Blank 8	Blank 9
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*													
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*													
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*													
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Eucapnopsis*	*Eucapnopsis brevicauda*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia spenceri*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Utacapnia*	*Utacapnia columbiana/Utacapnia trava*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae														
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Alloperla*	*Alloperla serrata*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*	*Plumiperla diversa*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*													
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa borealis*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa coloradensis*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa fidelis*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa revelstoka*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*													
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Despaxia*	*Despaxia augusta*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra projecta*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta decepta*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta delicatula*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Soyedina*													
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes/Zapada oregonensis*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada columbiana*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada frigida*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae														
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Diura/Isoperla*	*Diura bicaudata/Isoperla sobria*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla petersoni*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla sordida*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*													
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae														
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*													
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*													

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US of S. Unuk			Unuk DS of S. Unuk		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae					0	0				0						
Insects	Animalia	Arthropoda	Insecta	Plecoptera						1.78	0.52				0.26						
Insects	Animalia	Arthropoda	Insecta	Psocodea	Caeciliusidae	*Valenzuela*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Psocodea	Mesopsocidae	*Mesopsocus*				0	0				0						
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma pluviale/Lepidostoma rayneri*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma roafi*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Ecclisocosmoecus*	*Ecclisocosmoecus scylla*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Hesperophylax*	*Hesperophylax designatus*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Lenarchus*	*Lenarchus vastus*	100.00		0	0				0						
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Psychoglypha*	*Psychoglypha alascensis/Psychoglypha subborealis*	99.30	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes sierra*	100.00		0.05	0				0						
Insects	Animalia	Arthropoda	Insecta							0	0				0						
Insects	Animalia	Arthropoda	Ostracoda	Podocopida	Candonidae	*Fabaeformiscandona*	*Fabaeformiscandona rectangulata*	99.30	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						
Insects	Animalia	Arthropoda	Ostracoda	Podocopida					There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0	0				0						

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US			Sulphurets DS			Teigen US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*																			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*																		
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae																				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae																				
Insects	Animalia	Arthropoda	Insecta	Plecoptera																					
Insects	Animalia	Arthropoda	Insecta	Psocodea	Caeciliusidae	*Valenzuela*																			
Insects	Animalia	Arthropoda	Insecta	Psocodea	Mesopsocidae	*Mesopsocus*																			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma pluviale/Lepidostoma rayneri*																		
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma roafi*																		
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Ecclisocosmoecus*	*Ecclisocosmoecus scylla*																		
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Hesperophylax*	*Hesperophylax designatus*																		
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Lenarchus*	*Lenarchus vastus*																		
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Psychoglypha*	*Psychoglypha alascensis/Psychoglypha subborealis*																		
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes sierra*																		
Insects	Animalia	Arthropoda	Insecta																						
Insects	Animalia	Arthropoda	Ostracoda	Podocopida	Candonidae	*Fabaeformiscandona*	*Fabaeformiscandona rectangulata*																		
Insects	Animalia	Arthropoda	Ostracoda	Podocopida																					

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Teigen DS			S. Teigen US2			S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*		0.08		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*	12.4		0					0.16				0	1.48	0.26	0.26	0.43	7.88	12.81
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae			0		0					0				0	0	0	0	0	0.27	0.18
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae			0.03		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera				0.33		0					0				0	0.75	0.02	0.06	0.07	1.09	0.72
Insects	Animalia	Arthropoda	Insecta	Psocodea	Caeciliusidae	*Valenzuela*		0		0					0				0	0.04	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Psocodea	Mesopsocidae	*Mesopsocus*		0.07		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma pluviale/Lepidostoma rayneri*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma roafi*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Ecclisocosmoecus*	*Ecclisocosmoecus scylla*	0		0					0				0	0.17	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Hesperophylax*	*Hesperophylax designatus*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Lenarchus*	*Lenarchus vastus*	0		0					0.04				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Psychoglypha*	*Psychoglypha alascensis/Psychoglypha subborealis*	0		0					0				0	0	0	0	0	0.02	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes sierra*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Insecta					0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Ostracoda	Podocopida	Candonidae	*Fabaeformiscandona*	*Fabaeformiscandona rectangulata*	0		0					0				0	0	0	0	0	0	0
Insects	Animalia	Arthropoda	Ostracoda	Podocopida				0		0					0				0	0	0.05	0.14	0	0.47	1.04

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*	0	0	0														0.69	1.83
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae			0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Plecoptera				0	0	0														0.18	1.33
Insects	Animalia	Arthropoda	Insecta	Psocodea	Caeciliusidae	*Valenzuela*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Psocodea	Mesopsocidae	*Mesopsocus*		0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma pluviale/Lepidostoma rayneri*	0	0	0														0	0.01
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma roafi*	0	0.22	0														0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Ecclisocosmoecus*	*Ecclisocosmoecus scylla*	0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Hesperophylax*	*Hesperophylax designatus*	0	0.12	0														0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Lenarchus*	*Lenarchus vastus*	0	0.04	0														0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Psychoglypha*	*Psychoglypha alascensis/Psychoglypha subborealis*	0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes sierra*	0	0	0														0	0
Insects	Animalia	Arthropoda	Insecta					0	0.1	0														0.09	0
Insects	Animalia	Arthropoda	Ostracoda	Podocopida	Candonidae	*Fabaeformiscandona*	*Fabaeformiscandona rectangulata*	0	0.01	0														0	0
Insects	Animalia	Arthropoda	Ostracoda	Podocopida				0	0.79	0.04														0.24	0

Appendix D2: eDNA Metabarcoding Results from Samples Run against the Insects Primer, November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4	Blank 5	Blank 6	Blank 7	Blank 8	Blank 9
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*													
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*												
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae														
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae														
Insects	Animalia	Arthropoda	Insecta	Plecoptera															
Insects	Animalia	Arthropoda	Insecta	Psocodea	Caeciliusidae	*Valenzuela*													
Insects	Animalia	Arthropoda	Insecta	Psocodea	Mesopsocidae	*Mesopsocus*													
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma pluviale/Lepidostoma rayneri*												
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma roafi*												
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Ecclisocosmoecus*	*Ecclisocosmoecus scylla*												
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Hesperophylax*	*Hesperophylax designatus*												
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Lenarchus*	*Lenarchus vastus*												
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Psychoglypha*	*Psychoglypha alascensis/Psychoglypha subborealis*												
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes sierra*												
Insects	Animalia	Arthropoda	Insecta																
Insects	Animalia	Arthropoda	Ostracoda	Podocopida	Candonidae	*Fabaeformiscandona*	*Fabaeformiscandona rectangulata*												
Insects	Animalia	Arthropoda	Ostracoda	Podocopida															

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US of S. Unuk		
										June	September	October	June	September	October	June	September	October
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Bimastos*	*Bimastos rubidus*	99.36	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Bimastos*	*Bimastos rubidus*	98.08	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Bimastos*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Cognettia*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Marionina*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida						-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida					There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata							-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata							-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata							-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata							-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata							-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata							-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata							-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Polychaeta	Polychaeta ord.	Capitellidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	0.05	-	-
Insects	Animalia	Arthropoda	Arachnida	Araneae	Clubionidae	*Clubiona*	*Clubiona norvegica*	100.00		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Araneae	Dictynidae	*Dictyna*	*Dictyna major*	100.00		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Araneae	Tetragnathidae	*Tetragnatha*	*Tetragnatha versicolor*	99.04		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Sarcoptiformes	Nanorchestidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Lebertiidae	*Lebertia*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Bembidion*	*Bembidion planatum*	100.00		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Nitidulidae	*Glischrochilus*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Amphichroum*	*Amphichroum maculatum*	99.04		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Brillia*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*	*Chaetocladius holmgreni*	99.66		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet		Sulphurets US		
								June	September	October	June	September	October	June	September	October	June	October	June	September	October
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Bimastos*	*Bimastos rubidus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Bimastos*	*Bimastos rubidus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Bimastos*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Cognettia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Marionina*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae			0.26	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida				-	-	-	-	-	-	0.83	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata					-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata					-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata					-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata					-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata					-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata					-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Polychaeta	Polychaeta ord.	Capitellidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Araneae	Clubionidae	*Clubiona*	*Clubiona norvegica*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Araneae	Dictynidae	*Dictyna*	*Dictyna major*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Araneae	Tetragnathidae	*Tetragnatha*	*Tetragnatha versicolor*	-	-	-	-	-	-	-	-	-	12.18	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Sarcoptiformes	Nanorchestidae			-	-	-	0.05	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Lebertiidae	*Lebertia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Bembidion*	*Bembidion planatum*	-	-	-	-	0.12	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Nitidulidae	*Glischrochilus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Amphichroum*	*Amphichroum maculatum*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Brillia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*	*Chaetocladius holmgreni*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	-	0.07	-	-	-	-	0.03	0.33	0.22	-	0.09	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	-	-	-	-	-	-	0.18	-	-	-	-	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulpherets DS			Teigen US			Teigen DS			S. Teigen US2			S. Teigen US1		
								June	September	October	June	September	October	June	September	October	June	September	October	June	September	October
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Bimastos*	*Bimastos rubidus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Bimastos*	*Bimastos rubidus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Bimastos*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Cognettia*		0.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Marionina*		0.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae			-	-	-	-	-	-	-	-	-	1.11	7.60	-	0.27	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Polychaeta	Polychaeta ord.	Capitellidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Araneae	Clubionidae	*Clubiona*	*Clubiona norvegica*	-	-	-	-	-	-	-	-	-	-	-	0.54	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Araneae	Dictynidae	*Dictyna*	*Dictyna major*	-	-	-	-	-	-	-	-	-	0.78	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Araneae	Tetragnathidae	*Tetragnatha*	*Tetragnatha versicolor*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Sarcoptiformes	Nanorchestidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Lebertiidae	*Lebertia*		-	-	-	-	-	-	-	-	-	-	-	0.17	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Bembidion*	*Bembidion planatum*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Nitidulidae	*Glischrochilus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Amphichroum*	*Amphichroum maculatum*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-	-	-	-	-	0.04	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Brillia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*	*Chaetocladius holmgreni*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen DS		N. Treaty US2		N. Treaty US1		N. Treaty DS			Treaty US	Treaty US N. Treaty		
								September	October	September	October	September	October	June	September	October	September	June	September	October
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Bimastos*	*Bimastos rubidus*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Bimastos*	*Bimastos rubidus*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Bimastos*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Cognettia*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Marionina*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae			-	-	-	-	-	-	-	0.49	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida				-	-	-	-	-	-	7.55	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida				-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata					-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata					-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata					-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata					-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata					-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata					-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata					-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Polychaeta	Polychaeta ord.	Capitellidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Araneae	Clubionidae	*Clubiona*	*Clubiona norvegica*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Araneae	Dictynidae	*Dictyna*	*Dictyna major*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Araneae	Tetragnathidae	*Tetragnatha*	*Tetragnatha versicolor*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Sarcoptiformes	Nanorchestidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Lebertiidae	*Lebertia*		-	-	-	-	-	-	-	0.05	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Bembidion*	*Bembidion planatum*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Nitidulidae	*Glischrochilus*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Amphichroum*	*Amphichroum maculatum*	-	-	-	-	-	-	-	-	-	-	-	9.31	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Brillia*		-	-	-	-	-	-	0.38	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*	*Chaetocladius holmgreni*	-	-	-	-	-	-	-	-	-	-	0.23	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US Todedada			Treaty DS			Bell US Treaty		Bell DS Treaty	
								June	September	October	June	September	October	June	September	June	September
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Bimastos*	*Bimastos rubidus*	-	-	-	-	-	-	0.34	-	-	-
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Bimastos*	*Bimastos rubidus*	-	-	-	-	-	-	0.49	-	-	-
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Bimastos*		-	-	-	-	-	-	0.41	-	-	-
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Cognettia*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Marionina*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida				-	-	0.81	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida				-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata					-	-	-	-	-	-	28.55	-	-	-
Insects	Animalia	Annelida	Clitellata					-	-	-	-	-	-	0.36	-	-	-
Insects	Animalia	Annelida	Clitellata					-	-	-	-	-	-	0.46	-	-	-
Insects	Animalia	Annelida	Clitellata					-	-	-	-	-	-	0.49	-	-	-
Insects	Animalia	Annelida	Clitellata					-	-	-	-	-	-	0.54	-	-	-
Insects	Animalia	Annelida	Clitellata					-	-	-	-	-	-	0.06	-	-	-
Insects	Animalia	Annelida	Polychaeta	Polychaeta ord.	Capitellidae			-	-	-	-	-	-	-	-	0.16	-
Insects	Animalia	Arthropoda	Arachnida	Araneae	Clubionidae	*Clubiona*	*Clubiona norvegica*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Araneae	Dictynidae	*Dictyna*	*Dictyna major*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Araneae	Tetragnathidae	*Tetragnatha*	*Tetragnatha versicolor*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Sarcoptiformes	Nanorchestidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Lebertiidae	*Lebertia*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Bembidion*	*Bembidion planatum*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Nitidulidae	*Glischrochilus*		-	-	-	-	-	-	-	4.56	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Amphichroum*	*Amphichroum maculatum*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Brillia*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*	*Chaetocladius holmgreni*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	-	-	0.20	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	-	-	-	-	-	-	-	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US of S. Unuk		
										June	September	October	June	September	October	June	September	October
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*	*Eukiefferiella claripennis*	100.00		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				-	-	1.46	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				-	-	0.19	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*				-	-	-	-	-	-	2.48	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*				-	-	2.03	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parorthocladius*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pseudodiamesa*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Radotanypus*	*Radotanypus florens*	98.40		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tokunagaia*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tokunagaia*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					-	-	-	-	-	-	24.87	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	0.27	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0.14	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					-	-	-	-	-	-	5.43	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					-	-	-	-	-	-	2.33	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					-	-	-	-	-	-	-	0.10	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					-	-	-	-	-	-	0.34	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet		Sulphurets US		
								June	September	October	June	September	October	June	September	October	June	October	June	September	October
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*	*Eukiefferiella claripennis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		-	-	-	-	-	-	-	-	-	-	-	0.52	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	-	-	-	-	-	0.88	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	1.24	0.48	-	-	0.14
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0.04	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parorthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pseudodiamesa*		-	-	-	-	-	-	-	0.04	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Radotanypus*	*Radotanypus florens*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tokunagaia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tokunagaia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	1.44	-	-	-	-	-	12.22	-	24.16	0.42	1.17	2.06	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	10.95	-	0.82	-	0.50
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	3.42	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	11.60	0.88	-	-	0.18
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	6.79	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	1.62	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	0.46	-	-	0.29	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	0.44	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	0.09	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	0.10	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulpherets DS			Teigen US			Teigen DS			S. Teigen US2			S. Teigen US1		
								June	September	October	June	September	October	June	September	October	June	September	October	June	September	October
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*		-	-	-	-	-	-	-	-	-	0.83	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*	*Eukiefferiella claripennis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		-	-	-	-	-	-	-	-	-	0.06	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	-	-	-	0.23	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	-	-	-	0.19	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	-	-	-	0.34	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	-	-	-	0.18	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0.23	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	1.48	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	0.06	-	0.24	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	-	-	-	-	-	0.37	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parorthocladius*		-	-	-	-	-	-	-	-	-	0.06	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pseudodiamesa*		-	-	-	-	-	-	-	-	-	-	1.43	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Radotanypus*	*Radotanypus florens*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tokunagaia*		-	-	-	-	-	-	-	-	-	0.32	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tokunagaia*		-	-	-	-	-	-	-	0.09	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	0.04	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	10.64	2.41	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.04	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	6.94	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	0.42	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	0.05	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.52	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	0.17	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen DS		N. Treaty US2		N. Treaty US1		N. Treaty DS			Treaty US	Treaty US N. Treaty		
								September	October	September	October	September	October	June	September	October	September	June	September	October
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*	*Eukiefferiella claripennis*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	0.49	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	0.20	-	-	-	-	0.43	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0.26	0.10	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parorthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pseudodiamesa*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Radotanypus*	*Radotanypus florens*	-	-	-	-	-	-	1.18	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-	-	-	-	-	-	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tokunagaia*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tokunagaia*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	0.12	0.56	-	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	1.86	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	0.10	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	0.44	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	0.05	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	0.40	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US Todedada			Treaty DS			Bell US Treaty		Bell DS Treaty	
								June	September	October	June	September	October	June	September	June	September
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*		-	-	-	1.94	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*	*Eukiefferiella claripennis*	-	-	-	-	-	-	-	-	3.42	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	0.29	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parorthocladius*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pseudodiamesa*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Radotanypus*	*Radotanypus florens*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tokunagaia*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tokunagaia*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.17	-	1.16	-	0.09	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	0.14	-	-	-	-	1.80	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	9.26	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	0.04	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	0.39	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US of S. Unuk		
										June	September	October	June	September	October	June	September	October
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					-	-	0.19	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Hexatoma*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Limonia*	*Limonia nubeculosa*	100.00		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Helina*	*Helina annosa*	100.00		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Brevicornu*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0.83	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Exechia*	*Exechia frigida*	99.68		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Exechia*				-	-	-	-	-	-	-	-	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae					-	-	2.53	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia hirticrus*	100.00		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*				-	-	-	-	-	-	-	-	0.66
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Phora*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ragadidae	*Iteaphila*	*Iteaphila macquarti*	100.00		-	-	-	4.31	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciaridae	*Claustropyga*	*Claustropyga acanthostyla*	100.00		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciaridae	*Corynoptera*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciaridae	*Lycoriella*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciaridae					-	-	-	-	-	-	-	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet		Sulphurets US		
								June	September	October	June	September	October	June	September	October	June	October	June	September	October
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	0.22	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	0.18	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	0.04	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Hexatoma*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Limonia*	*Limonia nubeculosa*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Helina*	*Helina annosa*	-	-	-	-	-	-	-	-	-	-	21.54	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*		-	-	-	-	-	-	-	-	-	-	47.49	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae			-	-	-	-	-	-	-	-	-	-	0.55	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Brevicornu*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Exechia*	*Exechia frigida*	-	-	-	-	-	-	-	-	-	-	-	-	2.96	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Exechia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-	-	-	-	0.07	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-	-	-	-	-	-	-	-	-	0.44	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia hirticrus*	-	-	-	-	-	-	-	0.05	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	-	-	1.88	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Phora*		-	-	-	-	-	-	-	-	-	-	-	0.11	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ragadidae	*Iteaphila*	*Iteaphila macquarti*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciaridae	*Claustropyga*	*Claustropyga acanthostyla*	-	-	-	-	-	-	-	-	-	-	-	0.10	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciaridae	*Corynoptera*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciaridae	*Lycoriella*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciaridae			-	-	-	-	-	-	-	-	-	-	-	-	-	0.05

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulpherets DS			Teigen US			Teigen DS			S. Teigen US2			S. Teigen US1		
								June	September	October	June	September	October	June	September	October	June	September	October	June	September	October
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	0.29	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	0.15	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	0.07	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	0.07	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae			-	-	-	-	-	-	-	-	-	-	0.31	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	0.48	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Hexatoma*		-	-	-	-	-	-	-	-	0.51	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Limonia*	*Limonia nubeculosa*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-	-	-	-	-	-	-	-	-	-	0.12	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-	-	-	-	-	0.04	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Helina*	*Helina annosa*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Brevicornu*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Exechia*	*Exechia frigida*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Exechia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-	-	-	-	0.13	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-	-	-	-	-	0.12	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia hirticrus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Phora*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ragadidae	*Iteaphila*	*Iteaphila macquarti*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciaridae	*Claustropyga*	*Claustropyga acanthostyla*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciaridae	*Corynoptera*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciaridae	*Lycoriella*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciaridae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen DS		N. Treaty US2		N. Treaty US1		N. Treaty DS			Treaty US	Treaty US N. Treaty		
								September	October	September	October	September	October	June	September	October	September	June	September	October
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae			0.62	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Hexatoma*		1.95	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Limonia*	*Limonia nubeculosa*	-	-	-	-	-	-	-	-	-	-	-	1.89	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*		-	-	-	-	-	-	-	-	-	-	-	-	0.11
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-	-	-	-	-	0.07	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-	-	-	-	0.06	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Helina*	*Helina annosa*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*		-	-	-	-	-	-	-	-	-	-	-	-	0.74
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*		-	-	-	-	-	-	-	-	-	-	-	-	0.10
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Brevicornu*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Exechia*	*Exechia frigida*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Exechia*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-	-	-	-	-	-	-	-	-	25.46	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0.32	0.07	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia hirticrus*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	0.08	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Phora*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ragadidae	*Iteaphila*	*Iteaphila macquarti*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciaridae	*Claustropyga*	*Claustropyga acanthostyla*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciaridae	*Corynoptera*		-	-	-	-	-	-	-	-	-	-	0.08	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciaridae	*Lycoriella*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciaridae			-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US Todedada			Treaty DS			Bell US Treaty		Bell DS Treaty	
								June	September	October	June	September	October	June	September	June	September
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	0.35
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	0.07	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Hexatoma*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Limonia*	*Limonia nubeculosa*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Helina*	*Helina annosa*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Brevicornu*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Exechia*	*Exechia frigida*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Exechia*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia hirticrus*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		1.47	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Phora*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ragadidae	*Iteaphila*	*Iteaphila macquarti*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciaridae	*Claustropyga*	*Claustropyga acanthostyla*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciaridae	*Corynoptera*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciaridae	*Lycoriella*		-	-	-	-	-	-	-	-	23.58	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciaridae			-	-	-	-	-	-	-	-	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US of S. Unuk		
										June	September	October	June	September	October	June	September	October
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*	*Prosimulium travisi*	99.68		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera					There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera						-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera						-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus celer*	100.00		-	-	-	-	1.56	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus similior*	100.00		-	-	0.11	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus suffusus*	98.99	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus velox*	100.00		-	-	-	-	0.04	-	10.80	-	0.34
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus velox*	100.00		0.06	-	0.28	-	0.11	-	6.08	-	0.08
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis bicaudatus*	100.00		6.39	-	54.30	-	0.22	0.08	27.07	0.50	0.23
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis bicaudatus*	99.04		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*	100.00		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella doddsi*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella doddsi*	100.00		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella dorothea*	100.00		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*				-	-	-	-	-	-	-	-	3.69
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	0.23	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus deceptivus*	100.00		-	2.67	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus grandis*	98.72		-	-	-	-	5.26	22.43	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*	*Rhithrogena robusta*	100.00		0.13	0.14	-	-	-	-	-	-	0.18
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*				-	-	-	-	-	-	-	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet		Sulphurets US		
								June	September	October	June	September	October	June	September	October	June	October	June	September	October
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*	*Prosimulium travisi*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	-	-	6.10	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus celer*	-	-	-	-	11.37	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus similior*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus suffusus*	-	-	-	-	3.77	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus velox*	-	-	-	1.14	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus velox*	-	-	-	-	0.17	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis bicaudatus*	39.37	2.42	0.63	-	1.62	1.78	7.03	-	-	-	-	0.11	0.47	3.58
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis bicaudatus*	-	-	-	-	-	-	-	-	-	-	-	0.06	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*	1.73	-	-	-	0.69	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella doddsi*	-	-	0.50	-	-	0.24	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella doddsi*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*		0.30	-	-	-	0.14	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella dorothea*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		1.59	-	-	-	7.07	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		0.17	-	-	-	0.09	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	0.07	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		0.09	-	-	-	0.05	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	1.06	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus deceptivus*	-	-	5.35	-	-	2.36	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus grandis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*		-	-	-	-	0.24	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*	*Rhithrogena robusta*	-	0.07	-	-	-	0.06	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*		-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulpherets DS			Teigen US			Teigen DS			S. Teigen US2			S. Teigen US1		
								June	September	October	June	September	October	June	September	October	June	September	October	June	September	October
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*		-	-	-	-	0.54	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*	*Prosimulium travisi*	-	-	-	-	-	-	-	-	-	-	-	-	-	4.99	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae			-	-	-	-	-	-	-	0.87	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	0.21	-	-	0.56	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus celer*	-	-	-	-	-	2.39	-	3.03	0.45	18.66	13.86	-	-	0.28	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus similior*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus suffusus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus velox*	-	-	-	-	-	0.06	-	-	0.15	-	0.13	-	-	0.24	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus velox*	-	-	-	-	-	-	-	-	0.04	0.04	0.08	-	-	0.19	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*		-	-	-	-	-	-	-	0.44	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis bicaudatus*	1.18	1.68	0.08	0.12	4.30	0.33	0.19	1.71	0.04	0.65	-	-	2.71	0.10	0.06
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis bicaudatus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*	-	-	-	-	8.86	0.07	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella doddsi*	-	-	-	-	-	-	-	-	-	0.51	-	0.09	-	2.71	13.44
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella doddsi*	-	-	-	0.30	2.45	2.85	13.15	-	0.81	-	-	-	-	-	0.30
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*		-	-	-	-	0.75	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*		-	-	-	-	0.10	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*		-	-	-	-	-	-	0.04	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella dorothea*	-	-	-	-	-	0.36	0.08	-	0.37	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	0.13	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-	-	-	0.25	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	0.05	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	7.33	0.80	0.04	38.22	5.90	0.15
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	0.21	-	-	-	-	0.85
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-	-	-	0.19	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus deceptivus*	-	-	-	13.32	-	-	44.99	-	-	-	-	1.09	-	-	8.32
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus grandis*	-	-	-	2.43	-	-	-	-	-	-	-	11.16	-	36.59	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*	*Rhithrogena robusta*	-	-	-	-	-	-	0.04	-	-	-	-	-	-	0.06	0.16
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*		-	-	-	2.69	0.90	16.53	7.89	4.60	5.82	-	-	-	-	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen DS		N. Treaty US2		N. Treaty US1		N. Treaty DS			Treaty US	Treaty US N. Treaty		
								September	October	September	October	September	October	June	September	October	September	June	September	October
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*		-	-	-	0.45	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*	*Prosimulium travisi*	-	0.16	-	-	-	-	-	-	-	-	63.37	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			-	-	-	-	-	-	-	10.69	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.20	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	0.13	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus celer*	0.17	1.75	-	-	-	-	11.84	-	27.09	-	-	-	0.11
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus similior*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus suffusus*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus velox*	0.04	0.23	-	-	-	-	7.38	-	0.53	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus velox*	-	-	-	-	-	-	0.94	-	0.28	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis bicaudatus*	-	0.08	-	1.54	-	-	0.63	0.15	0.10	18.43	0.83	1.05	1.55
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis bicaudatus*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*		-	-	-	-	-	-	-	-	-	1.08	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*	0.06	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella doddsi*	-	-	-	18.61	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella doddsi*	0.07	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella dorothea*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	0.33	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	0.15	-	-	-	-	0.48	-	0.08	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	1.10	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus deceptivus*	6.28	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus grandis*	-	-	-	22.20	40.39	42.60	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*	*Rhithrogena robusta*	0.06	0.05	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*		-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US Todedada			Treaty DS			Bell US Treaty		Bell DS Treaty	
								June	September	October	June	September	October	June	September	June	September
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*	*Prosimulium travisi*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus celer*	-	-	-	-	0.33	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus similior*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus suffusus*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus velox*	-	-	-	-	-	-	-	0.05	-	0.08
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus velox*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis bicaudatus*	-	54.61	0.37	56.60	-	1.51	1.79	1.24	58.03	1.44
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis bicaudatus*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella doddsi*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella doddsi*	-	-	-	-	-	-	-	0.07	-	0.23
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella dorothea*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*		-	-	-	-	-	-	-	-	-	0.63
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus deceptivus*	-	-	-	-	-	5.17	-	2.92	-	2.53
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus grandis*	-	-	0.98	-	1.16	-	-	-	-	0.60
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*	*Rhithrogena robusta*	-	-	0.13	0.19	0.33	0.04	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*		-	-	-	-	-	-	24.26	5.27	-	7.69

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US of S. Unuk		
										June	September	October	June	September	October	June	September	October
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae					16.38	3.06	-	-	14.73	5.14	-	3.63	7.26
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae					-	-	-	-	0.18	11.22	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae					3.21	8.71	-	-	13.61	9.19	-	2.93	3.78
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Aphididae	*Cinara*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Aphididae	*Pterocomma*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Cicadellidae	*Idiocerus*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Corixidae	*Callicorixa*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Psyllidae	*Cacopsylla*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Psyllidae					-	-	-	61.15	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Triozidae	*Bactericera*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Braconidae	*Meteorus*	*Meteorus ictericus*	100.00		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Formicidae	*Lasius*	*Lasius pallitarsis*	100.00		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Ichneumonidae	*Aperileptus*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Ichneumonidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Ichneumonidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Ichneumonidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	0.06	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Platygastridae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Euura*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Acleris*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Bolshecapnia*	*Bolshecapnia milami*	100.00		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Bolshecapnia*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia coloradensis*	100.00		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia confusa*	100.00		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia nana*	100.00		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia gracilaria/Capnia petila*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Eucapnopsis*	*Eucapnopsis brevicauda*	99.29		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia grandis*	99.68	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Arsapnia*				0.78	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Alloperla*	*Alloperla serrata*	99.68		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*	*Plumiperla diversa*	100.00		-	-	-	-	-	0.07	0.11	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet		Sulphurets US		
								June	September	October	June	September	October	June	September	October	June	October	June	September	October
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			-	2.59	9.87	-	0.07	9.31	-	5.56	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			0.03	53.17	31.55	-	-	13.48	-	38.19	-	-	-	-	36.76	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Aphididae	*Cinara*		-	-	-	-	-	-	-	-	0.20	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Aphididae	*Pterocomma*		-	-	-	-	-	-	-	-	-	22.28	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Cicadellidae	*Idiocerus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Corixidae	*Callicorixa*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Psyllidae	*Cacopsylla*		-	-	-	-	-	-	-	-	-	11.54	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Psyllidae			-	-	-	-	-	-	-	-	4.98	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Triozidae	*Bactericera*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Braconidae	*Meteorus*	*Meteorus ictericus*	-	-	-	-	-	-	-	-	15.37	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Formicidae	*Lasius*	*Lasius pallitarsis*	-	-	-	-	-	-	-	-	-	-	2.52	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Ichneumonidae	*Aperileptus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Ichneumonidae			-	-	-	-	-	-	-	-	3.73	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Ichneumonidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Ichneumonidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Platygastridae			-	-	-	-	-	-	-	-	0.13	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Euura*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Acleris*		-	-	-	-	-	-	-	-	-	-	0.11	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Bolshecapnia*	*Bolshecapnia milami*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Bolshecapnia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia coloradensis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia confusa*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia nana*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia gracilaria/Capnia petila*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		1.50	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		0.14	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		0.07	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Eucapnopsis*	*Eucapnopsis brevicauda*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia grandis*	-	-	-	-	-	0.05	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Arsapnia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Alloperla*	*Alloperla serrata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*	*Plumiperla diversa*	1.51	-	-	-	0.04	0.22	-	-	-	-	-	68.43	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulpherets DS			Teigen US			Teigen DS			S. Teigen US2			S. Teigen US1		
								June	September	October	June	September	October	June	September	October	June	September	October	June	September	October
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			-	-	6.27	1.90	0.10	1.61	5.82	-	0.56	7.19	-	-	-	4.83	10.80
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			-	-	-	59.76	-	6.13	4.10	-	-	-	-	3.98	-	10.12	5.26
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			-	0.29	0.37	1.32	0.49	-	1.80	-	0.98	0.18	-	-	-	2.92	32.29
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			-	-	-	-	-	-	-	-	57.10	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*		89.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*		1.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Aphididae	*Cinara*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Aphididae	*Pterocomma*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Cicadellidae	*Idiocerus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Corixidae	*Callicorixa*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Psyllidae	*Cacopsylla*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Psyllidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Triozidae	*Bactericera*		-	-	-	-	-	-	-	-	-	-	-	0.35	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Braconidae	*Meteorus*	*Meteorus ictericus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Formicidae	*Lasius*	*Lasius pallitarsis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Ichneumonidae	*Aperileptus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Ichneumonidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Ichneumonidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Ichneumonidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Platygastridae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Euura*		-	-	-	-	-	-	-	-	-	-	-	-	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Acleris*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Bolshecapnia*	*Bolshecapnia milami*	-	-	-	-	-	0.70	-	-	-	-	-	-	-	-	0.60
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Bolshecapnia*		-	-	-	-	-	0.06	-	-	-	-	-	-	-	-	0.05
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia coloradensis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia confusa*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia nana*	-	-	-	-	-	-	-	-	-	-	5.50	0.59	-	0.51	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia gracilaria/Capnia petila*	-	-	-	-	-	-	-	-	-	-	1.04	0.23	-	0.49	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Eucapnopsis*	*Eucapnopsis brevicauda*	-	-	-	-	-	0.83	0.04	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia grandis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Arsapnia*		-	-	-	-	-	-	-	-	-	-	-	-	-	0.31	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae			-	-	-	-	-	-	-	-	-	-	-	-	-	0.09	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Alloperla*	*Alloperla serrata*	-	-	-	0.15	-	-	-	-	-	-	-	0.29	-	0.17	6.81
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*	*Plumiperla diversa*	2.47	-	-	-	0.04	-	-	-	-	1.69	0.19	-	-	0.10	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen DS		N. Treaty US2		N. Treaty US1		N. Treaty DS			Treaty US	Treaty US N. Treaty		
								September	October	September	October	September	October	June	September	October	September	June	September	October
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			6.00	2.62	0.46	0.91	0.54	1.43	-	-	-	50.95	0.04	-	0.22
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			-	-	19.89	13.81	49.43	53.33	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			4.19	1.44	0.16	0.28	0.46	0.72	-	-	2.29	1.96	2.56	-	2.62
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Aphididae	*Cinara*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Aphididae	*Pterocomma*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Cicadellidae	*Idiocerus*		-	-	-	-	-	-	-	0.09	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Corixidae	*Callicorixa*		-	-	-	-	-	-	-	0.29	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Psyllidae	*Cacopsylla*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Psyllidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Triozidae	*Bactericera*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Braconidae	*Meteorus*	*Meteorus ictericus*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Formicidae	*Lasius*	*Lasius pallitarsis*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Ichneumonidae	*Aperileptus*		-	-	-	-	-	-	-	-	-	2.67	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Ichneumonidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Ichneumonidae			-	-	-	-	-	-	-	-	0.08	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Ichneumonidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Platygastridae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Euura*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Acleris*		-	-	-	-	-	-	-	-	-	-	0.04	-	0.34
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Bolshecapnia*	*Bolshecapnia milami*	-	-	-	-	-	-	-	-	-	-	-	-	0.49
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Bolshecapnia*		-	-	-	-	-	-	-	-	-	-	-	-	0.05
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia coloradensis*	-	-	-	-	-	-	-	-	3.47	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia confusa*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia nana*	-	0.14	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia gracilaria/Capnia petila*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Eucapnopsis*	*Eucapnopsis brevicauda*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia grandis*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Arsapnia*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Alloperla*	*Alloperla serrata*	1.30	0.13	0.51	0.72	1.12	0.92	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*	*Plumiperla diversa*	0.17	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US Todedada			Treaty DS			Bell US Treaty		Bell DS Treaty	
								June	September	October	June	September	October	June	September	June	September
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			50.94	-	22.88	0.78	21.29	5.19	0.75	3.44	-	0.75
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			-	-	0.05	-	-	30.26	-	-	-	0.23
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			23.50	-	22.96	0.07	33.68	9.17	0.64	0.91	-	1.12
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			-	-	-	-	-	-	37.20	41.53	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Aphididae	*Cinara*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Aphididae	*Pterocomma*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Cicadellidae	*Idiocerus*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Corixidae	*Callicorixa*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Psyllidae	*Cacopsylla*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Psyllidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Triozidae	*Bactericera*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Braconidae	*Meteorus*	*Meteorus ictericus*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Formicidae	*Lasius*	*Lasius pallitarsis*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Ichneumonidae	*Aperileptus*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Ichneumonidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Ichneumonidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Ichneumonidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Platygastridae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Euura*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Acleris*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Bolshecapnia*	*Bolshecapnia milami*	-	-	2.57	-	-	1.42	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Bolshecapnia*		-	-	0.20	-	-	0.06	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia coloradensis*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia confusa*	-	-	-	-	-	-	0.17	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia nana*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia gracilaria/Capnia petila*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		-	0.11	-	0.16	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Eucapnopsis*	*Eucapnopsis brevicauda*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia grandis*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Arsapnia*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Alloperla*	*Alloperla serrata*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*	*Plumiperla diversa*	-	0.14	-	0.21	1.08	0.83	0.04	-	-	0.03

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US of S. Unuk		
										June	September	October	June	September	October	June	September	October
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*				-	-	0.03	-	-	0.07	2.77	-	0.08
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa borealis*	99.36		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*				-	-	-	-	-	-	-	1.11	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra occidentalis*	100.00		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta decepta*	100.00		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Prostoia*	*Prostoia besametsa*	98.40		-	-	-	34.54	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Visoka*	*Visoka cataractae*	100.00		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*	100.00		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada columbiana*	100.00		-	17.34	-	-	19.16	12.36	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	100.00		-	58.26	38.70	-	3.96	35.58	1.45	6.17	55.93
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	99.04	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	1.66	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes/Zapada oregonensis*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*				-	-	-	-	-	0.08	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*				-	0.15	0.19	-	0.03	0.22	-	-	0.20
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla petersoni*	100.00		-	-	-	-	-	-	-	-	7.56
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla sordida*	99.68	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*				-	-	-	-	-	-	-	-	0.07
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Kogotus*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*	100.00		2.75	0.57	-	-	0.66	2.26	15.99	6.34	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys subtruncata*	99.04		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*	*Doddsia occidentalis*	98.40		66.36	0.30	-	-	37.99	1.08	-	0.06	15.63
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*				1.40	-	-	-	0.66	-	-	-	0.27
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*	100.00		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*	98.26		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae					0.40	-	-	-	0.14	-	-	-	0.05
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera						-	-	-	-	-	-	-	-	3.89
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Hydropsychidae	*Parapsyche*	*Parapsyche elsis*	100.00		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Chyranda*	*Chyranda centralis*	100.00		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Ecclisomyia*	*Ecclisomyia conspersa*	100.00		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Onocosmoecus*	*Onocosmoecus unicolor*	99.67		-	-	-	-	-	-	-	70.64	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae					-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila hyalinata*	100.00		1.16	8.73	-	-	-	0.16	-	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet		Sulphurets US		
								June	September	October	June	September	October	June	September	October	June	October	June	September	October
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*		7.66	-	0.88	-	2.16	0.74	49.54	-	-	-	20.27	4.16	-	1.52
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*		-	-	-	-	-	-	-	-	-	-	-	0.14	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa borealis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			0.13	-	-	-	0.06	-	2.15	-	-	-	0.17	1.91	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			0.47	-	1.80	-	0.43	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	0.67	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	-	-	0.13	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra occidentalis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta decepta*	0.23	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Prostoia*	*Prostoia besametsa*	0.56	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Visoka*	*Visoka cataractae*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada columbiana*	-	-	-	-	-	-	4.06	-	-	-	-	2.33	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	-	-	28.84	-	0.52	46.94	-	-	-	-	-	3.37	-	81.17
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes/Zapada oregonensis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*		-	-	-	-	-	0.21	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*		-	-	0.39	-	-	0.40	-	-	-	-	-	-	-	0.53
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla petersoni*	-	-	-	-	-	2.66	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla sordida*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Kogotus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*	-	7.20	15.31	5.35	0.06	11.20	-	11.98	-	3.91	5.57	-	-	1.14
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys subtruncata*	-	-	-	-	-	-	-	0.54	-	-	-	-	-	0.16
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		-	-	-	-	-	-	-	31.21	-	-	-	-	-	11.04
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*	*Doddsia occidentalis*	-	28.28	4.76	82.29	-	8.25	-	-	30.59	-	-	-	54.88	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*		-	0.70	0.04	3.25	-	0.32	-	-	1.71	-	-	-	2.25	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae			-	0.04	-	0.44	-	0.04	-	-	0.09	-	-	-	0.54	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae			-	-	-	0.04	-	-	-	-	0.11	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae			-	-	-	0.12	-	-	-	-	0.07	-	-	-	0.09	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera				43.93	-	-	0.06	71.33	0.06	26.96	-	-	-	-	10.66	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Hydropsychidae	*Parapsyche*	*Parapsyche elsis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Chyranda*	*Chyranda centralis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Ecclisomyia*	*Ecclisomyia conspersa*	-	-	-	0.94	-	0.51	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Onocosmoecus*	*Onocosmoecus unicolor*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae			-	4.10	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila hyalinata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulpherets DS			Teigen US			Teigen DS			S. Teigen US2			S. Teigen US1		
								June	September	October	June	September	October	June	September	October	June	September	October	June	September	October
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*		3.14	-	-	-	0.83	-	-	-	-	20.02	1.82	-	-	0.39	0.22
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*		-	-	-	-	-	-	-	-	-	0.08	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa borealis*	-	-	-	-	-	2.16	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			0.13	-	-	-	-	-	-	-	-	0.36	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	1.12	-	0.26	-	-	-	-	-	-	-	1.61	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	0.07	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.15
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	0.13	-	0.03	-	-	-	-	-	-	-	0.11	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.04
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.04
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	0.04	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra occidentalis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.05
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta decepta*	-	-	-	-	-	-	-	-	-	20.55	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Prostoia*	*Prostoia besametsa*	-	-	-	-	0.11	-	-	0.12	-	0.06	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Visoka*	*Visoka cataractae*	-	-	-	-	-	-	-	-	0.43	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*	-	-	-	-	-	1.06	-	-	0.07	0.24	-	1.14	0.43	2.12	0.46
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada columbiana*	-	-	-	0.92	0.13	7.57	-	-	0.67	-	-	19.18	-	-	4.76
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	-	52.55	59.69	4.85	38.31	27.81	7.31	0.21	7.96	1.39	57.67	18.30	-	20.14	14.13
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	-	-	-	10.30	-	19.24	6.66	-	19.16	0.16	-	21.95	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes/Zapada oregonensis*	-	-	2.97	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*		-	1.00	-	-	-	-	-	-	-	-	0.03	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*		-	0.63	0.49	0.04	-	0.12	-	-	0.04	-	0.42	0.10	-	0.06	0.07
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla petersoni*	-	-	-	-	-	-	0.10	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla sordida*	-	-	-	-	-	-	-	-	0.18	-	-	-	-	1.84	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Kogotus*		-	-	-	-	-	-	-	0.05	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*	-	25.51	5.27	0.60	-	0.32	4.03	-	1.75	3.89	1.41	15.13	-	3.03	0.30
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys subtruncata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		-	-	-	-	-	-	-	-	-	-	-	-	-	0.90	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae			-	-	-	-	-	0.64	-	-	0.11	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*	*Doddsia occidentalis*	-	6.89	18.10	1.13	-	6.83	2.34	-	2.22	-	0.41	4.17	-	0.57	0.30
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*		-	0.25	0.64	0.04	-	0.08	0.06	-	0.05	-	-	0.17	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*	-	-	-	0.13	39.34	0.25	0.18	83.89	0.51	-	-	0.19	-	0.14	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*	-	-	-	-	0.09	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae			-	-	-	-	1.55	-	-	3.59	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae			-	0.09	0.13	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae			-	-	0.04	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera				-	-	2.25	-	-	-	-	-	-	6.85	-	-	-	0.04	0.09
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Hydropsychidae	*Parapsyche*	*Parapsyche elsis*	-	-	-	-	-	-	-	-	-	-	-	0.32	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Chyranda*	*Chyranda centralis*	-	-	-	-	-	-	-	-	-	-	-	-	4.13	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Ecclisomyia*	*Ecclisomyia conspersa*	-	-	-	-	0.10	-	-	-	-	5.03	0.25	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Onocosmoecus*	*Onocosmoecus unicolor*	-	-	-	-	-	0.08	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae			-	-	-	-	-	0.35	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila hyalinata*	-	-	-	-	-	1.28	0.47	-	-	-	-	-	-	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen DS		N. Treaty US2		N. Treaty US1		N. Treaty DS			Treaty US	Treaty US N. Treaty		
								September	October	September	October	September	October	June	September	October	September	June	September	October
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*		0.14	-	-	-	-	-	-	0.14	5.26	-	1.29	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa borealis*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*		0.15	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	-	-	15.00	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	0.05	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	0.04	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra occidentalis*	-	-	0.35	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta decepta*	-	-	-	-	-	-	-	-	-	-	-	46.26	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Prostoia*	*Prostoia besametsa*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Visoka*	*Visoka cataractae*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*	-	-	3.47	0.05	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada columbiana*	6.11	9.10	4.16	7.99	1.23	0.47	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	13.98	8.28	48.78	29.53	4.12	-	-	-	-	-	-	-	92.41
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	48.40	67.91	-	-	1.11	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes/Zapada oregonensis*	-	-	-	0.33	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*		-	-	0.15	0.05	-	-	-	-	-	-	-	-	0.05
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*		0.06	0.07	0.20	0.14	-	-	-	-	-	-	-	-	0.49
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla petersoni*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla sordida*	-	1.11	-	-	0.19	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Kogotus*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*	1.86	1.22	9.97	1.28	0.41	0.26	-	-	20.57	-	21.91	-	0.42
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys subtruncata*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		2.75	1.72	-	-	-	-	-	-	-	0.48	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae			-	-	-	-	-	-	67.39	87.30	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae			-	-	-	-	-	-	-	0.10	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*	*Doddsia occidentalis*	3.85	3.20	1.42	1.30	0.42	0.06	-	-	37.10	4.04	2.80	-	0.13
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*		0.08	0.07	0.04	0.06	-	-	-	-	1.72	0.13	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*	-	-	-	-	0.49	0.04	-	-	0.55	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae			-	-	-	-	-	-	-	-	0.06	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae			-	-	-	-	-	-	-	-	0.17	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae			-	-	-	-	-	-	-	-	0.04	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae			-	-	-	-	-	-	-	-	0.15	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera				-	-	0.19	-	-	-	-	-	0.37	18.18	3.55	-	0.11
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Hydropsychidae	*Parapsyche*	*Parapsyche elsis*	-	-	0.06	0.64	0.04	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Chyranda*	*Chyranda centralis*	-	-	-	-	-	-	-	-	-	-	2.06	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Ecclisomyia*	*Ecclisomyia conspersa*	-	0.06	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Onocosmoecus*	*Onocosmoecus unicolor*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae			-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila hyalinata*	0.68	0.07	-	-	-	-	-	-	-	-	-	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US Todedada			Treaty DS			Bell US Treaty		Bell DS Treaty	
								June	September	October	June	September	October	June	September	June	September
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*		0.06	1.38	0.67	0.74	10.88	5.49	0.29	-	-	0.21
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa borealis*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	0.07	-	0.04	0.14	0.10	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	1.27	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	0.07	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra occidentalis*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta decepta*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Prostoia*	*Prostoia besametsa*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Visoka*	*Visoka cataractae*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada columbiana*	-	-	0.28	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	-	0.15	20.25	-	-	21.74	-	19.90	-	64.56
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	-	0.04	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes/Zapada oregonensis*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*		-	-	-	-	-	-	-	-	-	0.10
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*		-	-	-	-	-	0.06	-	0.05	-	0.23
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla petersoni*	-	-	-	-	1.89	-	0.68	11.16	-	18.08
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla sordida*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*		-	-	-	-	-	-	-	0.06	-	0.10
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Kogotus*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*	4.45	0.80	18.41	-	24.91	17.68	0.72	5.97	-	0.35
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys subtruncata*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae			-	-	7.87	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*	*Doddsia occidentalis*	16.42	-	1.55	-	4.19	1.11	-	2.81	-	0.69
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*		0.57	-	-	-	0.09	0.08	-	0.06	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae			0.15	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae			0.03	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera				0.05	42.55	-	36.88	-	-	1.77	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Hydropsychidae	*Parapsyche*	*Parapsyche elsis*	2.32	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Chyranda*	*Chyranda centralis*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Ecclisomyia*	*Ecclisomyia conspersa*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Onocosmoecus*	*Onocosmoecus unicolor*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae			-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila hyalinata*	-	-	-	-	-	-	-	-	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US of S. Unuk		
										June	September	October	June	September	October	June	September	October
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila rickeri*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila vaccua*	100.00		-	-	-	-	-	-	-	8.23	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila verrula*	99.36		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila vocala*	100.00		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila vofixa*	99.36	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	0.08	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila alberta/Rhyacophila vao*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*				-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes sierra*	100.00		-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta							-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta							-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta							-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta							-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Ostracoda	Podocopida					There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda								-	-	-	-	-	-	-	-	-
Insects	Animalia	Rotifera	Eurotatoria	Ploima	Euchlanidae	*Euchlanis*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Insects	Animalia								There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet		Sulphurets US		
								June	September	October	June	September	October	June	September	October	June	October	June	September	October
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila rickeri*	0.04	-	-	-	-	-	-	-	35.61	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila vaccua*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila verrula*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila vocala*	-	-	-	-	-	-	-	-	6.63	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila vofixa*	0.19	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila alberta/Rhyacophila vao*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes sierra*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta					-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta					-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta					-	-	-	-	-	-	0.27	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta					-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Ostracoda	Podocopida				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda						-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Rotifera	Eurotatoria	Ploima	Euchlanidae	*Euchlanis*		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia							-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulpherets DS			Teigen US			Teigen DS			S. Teigen US2			S. Teigen US1		
								June	September	October	June	September	October	June	September	October	June	September	October	June	September	October
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila rickeri*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila vaccua*	-	-	-	-	-	-	0.38	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila verrula*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila vocala*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila vofixa*	-	-	-	-	-	0.15	0.11	-	-	-	5.20	0.50	-	0.07	0.17
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila alberta/Rhyacophila vao*	-	-	-	-	-	-	-	-	-	-	-	-	44.96	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes sierra*	-	-	-	-	0.22	0.08	-	-	0.03	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta					-	-	-	-	0.17	-	0.09	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Ostracoda	Podocopida				-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.04
Insects	Animalia	Arthropoda						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Rotifera	Eurotatoria	Ploima	Euchlanidae	*Euchlanis*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia							-	-	-	-	-	-	-	-	-	-	-	-	-	0.09	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen DS		N. Treaty US2		N. Treaty US1		N. Treaty DS			Treaty US	Treaty US N. Treaty		
								September	October	September	October	September	October	June	September	October	September	June	September	October
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila rickeri*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila vaccua*	-	-	6.62	-	-	0.06	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila verrula*	-	0.12	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila vocala*	0.14	-	-	-	0.05	0.03	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila vofixa*	0.09	-	0.22	0.09	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila alberta/Rhyacophila vao*	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*		-	-	1.81	0.03	-	0.09	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*		-	-	-	-	-	-	-	-	-	-	0.70	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*		0.04	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes sierra*	-	0.06	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta					-	-	-	-	-	-	1.47	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta					-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta					-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta					-	-	0.11	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Ostracoda	Podocopida				-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda						-	-	-	-	-	-	-	-	-	0.09	-	-	-
Insects	Animalia	Rotifera	Eurotatoria	Ploima	Euchlanidae	*Euchlanis*		-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia							-	-	-	-	-	-	-	0.04	-	-	-	-	-

Appendix D3: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, June, September and October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US Todedada			Treaty DS			Bell US Treaty		Bell DS Treaty	
								June	September	October	June	September	October	June	September	June	September
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila rickeri*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila vaccua*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila verrula*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila vocala*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila vofixa*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila alberta/Rhyacophila vao*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes sierra*	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta					-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta					-	-	-	0.14	-	-	-	-	2.42	-
Insects	Animalia	Arthropoda	Insecta					-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta					-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Ostracoda	Podocopida				-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda						-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Rotifera	Eurotatoria	Ploima	Euchlanidae	*Euchlanis*		0.04	-	-	-	-	-	-	-	-	-
Insects	Animalia							-	-	-	-	-	-	-	-	-	-

Appendix D4: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), June, 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
											Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	*White Sucker*	100.00			-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus/ Ictiobus*	*Catostomus catostomus/Ictiobus cyprinellus*	*Longnose Sucker*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	*Northern Pike*	100.00			-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Gasterosteiformes	Gasterosteidae	*Gasterosteus*	*Gasterosteus aculeatus*	*Three-Spined Stickleback*	100.00			-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/Oncorhynchus nerka*	*Pink Salmon/Sockeye Salmon*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	*Coho Salmon*	100.00			-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	*Chinook Salmon*	100.00			-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*						-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus/Salvelinus namaycush*	*Bull Trout*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		0.42	0.52	0.26	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*						99.58	99.47	59.03	-	10.17
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*						-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae							-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	*Coastrange Sculpin*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Siluriformes	Ictaluridae	*Ameiurus*	*Ameiurus nebulosus*	*Brown Bullhead*	100.00			-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	*Western Toad*	100.00			-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	*Columbia Spotted Frog*	100.00			-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Caudata	Ambystomatidae	*Ambystoma*		*Salamander*				-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*		*Eagle*				-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			*Duck*				-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			*Duck*				-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			*Duck*				-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			*Duck*				-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	*White-Tailed Ptarmigan*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Gaviiformes	Gaviidae	*Gavia*		*Loon*				-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*	*Bombycilla cedrorum/Bombycilla garrulus*	*Cedar Waxwing*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	*American Dipper*	100.00			-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	*American Dipper*	99.08			-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	*Dark-Eyed Junco*	100.00			-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae			*Warbler*				-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	*Veery*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	*Swainson's Thrush*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	*Varied Thrush*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Turdus*		*Redwing*				-	-	-	-	-

Appendix D4: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), June, 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US of S. Unuk			Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	-	-			-			-										
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus/ Ictiobus*	*Catostomus catostomus/Ictiobus cyprinellus*	-	-			-			-										
Vertebrates	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	-	-			-			-										
Vertebrates	Animalia	Chordata	Actinopterygii	Gasterosteiformes	Gasterosteidae	*Gasterosteus*	*Gasterosteus aculeatus*	-	-			4.02			-										
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/Oncorhynchus nerka*	-	-			-			-										
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	-	-			-			-										
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	-	-			-			-										
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	0.33			-			-										
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus/Salvelinus namaycush*	-	99.39			-			-										
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	0.28			-			-										
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-			-			-										
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-			-			-										
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	-	-			-			-										
Vertebrates	Animalia	Chordata	Actinopterygii	Siluriformes	Ictaluridae	*Ameiurus*	*Ameiurus nebulosus*	-	-			-			-										
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-			-			-										
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	-	-			-			-										
Vertebrates	Animalia	Chordata	Amphibia	Caudata	Ambystomatidae	*Ambystoma*		-	-			-			-										
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*		-	-			-			-										
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-			-			-										
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-			-			-										
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-			-			-										
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-			-			100.00										
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	-	-			-			-										
Vertebrates	Animalia	Chordata	Aves	Gaviiformes	Gaviidae	*Gavia*		-	-			-			-										
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*	*Bombycilla cedrorum/Bombycilla garrulus*	-	-			-			-										
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-			-			-										
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-			-			-										
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	-	-			-			-										
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae			-	-			-			-										
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	-	-			-			-										
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	-	-			-			-										
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	-	-			-			-										
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Turdus*		-	-			-			-										

Appendix D4: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), June, 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets DS			Tiegen US			Tiegen DS			S. Teigen US2			S. Teigen US1			N. Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*					-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus/ Ictiobus*	*Catostomus catostomus/Ictiobus cyprinellus*					-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*					-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Gasterosteiformes	Gasterosteidae	*Gasterosteus*	*Gasterosteus aculeatus*					-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/Oncorhynchus nerka*					-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*					38.27		-	-	5.14	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*					-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*						-		-	-	44.40	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus/Salvelinus namaycush*					19.19		-	9.19	9.19	0.05	-	-	0.26	0.37	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*						-		6.39	7.51	2.15	10.59	-	44.78	78.44	52.89	46.15			
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*						-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae							5.91		40.35	53.18	24.77	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*					-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Siluriformes	Ictaluridae	*Ameiurus*	*Ameiurus nebulosus*					-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*					-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*					-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Amphibia	Caudata	Ambystomatidae	*Ambystoma*						-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*						-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae							-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae							-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae							-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae							-		-	-	-	11.22	-	24.19	-	-	5.21			
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*					-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Gaviiformes	Gaviidae	*Gavia*						-		-	9.34	9.34	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*	*Bombycilla cedrorum/Bombycilla garrulus*					-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*					-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*					-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*					-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae							-		-	-	-	-	-	21.94	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*					-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*					-		-	-	-	-	-	-	-	11.81	-			
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*					-		6.19	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Turdus*						-		-	-	-	-	-	-	-	-	-			

Appendix D4: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), June, 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus/ Ictiobus*	*Catostomus catostomus/Ictiobus cyprinellus*	-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Gasterosteiformes	Gasterosteidae	*Gasterosteus*	*Gasterosteus aculeatus*	-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/Oncorhynchus nerka*	-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	-	-	-	1.02	-	0.22				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	9.58	-	10.81				-		-	-		-	55.58	0.28	
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus/Salvelinus namaycush*	-	-	0.26	6.36	-	-				1.30		-	-		0.38	-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		9.15	-	34.84	25.63	-	-				31.28		-	-		99.62	-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-				-		-	-		-	22.88	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Siluriformes	Ictaluridae	*Ameiurus*	*Ameiurus nebulosus*	-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	-	0.40	56.49	4.63				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Amphibia	Caudata	Ambystomatidae	*Ambystoma*		-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*		-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	54.85	-	26.61	-	-				-		-	75.29		-	-	-	
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Aves	Gaviiformes	Gaviidae	*Gavia*		-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*	*Bombycilla cedrorum/Bombycilla garrulus*	-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae			-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Turdus*		-	-	-	-	-	-				-		-	-		-	-	-	

Appendix D4: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), June, 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell US Treaty			Bell DS Treaty			Blank #1	Blank #2	Blank #3
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	-	6.15	-	-	-	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus/ Ictiobus*	*Catostomus catostomus/Ictiobus cyprinellus*	-	-	-	1.11	-	3.29			
Vertebrates	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	-	9.00	6.42	4.20	1.92	2.54			
Vertebrates	Animalia	Chordata	Actinopterygii	Gasterosteiformes	Gasterosteidae	*Gasterosteus*	*Gasterosteus aculeatus*	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/Oncorhynchus nerka*	-	-	-	-	-	0.12			
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	-	9.36	7.63	0.09	-	4.01			
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	-	3.97	3.45	-	-	10.86			
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	13.61	12.45	-	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus/Salvelinus namaycush*	39.39	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	43.29	3.17	43.21	-	40.48			
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Siluriformes	Ictaluridae	*Ameiurus*	*Ameiurus nebulosus*	-	-	4.74	-	-	-			
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	-	3.14	-	1.38			
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Amphibia	Caudata	Ambystomatidae	*Ambystoma*		-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*		-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	6.45	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	0.11	3.77	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	4.60	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Gaviiformes	Gaviidae	*Gavia*		-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*	*Bombycilla cedrorum/Bombycilla garrulus*	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	-	-	-	-	-	6.75			
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae			-	-	-	3.17	-	-			
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Turdus*		-	-	-	-	-	-			

Appendix D4: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), June, 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
											Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Aves	Passeriformes						There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Piciformes	Picidae	*Picoides*		*Woodpecker*				-	-	15.74	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Bison*	*Bison bison*	*American Bison*	100.00			-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	*Mountain Goat*	100.00			-	-	-	5.70	21.16
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	*Moose*	100.00			-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Lontra*		*Otter*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	*American Marten*	100.00			-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	*American Black Bear*	99.06			-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	*Grizzly Bear*	100.00			-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Lepus*	*Lepus americanus*	*Snowshoe Hare*	100.00			-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	*American Beaver*	100.00			-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			*Beaver*				-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			*Beaver*				-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		*Collared Lemming*				-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	*Canadian Lemming*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		*Lemming*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	*Eastern Meadow Vole*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	2.85	12.68	9.55
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		*Vole*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	*Northern Red-Backed Vole*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	*Muskrat*	100.00			-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	*Deer Mouse*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	-	3.90	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	*Western Heather Vole*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	19.00	-	14.61
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*				-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*				-	-	-	-	0.78
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*				-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	3.12	46.27	43.73
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	*North American Porcupine*	100.00			-	-	-	3.72	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	*Southern Flying Squirrel*	100.00			-	-	-	-	-

Appendix D4: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), June, 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US of S. Unuk			Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Aves	Passeriformes				-	-			-			-										
Vertebrates	Animalia	Chordata	Aves	Piciformes	Picidae	*Picoides*		-	-			-			-										
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Bison*	*Bison bison*	-	-			-			-										
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-			-			-										
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-			-			-										
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Lontra*		-	-			-			-										
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	-	-			-			-										
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-	-			-			-										
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-			-			-										
Vertebrates	Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Lepus*	*Lepus americanus*	-	-			-			-										
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-			-			-										
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-			-			-										
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-			-			-										
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		-	-			-			-										
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	-	-			-			-										
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-			-			-										
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	-	-			-			-										
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-			-			-										
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	-	-			-			-										
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	-	-			-			-										
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	-	-			-			-										
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-			-			-										
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-			-			-										
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-			-			-										
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-			-			-										
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-			95.98			-										
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	100.00	-			-			-										
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	-	-			-			-										

Appendix D4: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), June, 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets DS			Tiegen US			Tiegen DS			S. Teigen US2			S. Teigen US1			N. Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Aves	Passeriformes								-		-	-	-	-	-	0.38	-	22.92	-			
Vertebrates	Animalia	Chordata	Aves	Piciformes	Picidae	*Picoides*						-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Bison*	*Bison bison*					-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*					-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*					4.65		13.37	1.80	2.65	78.15	-	4.96	5.14	8.29	34.10			
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Lontra*						-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*					-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*					-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*					-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Lepus*	*Lepus americanus*					-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*					-		20.97	2.60	2.60	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae							-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae							-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*						-		-	-	-	-	-	-	4.18	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*					-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*						-		-	-	2.16	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*					-		2.73	3.06	2.95	-	72.44	3.74	5.67	3.73	14.53			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*						-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*					-		5.87	-	5.87	-	27.57	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*					-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*					-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*					-		-	11.29	7.17	-	-	-	6.31	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae							-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae							-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae							-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae							31.98		4.12	-	4.96	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*					-		-	-	3.68	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*					-		-	-	-	-	-	-	-	-	-			

Appendix D4: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), June, 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Aves	Passeriformes				2.77	17.98	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Aves	Piciformes	Picidae	*Picoides*		-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Bison*	*Bison bison*	-	4.18	-	-	-	-				-		-	24.71		-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-				34.87		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	65.36	3.52	-	1.86	15.13	13.08				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Lontra*		-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-	-	-	0.81	-	2.45				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Lepus*	*Lepus americanus*	-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	16.56	-	28.39	-				-		100.00	-		-	14.74	85.66	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	5.36	-	24.73	6.43	-	14.72				12.76		-	-		-	6.81	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			9.60	19.47	14.21	5.22	-	16.31				19.79		-	-		-	-	14.06	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	-	-	-	-	-	-				-		-	-		-	-	-	

Appendix D4: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), June, 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell US Treaty			Bell DS Treaty			Blank #1	Blank #2	Blank #3
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Aves	Passeriformes				-	-	2.73	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Piciformes	Picidae	*Picoides*		-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Bison*	*Bison bison*	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	0.85	-	1.45	-	7.58	5.37			
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	5.77	-	3.01	8.81	2.27	-			
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Lontra*		-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	7.99	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Lepus*	*Lepus americanus*	-	-	12.77	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	34.29	10.01	22.32	14.30	37.22	22.77			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	4.15	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	-	-	-	-	-	2.43			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		3.42	-	5.82	-	2.66	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	-	-	-	3.59	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	-	-	-	3.61	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-	0.84	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			3.70	7.52	6.54	2.33	48.34	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	-	-	-	-	-	-			

Appendix D4: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), June, 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
											Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		*Marmot*		This sequence was a 100% match to a single reference for Marmota vancouverensis (Critically Endangered - IUCN). This species is endemic to Vancouver Island and unlikely to occur in the sampling region. The sequence may originate from an unsequenced congener and hence has been conservatively identified to genus.		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus douglasii/Tamiasciurus hudsonicus*	*Douglas Squirrel/ American Red Squirrel*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	-	27.74	-
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	*Masked Shrew*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	*Longnose Sucker*	100.00		-	-	-		-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	*White Sucker*	100.00		-	-	-		-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Margariscus*		*Pearl Dace*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-		-	-
Fish	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	*Northern Pike*	100.00		-	-	-		-	-
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Perca*	*Perca flavescens*	*Yellow Perch*	100.00		-	-	-		-	0.16
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Sander*	*Sander vitreus*	*Walleye*	100.00		-	-	-		0.51	0.18
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus*		*Whitefish*			1.39	0.12	0.04		0.48	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	*Cutthroat Trout*	100.00		-	-	-		-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	*Coho Salmon*	100.00		-	-	-		-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*	*Rainbow Trout*	100.00		-	-	-		-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	*Sockeye Salmon*	100.00		-	-	-		-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	*Chinook Salmon*	100.00		-	-	-		-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		*Salmon/Trout*			-	-	-		-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		*Salmon/Trout*			-	-	-		-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	*Mountain Whitefish*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-		-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus alpinus*	*Arctic Char*	100.00		-	-	-		-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	*Bull Trout*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-		-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*	*Dolly Varden*	100.00		98.61	99.88	99.96		-	49.37
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*					-	-	-		-	-
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*		*Sculpin*			-	-	-		1.66	-
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	*Harlequin Duck*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-		-	-
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	*Eurasion Wren*	99.45	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-		-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	*Mountain Goat*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-		97.35	47.82
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	*Moose*	100.00		-	-	-		-	-
Fish	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	*Grizzly Bear*	100.00		-	-	-		-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	*American Beaver*	100.00		-	-	-		-	-

Appendix D4: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), June, 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US of S. Unuk			Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		-	-			-			-										
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus douglasii/Tamiasciurus hudsonicus*	-	-			-			-										
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	-			-			-										
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*																		
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*																		
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Margariscus*																			
Fish	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*																		
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Perca*	*Perca flavescens*																		
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Sander*	*Sander vitreus*																		
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus*																			
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*																		
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*																		
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*																		
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*																		
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*																		
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*																			
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*																			
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*																		
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus alpinus*																		
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*																		
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*																		
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*																			
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*																			
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*																		
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*																		
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*																		
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*																		
Fish	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*																		
Fish	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*																		

Appendix D4: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), June, 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets DS			Tiegen US			Tiegen DS			S. Teigen US2			S. Teigen US1			N. Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*						-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus douglasii/Tamiasciurus hudsonicus*					-		-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*					-		-	2.01	2.01	-	-	-	-	-	-			
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*				-	-	9.37	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*				-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.16
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Margariscus*					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*				-	-	-	-	-	-	-	-	-	-	-	-	-	0.16	0.44
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Perca*	*Perca flavescens*				-	-	-	-	-	-	-	0.20	0.24	0.09	-	0.15	0.17	0.34	0.30
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Sander*	*Sander vitreus*				0.20	0.09	-	-	0.15	0.06	0.06	-	0.16	-	0.11	0.11	0.20	-	0.27
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus*					-	0.12	0.15	0.11	-	0.06	0.11	-	0.30	-	0.13	0.19	-	0.43	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*				87.41	18.60	4.86	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*				0.23	37.06	65.70	26.02	-	56.68	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*				-	0.22	-	-	-	0.06	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*				-	0.50	9.80	-	-	1.84	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*				-	-	-	24.93	75.75	41.25	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus alpinus*				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*				-	42.30	-	36.55	23.95	23.95	-	88.13	99.31	99.84	86.78	90.86	99.63	77.36	98.83
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*					-	0.64	-	10.91	0.15	0.15	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*					1.56	0.12	0.18	0.11	-	0.11	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*				-	-	-	0.21	-	0.21	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*				-	0.34	9.95	0.89	-	0.89	98.32	-	-	0.07	8.88	0.99	-	4.14	-
Fish	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D4: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), June, 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		-	-	-	16.08	-	33.56				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus douglasii/Tamiasciurus hudsonicus*	-	-	-	-	-	-				-		-	-		-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	7.77	-	9.40	-	-	4.21				-		-	-		-	-	-	
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-	-	-	-					-	-			-	-		
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	-	0.25	-	-	-	-					-	-			-	-		
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Margariscus*		-	-	0.14	-	-	-					0.09	-			-	-		
Fish	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	-	-	-	-	-	-					-	-			-	-		
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Perca*	*Perca flavescens*	-	0.21	-	-	0.07	0.08					-	-			-	-		
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Sander*	*Sander vitreus*	0.26	1.00	-	-	-	0.15					-	-			-	0.07		
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus*		0.11	0.30	-	-	-	-					-	0.45			0.09	0.08		
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	-	-	-	-	-	-					-	-			-	-		
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	-	-	-	-	-	-					-	-			-	-		
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*	-	-	-	-	-	-					32.40	-			-	-		
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	-	-	-	-	-	-					-	-			-	-		
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	-	-	-	-	-	-					-	-			-	-		
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-					-	-			-	-		
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-					-	-			-	-		
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	-	-	-	-	-	-					-	-			-	99.84		
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus alpinus*	-	-	-	-	-	-					-	-			-	-		
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	-	-	-	-	-	-					-	-			-	-		
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*	60.04	0.38	99.86	97.09	48.95	99.77					67.43	99.45			99.91	-		
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-	-	-	-					0.08	-			-	-		
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*		-	-	-	-	-	-					-	-			-	-		
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	-	-	-	-	-	-					-	-			-	-		
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	-	-	-	-	-	-					-	-			-	-		
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	35.23	-					-	-			-	-		
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	39.58	97.86	-	2.72	14.33	-					-	-			-	-		
Fish	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-	-	-	-	-					-	-			-	-		
Fish	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	-	-	-	-					-	-			-	-		

Appendix D4: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), June, 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell US Treaty			Bell DS Treaty			Blank #1	Blank #2	Blank #3
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus douglasii/Tamiasciurus hudsonicus*	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	-	1.73	-	-	-			
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	1.27	11.13	-	7.06			
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	-	-	-	-	-	22.58			
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Margariscus*		-	-	-	-	-	-			
Fish	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	-	71.48	24.77	15.36	56.67	19.96			
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Perca*	*Perca flavescens*	-	-	-	-	-	-			
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Sander*	*Sander vitreus*	-	-	0.07	0.06	-	-			
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus*		-	-	-	-	-	-			
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	-	-	-	-	-	-			
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	-	-	-	-	-	14.74			
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*	-	-	16.06	8.69	-	0.19			
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	-	-	-	-	-	-			
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	-	-	38.48	7.30	-	0.74			
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-			
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-			
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	90.37	16.86	16.44	49.44	43.33	30.70			
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus alpinus*	-	-	-	-	-	-			
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	-	-	-	-	-	-			
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*	-	-	1.18	2.12	-	0.27			
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-	0.05	-	-			
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*		-	-	-	-	-	-			
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	-	-	-	-	-	-			
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	-	-	-	-	-	-			
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	9.50	11.66	1.73	-	-	3.05			
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-	5.85	-	0.72			
Fish	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-	-	-	-	-			
Fish	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	0.13	-	-	-	-	-			

Appendix D4: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), June, 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
											Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	*Northern Red-Backed Vole*	99.41	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-		-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	*Muskrat*	100.00		-	-	-		-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*		*Mouse*			-	-	-		-	0.67
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-		-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*			-	-	-		-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*		*Porcupine*			-	-	-		-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		*Marmot*		This sequence was a 100% match to a single reference for Marmota vancouverensis (Critically Endangered - IUCN). This species is endemic to Vancouver Island and unlikely to occur in the sampling region. The sequence may originate from an unsequenced congener and hence has been conservatively identified to genus.There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-		-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	*Common Shrew*	99.42	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-		-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*		*Shrew*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-		-	1.79
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae			*Shrew*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	*Mountain Goat*	100.00			-	-	-	-	71.80
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*		*Mountain Goat*				-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	*Moose*	100.00			-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	*Wolverine*	100.00			-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	*American Marten*	100.00			-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela vison*	*American Mink*	100.00			-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	*American Black Bear*	100.00			-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	*Grizzly Bear*	100.00			-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	*American Beaver*	100.00			-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae			*Beaver*				-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		*Lemming*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		*Vole*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		*Vole*				100.00	-	-	37.90	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*		*Muskrat*				-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	*Western Heather Vole*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	100.00	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*				-	-	-	1.29	-

Appendix D4: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), June, 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US of S. Unuk			Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*																		
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*																		
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*																			
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae																				
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae																				
Fish	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*																			
Fish	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*																			
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*																		
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*																			
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae																				
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*																		
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*																			
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*																		
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*																		
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*																		
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela vison*																		
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*																		
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*																		
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*																		
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae																				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*																			
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*																			
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*																			
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*																			
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*																		
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae																				

Appendix D4: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), June, 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets DS			Tiegen US			Tiegen DS			S. Teigen US2			S. Teigen US1			N. Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						10.60	-	-	0.27	-	0.06	1.51	11.66	-	-	4.10	7.71	-	17.56	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*							-	-	-	-			-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*								-	-	-	-			-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*							97.34	42.02	44.57	100.00			40.71	-	74.10		94.79	
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*							-	-	-	-			-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*							-	-	-	-			-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela vison*							-	-	-	-			-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*							-	-	-	-			-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*							-	-	-	-			-	-	25.90		-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*							-	-	20.59	-			-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae									-	-	-	-			-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*								-	-	-	-			-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*								-	-	-	-			-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*								-	32.59	32.59	-			-	100.00	-		-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*								-	-	-	-			-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*							2.66	16.34	16.34	-			59.29	-	-		5.21	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae									-	-	-	-			-	-	-		-	

Appendix D4: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), June, 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	-	-	-	-	-	-					-	-			-	-		
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	-	-	-	-	-	-					-	-			-	-		
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*		-	-	-	-	-	-					-	-			-	-		
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-					-	0.10			-	-		
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-					-	-			-	-		
Fish	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*		-	-	-	-	-	-					-	-			-	-		
Fish	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		-	-	-	0.18	1.42	-					-	-			-	-		
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	-	-	-	-	-					-	-			-	-		
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*		-	-	-	-	-	-					-	-			-	-		
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae			-	-	-	-	-	-					-	-			-	-		
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-		-	-	46.63	-				71.85	-	-	-					
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*		-		-	-	-	-				-	-	-	-					
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	100.00		-	40.12	53.37	29.65				-	-	100.00	50.37					
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	-		-	-	-	-				-	-	-	-					
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	-		-	-	-	-				-	-	-	-					
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela vison*	-		-	-	-	-				-	-	-	-					
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-		-	-	-	-				-	-	-	-					
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-		-	-	-	-				-	-	-	-					
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-		37.90	12.87	-	30.58				-	-	-	49.63					
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-		-	-	-	-				-	-	-	-					
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-		-	-	-	-				-	-	-	-					
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-		-	-	-	-				-	-	-	-					
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		-		-	-	-	-				28.15	-	-	-					
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*		-		-	-	-	-				-	-	-	-					
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-		-	-	-	22.49				-	-	-	-					
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-		-	39.14	-	-				-	100.00	-	-					

Appendix D4: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), June, 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell US Treaty			Bell DS Treaty			Blank #1	Blank #2	Blank #3
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	-	-	-	-	-	-			
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	-	-	-	-	-	-			
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*		-	-	-	-	-	-			
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-			
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-			
Fish	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*		-	-	-	-	-	-			
Fish	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		-	-	-	-	-	-			
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	-	-	-	-	-			
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*		-	-	-	-	-	-			
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae			-	-	-	-	-	-			
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	6.93	47.02	-	5.53	3.32	-			
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*		-	0.04	-	-	-	-			
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	0.92	-	57.61	50.86	43.42	66.40			
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	-	-	-	-	-	-			
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	-	-	4.59	-	-	-			
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela vison*	-	-	-	-	-	-			
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-	-	-	0.23	-	-			
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-	-	-	-	-			
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	60.17	47.71	34.21	33.84	43.19	33.60			
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-			
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-	-	-	-			
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-			
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		13.15	-	-	-	-	-			
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*		-	-	-	-	1.85	-			
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-	2.04	-	5.31	-			
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-			

Appendix D4: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), June, 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
											Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		*Marmot*		This sequence was a 100% match to a single reference for Marmota vancouverensis (Critically Endangered - IUCN). This species is endemic to Vancouver Island and unlikely to occur in the sampling region. The sequence may originate from an unsequenced congener and hence has been conservatively identified to genus.		-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	*American Red Squirrel*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	-	60.81	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae			*Squirrel*				-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	*Common Shrew*	100.00			-	100.00	-	-	28.20
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	*Longnose Sucker*	100.00			-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	*White Sucker*	100.00			-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae			*Sucker*				-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/ Prosopium*	*Coregonus autumnalis/Prosopium williamsoni*	*Acrtic Cisco/Mountain Whitefish*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch/Oncorhynchus mykiss*	*Coho Salmon/Rainbow Trout*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.		-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*	*Rainbow Trout*	100.00			-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		*Char*				-	-	-	-	-
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	*Western Toad*	100.00			-	-	-	-	-

Appendix D4: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), June, 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US of S. Unuk			Unuk DS of S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet			Sulphurets US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae																				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae																				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*																			
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*																		
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae																				
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*																		
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*																		
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*																		
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae																				
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/ Prosopium*	*Coregonus autumnalis/Prosopium williamsoni*																		
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch/Oncorhynchus mykiss*																		
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*																		
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*																			
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*																		

Appendix D4: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), June, 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets DS			Tiegen US			Tiegen DS			S. Teigen US2			S. Teigen US1			N. Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae									-	9.04	15.35	-			-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae									-	-	-	-			-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*								-	-	-	-			-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*							-	-	-	-			-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae									-	-	-	-			-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*							-	-	19.49	-			-	-	-		-	
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*							-	-	-	-			-	-	-		-	
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*							-	-	-	-			-	-	-		-	
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae									-	-	-	-			-	-	-		-	
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/ Prosopium*	*Coregonus autumnalis/Prosopium williamsoni*							-	-	-	-			-	-	-		-	
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch/Oncorhynchus mykiss*							-	-	-	-			-	-	-		-	
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*							-	-	-	-			-	-	-		-	
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*								-	-	-	-			-	-	-		-	
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*							-	-	-	-			-	-	-		-	

Appendix D4: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), June, 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-		-	-	-	-				-	-	-	-					
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-		-	-	-	-				-	-	-	-					
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		-		-	7.87	-	17.27				-	-	-	-					
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	-		-	-	-	-				-	-	-	-					
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae			-		-	-	-	-				-	-	-	-					
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-		62.10	-	-	-				-	-	-	-					
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-		-	-	-	-				-	-	-	-					
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	-		-	-	-	-				-	-	-	-					
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae			-		-	-	-	-				-	-	-	-					
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/ Prosopium*	*Coregonus autumnalis/Prosopium williamsoni*	-		-	-	-	-				-	-	-	-					
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch/Oncorhynchus mykiss*	-		-	-	-	-				-	-	-	-					
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*	-		-	-	-	-				-	-	-	-					
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-		-	-	-	-				-	-	-	-					
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-		-	-	-	-				-	-	-	-					

Appendix D4: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), June, 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell US Treaty			Bell DS Treaty			Blank #1	Blank #2	Blank #3
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			18.83	5.22	0.49	3.73	2.91	-			
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	2.92	-	-			
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		-	-	-	-	-	-			
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	-	-	-	-	-	-			
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae			-	-	-	-	-	-			
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	-	-	-	-	-			
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	0.45	2.89	-	-			
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	-	-	0.20	-	-	-			
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae			-	-	0.40	-	-	-			
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/ Prosopium*	*Coregonus autumnalis/Prosopium williamsoni*	-	-	-	-	-	-			
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch/Oncorhynchus mykiss*	-	-	-	-	-	-			
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*	-	-	-	-	-	-			
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-	-	-	-			
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	-	-	-	-			

Notes:

Blank cells indicate samples which failed to amplify and therefore eDNA metabarcoding was not successful

Dashes (-) indicate zero detections for a particular taxa in samples that successfully amplified and metabarcoding analysis was completed

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
											Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	*White Sucker*	100.00					-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus/Ictiobus*	*Catostomus catostomus/ Ictiobus cyprinellus*	*Longnose Sucker*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.				-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	*Northern Pike*	100.00					-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Gasterosteiformes	Gasterosteidae	*Gasterosteus*	*Gasterosteus aculeatus*	*Three-Spined Stickleback*	100.00					-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/ Oncorhynchus nerka*	*Pink Salmon/ Sockeye Salmon*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.				-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	*Coho Salmon*	100.00					-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	*Chinook Salmon*	100.00					-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*								-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus/ Salvelinus namaycush*	*Bull Trout*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.				33.61	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*								6.02	17.24	
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*								-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae									-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	*Coastrange Sculpin*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.				-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Siluriformes	Ictaluridae	*Ameiurus*	*Ameiurus nebulosus*	*Brown Bullhead*	100.00					-	-	
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	*Western Toad*	100.00					-	-	
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	*Columbia Spotted Frog*	100.00					-	-	
Vertebrates	Animalia	Chordata	Amphibia	Caudata	Ambystomatidae	*Ambystoma*		*Salamander*						-	-	
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*		*Eagle*						-	-	
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			*Duck*						-	-	
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			*Duck*						-	-	
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			*Duck*						-	-	
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			*Duck*						-	-	
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	*White-Tailed Ptarmigan*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.				-	-	
Vertebrates	Animalia	Chordata	Aves	Gaviiformes	Gaviidae	*Gavia*		*Loon*						-	-	
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*	*Bombycilla cedrorum/ Bombycilla garrulus*	*Cedar Waxwing*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.				-	-	
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	*American Dipper*	100.00					-	-	
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	*American Dipper*	99.08					-	-	
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	*Dark-Eyed Junco*	100.00					-	-	
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae			*Warbler*						-	-	
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	*Veery*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.				-	-	
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	*Swainson's Thrush*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.				-	-	
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	*Varied Thrush*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.				-	-	
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Turdus*		*Redwing*						-	-	

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US S. Unuk			Unuk DS S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus/Ictiobus*	*Catostomus catostomus/ Ictiobus cyprinellus*	-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Actinopterygii	Gasterosteiformes	Gasterosteidae	*Gasterosteus*	*Gasterosteus aculeatus*	-	-	-	-	-	-	2.64	-	-						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/ Oncorhynchus nerka*	17.28	-	-	-	-	-	2.58	0.90	-						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	49.90	-	14.85	-	16.26	18.17	16.34	2.64	43.63						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		0.49	-	0.09	-	0.12	0.09	4.81	1.50	0.22						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus/ Salvelinus namaycush*	16.05	31.52	12.23	0.34	49.70	0.12	6.26	70.95	21.79						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		0.33	35.87	18.86	61.95	2.14	27.75	35.95	9.47	0.39						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-	-	0.83	-	-	-	-						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	-	-	-	-	-	-	10.14	3.62	-						
Vertebrates	Animalia	Chordata	Actinopterygii	Siluriformes	Ictaluridae	*Ameiurus*	*Ameiurus nebulosus*	-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Amphibia	Caudata	Ambystomatidae	*Ambystoma*		-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*		-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	-	-	-	-	-	0.10						
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	-	-	-	-	-	30.75						
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Gaviiformes	Gaviidae	*Gavia*		-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*	*Bombycilla cedrorum/ Bombycilla garrulus*	-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae			-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Turdus*		-	-	-	-	-	-	-	-	-						

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*						-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus/Ictiobus*	*Catostomus catostomus/ Ictiobus cyprinellus*						-	-	0.27	-	-	-	-			-
Vertebrates	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*						-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Actinopterygii	Gasterosteiformes	Gasterosteidae	*Gasterosteus*	*Gasterosteus aculeatus*						-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/ Oncorhynchus nerka*						-	0.03	0.05	0.04	-	0.04	-			-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*						-	13.12	14.92	6.81	0.27	18.32	0.47			-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*						-	1.32	2.26	1.34	-	1.77	0.04			-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*							-	36.31	28.40	44.37	12.48	17.54	15.29			-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus/ Salvelinus namaycush*						37.38	2.09	2.84	5.93	1.94	12.35	13.15			0.37
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*							0.11	4.54	6.77	8.21	60.44	6.21	40.14			84.91
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*							-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae								-	28.32	36.31	32.17	-	33.90	1.18			-
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*						-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Actinopterygii	Siluriformes	Ictaluridae	*Ameiurus*	*Ameiurus nebulosus*						-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*						-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*						-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Amphibia	Caudata	Ambystomatidae	*Ambystoma*							-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*							-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae								-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae								-	0.30	0.08	-	0.07	-	0.15			-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae								-	0.07	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae								-	10.32	1.98	-	3.24	-	7.52			-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*						-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Aves	Gaviiformes	Gaviidae	*Gavia*							-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*	*Bombycilla cedrorum/ Bombycilla garrulus*						-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*						-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*						-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*						-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae								-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*						-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*						-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*						-	0.69	0.97	-	-	3.07	0.20			-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Turdus*							-	-	-	-	-	-	-			-

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus/Ictiobus*	*Catostomus catostomus/ Ictiobus cyprinellus*	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Gasterosteiformes	Gasterosteidae	*Gasterosteus*	*Gasterosteus aculeatus*	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/ Oncorhynchus nerka*	-	-	-	-	-	0.04	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	-	-	-	1.20	0.26	14.91	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	-	-	-	1.34	-	2.06	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	54.78	-	22.67	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus/ Salvelinus namaycush*	0.45	0.52	0.41	10.90	5.94	3.62	0.39	0.64	0.41	0.46	0.40	0.36
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		88.64	93.93	87.99	2.90	37.97	10.08	85.87	89.49	94.11	83.39	79.72	66.71
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	15.04	-	33.09	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Siluriformes	Ictaluridae	*Ameiurus*	*Ameiurus nebulosus*	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	2.76	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Caudata	Ambystomatidae	*Ambystoma*		-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*		-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	0.08	-	0.07	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	2.73	20.34	2.17	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Gaviiformes	Gaviidae	*Gavia*		-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*	*Bombycilla cedrorum/ Bombycilla garrulus*	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-	-	3.59	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-	-	0.62	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae			-	-	-	6.71	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	1.55	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	-	-	1.40	-	-	-	-	-	-	1.50	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	1.03	-	5.16	-	-	-	5.65	-	5.19	2.03	-	4.27
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Turdus*		-	-	-	-	-	-	-	-	-	-	-	-

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus/Ictiobus*	*Catostomus catostomus/ Ictiobus cyprinellus*	-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Gasterosteiformes	Gasterosteidae	*Gasterosteus*	*Gasterosteus aculeatus*	-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/ Oncorhynchus nerka*	-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	34.07	19.44	13.94	-			-	-	-	-	0.07	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		1.93	8.02	1.22	-			0.88	-	-	3.67	1.28	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus/ Salvelinus namaycush*	0.06	0.12	0.08	-			0.26	0.27	0.10	0.20	0.72	0.18
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		11.95	26.97	18.71	-			59.73	41.22	20.21	15.52	74.75	27.48
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-			-	-	-	11.28	5.65	-
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Siluriformes	Ictaluridae	*Ameiurus*	*Ameiurus nebulosus*	-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	6.58	2.57	2.02	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Caudata	Ambystomatidae	*Ambystoma*		-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*		-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			0.38	0.49	0.42	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			0.11	0.14	0.11	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			40.17	36.90	54.95	-			-	-	-	4.64	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Gaviiformes	Gaviidae	*Gavia*		-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*	*Bombycilla cedrorum/ Bombycilla garrulus*	-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae			-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	-	-	-	25.16			-	-	4.79	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Turdus*		-	-	-	-			-	-	-	-	-	-

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty DS			Bell US Treaty			Bell DS Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus/Ictiobus*	*Catostomus catostomus/ Ictiobus cyprinellus*	-	-	-	-	-	1.81	4.76	-	1.12
Vertebrates	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Gasterosteiformes	Gasterosteidae	*Gasterosteus*	*Gasterosteus aculeatus*	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/ Oncorhynchus nerka*	-	-	-	0.84	0.70	0.04	0.05	0.10	0.60
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	27.10	35.99	37.02	28.94	13.78	21.88	34.08	16.17	21.84
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	-	-	-	11.10	5.08	2.36	7.01	7.07	8.87
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		0.17	7.73	1.65	18.28	7.10	12.49	0.49	6.24	10.10
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus/ Salvelinus namaycush*	0.15	5.93	0.37	9.33	1.89	4.09	3.98	0.03	5.32
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		22.48	18.41	14.31	3.72	0.37	2.63	2.63	5.96	1.62
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	1.22	6.77	10.66	41.63	14.72	21.96	35.41	25.64
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Siluriformes	Ictaluridae	*Ameiurus*	*Ameiurus nebulosus*	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	0.68	-	-	-	-	1.87	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	11.33	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Caudata	Ambystomatidae	*Ambystoma*		-	4.11	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*		-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	0.04	-	-	-	0.38	-	-	0.07
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	0.07	-	-	0.10	-	-	0.06
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	1.34	11.70	-	1.68	20.38	-	-	5.47
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Gaviiformes	Gaviidae	*Gavia*		-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*	*Bombycilla cedrorum/ Bombycilla garrulus*	-	-	-	-	-	-	-	-	0.49
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	-	-	-	-	-	2.25	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	2.81	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	-	3.00	-	0.04	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Turdus*		-	-	-	1.90	-	-	-	-	-

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Blank 1	Blank 2	Blank 3	Blank 4	Blank 5	Blank 6	Blank 7	Blank 8	Blank 9
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*				-					-
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus/Ictiobus*	*Catostomus catostomus/ Ictiobus cyprinellus*				-					-
Vertebrates	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*				-					-
Vertebrates	Animalia	Chordata	Actinopterygii	Gasterosteiformes	Gasterosteidae	*Gasterosteus*	*Gasterosteus aculeatus*				-					-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/ Oncorhynchus nerka*				-					-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*				62.36					-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*				-					-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*					0.42					-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus/ Salvelinus namaycush*				0.25					-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*					36.97					-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*					-					-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae						-					-
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*				-					-
Vertebrates	Animalia	Chordata	Actinopterygii	Siluriformes	Ictaluridae	*Ameiurus*	*Ameiurus nebulosus*				-					-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*				-					-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*				-					-
Vertebrates	Animalia	Chordata	Amphibia	Caudata	Ambystomatidae	*Ambystoma*					-					-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*					-					-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae						-					-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae						-					-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae						-					-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae						-					-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*				-					-
Vertebrates	Animalia	Chordata	Aves	Gaviiformes	Gaviidae	*Gavia*					-					-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*	*Bombycilla cedrorum/ Bombycilla garrulus*				-					-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*				-					-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*				-					-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*				-					-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae						-					-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*				-					-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*				-					-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*				-					-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Turdus*					-					-

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
											Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Aves	Passeriformes						There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.				-	-	
Vertebrates	Animalia	Chordata	Aves	Piciformes	Picidae	*Picoides*		*Woodpecker*						-	-	
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Bison*	*Bison bison*	*American Bison*	100.00					-	-	
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	*Mountain Goat*	100.00					-	-	
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	*Moose*	100.00					-	-	
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Lontra*		*Otter*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.				-	-	
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	*American Marten*	100.00					-	-	
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	*American Black Bear*	99.06					-	-	
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	*Grizzly Bear*	100.00					15.20	-	
Vertebrates	Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Lepus*	*Lepus americanus*	*Snowshoe Hare*	100.00					-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	*American Beaver*	100.00					-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			*Beaver*						-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			*Beaver*						-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		*Collared Lemming*						-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	*Canadian Lemming*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.				-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		*Lemming*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.				-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	*Eastern Meadow Vole*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.				17.54	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		*Vole*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.				-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	*Northern Red-Backed Vole*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.				-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	*Muskrat*	100.00					-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	*Deer Mouse*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.				-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	*Western Heather Vole*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.				-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*						-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*						-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*						-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.				11.40	18.04	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	*North American Porcupine*	100.00					-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	*Southern Flying Squirrel*	100.00					-	-	

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US S. Unuk			Unuk DS S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Aves	Passeriformes				-	-	-	-	-	53.87	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Piciformes	Picidae	*Picoides*		-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Bison*	*Bison bison*	-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-	2.14	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Lontra*		-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Lepus*	*Lepus americanus*	-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	4.49	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		-	13.48	-	-	30.95	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	-	-	8.34	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	3.16	-	-	-	-	-	2.38	2.14	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	-	9.63	-	-	-	-	1.10	5.09	2.01						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			12.80	-	28.77	-	-	-	3.15	2.27	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	-	-	-	37.70	-	-	4.02	0.60	1.11						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	-	-	-	-	-	-	-	-	-						

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Aves	Passeriformes									-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Aves	Piciformes	Picidae	*Picoides*							-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Bison*	*Bison bison*						-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*						-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*						-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Lontra*							-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*						-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*						-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*						-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Lepus*	*Lepus americanus*						-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*						-	1.69	0.66	-	-	2.50	0.14			-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae								-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae								-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*							-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*						-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*							-	-	-	-	-	-	1.34			-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*						-	-	-	-	-	0.99	8.57			-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*							-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*						-	-	0.61	-	-	-	4.19			-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*						-	-	-	-	-	0.96	0.04			-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*						-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*						-	-	-	-	-	-	-			8.97
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae								-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae								-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae								-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae								-	0.87	1.36	1.12	21.56	1.87	7.57			-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*						-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*						-	-	-	-	-	-	-			-

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Aves	Passeriformes				-	-	-	0.04	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Piciformes	Picidae	*Picoides*		-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Bison*	*Bison bison*	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Lontra*		-	-	1.23	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Lepus*	*Lepus americanus*	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	-	-	-	8.36	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		-	-	-	-	7.43	-	1.99	-	-	-	6.80	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-	0.07	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	2.82	1.81	3.82	-	22.82	-	1.40	9.87	-	7.06	1.18	0.93
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	-	1.91	-	-	-	-	-	-	-	-	2.51	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	-	-	-	-	-	-	-	-	0.29	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	2.75	-	-	-	-	1.70	1.45	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	1.21	1.09	-	-	5.56	8.79	25.15
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	-	-	-	-	-	-	-	-	-	-	-	2.36
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Aves	Passeriformes				-	-	3.42	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Piciformes	Picidae	*Picoides*		-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Bison*	*Bison bison*	-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	2.78	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-	-			-	-	-	-	0.45	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Lontra*		-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	-	5.35	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-	-	-			11.25	10.53	1.47	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Lepus*	*Lepus americanus*	-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	1.71	-	-	-			-	-	-	5.20	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-	-			-	-	-	0.07	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	-	-	-	-			0.16	-	0.13	2.14	0.46	13.34
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-			-	-	6.97	2.40	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	0.27	-	-	-			-	-	-	-	-	2.06
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	-	-	-	-			-	-	-	0.23	0.06	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-			0.84	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-			-	-	2.50	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-			2.97	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-			23.90	47.99	63.82	54.66	16.58	39.37
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	-	-	0.82	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	-	-	-	-			-	-	-	-	-	-

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty DS			Bell US Treaty			Bell DS Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Aves	Passeriformes				-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Piciformes	Picidae	*Picoides*		-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Bison*	*Bison bison*	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	2.74	-	0.45	-	-	0.49	0.36
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Lontra*		-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-	-	-	-	-	-	0.26	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-	-	-	-	-	-	-	0.36
Vertebrates	Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Lepus*	*Lepus americanus*	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	11.68	14.98	16.29	2.58	17.68	11.07	11.11	10.88	10.55
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-	-	3.90	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		-	-	-	-	1.33	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	-	-	-	1.28	-	0.03	-	-	0.74
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-	5.48	2.67	2.92	3.74	1.16	2.98
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	10.83	0.66	0.60	2.04	0.60	1.02	1.79	10.03	1.01
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-	0.26	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	5.03	4.68	7.14	-	1.00	-	1.07	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	8.41	0.18	-	-	-	-	-	0.17	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	-	-	-	1.98	-	0.85	1.33	-	0.29
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-	-	1.80	-	0.98	2.64	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	1.73	0.66	0.04	3.00	-	2.83	0.52	1.65
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	-	-	-	-	0.46	-	-	-	0.37
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	-	-	-	-	-	-	-	-	0.50

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Blank 1	Blank 2	Blank 3	Blank 4	Blank 5	Blank 6	Blank 7	Blank 8	Blank 9
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Aves	Passeriformes							-					-
Vertebrates	Animalia	Chordata	Aves	Piciformes	Picidae	*Picoides*					-					-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Bison*	*Bison bison*				-					-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*				-					-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*				-					-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Lontra*					-					-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*				-					-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*				-					-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*				-					-
Vertebrates	Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Lepus*	*Lepus americanus*				-					-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*				-					-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae						-					-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae						-					-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*					-					-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*				-					-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*					-					-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*				-					-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*					-					-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*				-					-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*				-					-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*				-					-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*				-					-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-					-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-					-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-					-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-					-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*				-					-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*				-					-

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
											Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		*Marmot*		This sequence was a 100% match to a single reference for Marmota vancouverensis (Critically Endangered - IUCN). This species is endemic to Vancouver Island and unlikely to occur in the sampling region. The sequence may originate from an unsequenced congener and hence has been conservatively identified to genus.				-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus douglasii/ Tamiasciurus hudsonicus*	*Douglas Squirrel/American Red Squirrel*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.				-	-	
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	*Masked Shrew*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.				16.23	64.72	
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	*Longnose Sucker*	100.00		-	-		-		-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	*White Sucker*	100.00		-	-		-		-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Margariscus*		*Pearl Dace*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-		-
Fish	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	*Northern Pike*	100.00		-	-		-		-
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Perca*	*Perca flavescens*	*Yellow Perch*	100.00		-	-		-		-
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Sander*	*Sander vitreus*	*Walleye*	100.00		-	-		-		-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus*		*Whitefish*			-	-		-		-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	*Cutthroat Trout*	100.00		-	-		-		-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	*Coho Salmon*	100.00		1.21	37.28		-		-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*	*Rainbow Trout*	100.00		-	-		-		-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	*Sockeye Salmon*	100.00		33.60	-		-		-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	*Chinook Salmon*	100.00		-	-		-		-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		*Salmon/Trout*			0.07	3.33		-		-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		*Salmon/Trout*			-	-		-		-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	*Mountain Whitefish*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-		-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus alpinus*	*Arctic Char*	100.00		62.79	55.54		-		-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	*Bull Trout*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-		-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*	*Dolly Varden*	100.00		0.43	0.91		100.00		100.00
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*					1.90	2.94		-		-
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*		*Sculpin*			-	-		-		-
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	*Harlequin Duck*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-		-
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	*Eurasion Wren*	99.45	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-		-

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US S. Unuk			Unuk DS S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus douglasii/ Tamiasciurus hudsonicus*	-	-	-	-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	5.01	16.88	-	-	-	8.48	0.80	-						
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*					-	-	-	-	-						
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*					-	-	-	-	-						
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Margariscus*						-	-	-	-	-						
Fish	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*					-	-	-	-	-						
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Perca*	*Perca flavescens*					-	-	-	-	-						
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Sander*	*Sander vitreus*					-	-	-	-	-						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus*						-	-	-	-	-						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*					-	-	-	1.89	-						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*					84.67	12.48	25.49	-	42.45						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*					-	-	-	-	-						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*					-	12.28	10.97	2.80	2.22						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*					0.06	0.25	2.75	-	2.30						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*						2.21	11.78	1.11	-	2.67						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*						-	-	-	1.18	-						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*					-	-	-	-	-						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus alpinus*					9.81	26.43	20.41	48.20	20.32						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*					-	-	-	-	-						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*					0.83	19.58	18.50	23.57	23.04						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*						2.41	3.96	1.95	1.29	7.00						
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*						-	-	18.82	21.00	-						
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*					-	-	-	-	-						
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*					-	-	-	-	-						

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*							-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus douglasii/ Tamiasciurus hudsonicus*						-	-	-	-	-	-	-			-
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*						62.52	0.32	2.51	-	-	0.48	-			5.75
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*							1.13	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Margariscus*								-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Perca*	*Perca flavescens*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Sander*	*Sander vitreus*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus*								-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*							9.17	11.04	15.58	-	22.46	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*							48.11	26.19	34.38	13.90	26.97	23.56	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*							0.45	0.30	0.93	-	0.38	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*							4.97	2.61	5.21	-	5.33	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*								0.10	0.36	0.45	-	0.45	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*								-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*							28.69	32.25	35.20	-	34.02	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus alpinus*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*							2.26	7.52	4.43	15.91	6.20	15.87	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*							3.24	18.06	2.70	70.14	3.33	57.49	98.19	100.00	100.00
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*								0.31	1.54	0.78	0.04	0.87	0.08	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*								-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*							1.56	0.13	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*							-	-	-	-	-	-	-	-	-

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus douglasii/ Tamiasciurus hudsonicus*	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	1.82	-	-	5.22	-	2.14	-	-	-	0.60	0.22
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-	1.02	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Margariscus*		-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Perca*	*Perca flavescens*	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Sander*	*Sander vitreus*	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus*		-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	-	-	-	14.41	-	20.94	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*	-	-	-	27.90	21.83	19.50	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	-	-	-	0.42	-	0.34	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	-	-	-	1.16	-	5.52	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	0.72	-	0.48	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	-	-	-	30.28	-	36.16	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus alpinus*	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	-	-	-	13.43	3.56	6.13	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*	99.78	99.81	100.00	9.04	72.82	9.29	99.54	99.85	100.00	99.90	99.80	98.11
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-	1.61	0.07	1.63	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*		-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	-	-	-	-	1.33	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus douglasii/ Tamiasciurus hudsonicus*	-	-	-	-			-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	-	4.31	74.84			-	-	-	-	-	17.58
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-				-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	-	-	-				-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Margariscus*		-	-	-				-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	-	-	-				-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Perca*	*Perca flavescens*	-	-	-				-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Sander*	*Sander vitreus*	-	-	-				-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus*		-	-	-				-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	-	-	-				-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	56.26	46.62	38.68				-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*	0.79	6.11	2.67				-	-	-	13.47	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	-	0.18	0.10				-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	1.64	1.86	1.14				-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-				-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-				-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	-	-	-				-	-	-	27.31	1.28	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus alpinus*	-	-	-				-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	-	-	-				-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*	29.35	39.30	31.86				100.00	95.37	100.00	59.01	98.65	99.80
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		3.10	3.82	2.33				-	-	-	0.20	0.07	-
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*		-	-	-				-	-	-	-	-	-
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	8.85	2.10	23.22				-	-	-	-	-	-
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	-	-	-				-	-	-	-	-	-

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty DS			Bell US Treaty			Bell DS Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus douglasii/ Tamiasciurus hudsonicus*	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	-	-	-	0.60	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-	4.00	2.36	-	1.67	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Margariscus*		-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Perca*	*Perca flavescens*	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Sander*	*Sander vitreus*	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus*		-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	66.92	59.13	78.64	30.68	15.97	38.06	33.70	35.76	29.25
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*	10.62	-	15.31	12.70	6.74	17.85	5.05	4.24	9.90
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	0.26	-	0.62	8.35	0.86	0.65	3.16	0.13	0.26
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	0.65	1.12	-	5.63	10.43	6.36	12.42	4.50	30.95
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	0.97	-	0.28	0.11	0.57	0.11	-	0.30
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	9.52	5.42	4.14	34.86	61.35	31.69	41.39	46.64	23.52
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus alpinus*	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	-	5.29	-	2.31	0.45	2.94	0.71	-	2.44
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*	10.40	22.44	-	0.42	1.35	0.92	1.25	7.56	2.62
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		1.62	3.34	-	0.32	0.28	0.70	0.37	1.04	0.47
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*		-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	-	-	-	-	-	-	-	-	-

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Blank 1	Blank 2	Blank 3	Blank 4	Blank 5	Blank 6	Blank 7	Blank 8	Blank 9
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*					-					-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus douglasii/ Tamiasciurus hudsonicus*				-					-
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*				-					100.00
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*				-	-				
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*				-	-				
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Margariscus*					-	-				
Fish	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*				-	-				
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Perca*	*Perca flavescens*				-	-				
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Sander*	*Sander vitreus*				-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus*					-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*				-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*				100.00	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*				-	100.00				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*				-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*				-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*					-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*					-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*				-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus alpinus*				-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*				-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*				-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*					-	-				
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*					-	-				
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*				-	-				
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*				-	-				

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
											Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	*Mountain Goat*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-		-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	*Moose*	100.00		-	-		-		-
Fish	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	*Grizzly Bear*	100.00		-	-		-		-
Fish	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	*American Beaver*	100.00		-	-		-		-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	*Northern Red-Backed Vole*	99.41	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-		-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	*Muskrat*	100.00		-	-		-		-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*		*Mouse*			-	-		-		-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-		-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*			-	-		-		-
Fish	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*		*Porcupine*			-	-		-		-
Fish	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		*Marmot*		This sequence was a 100% match to a single reference for Marmota vancouverensis (Critically Endangered - IUCN). This species is endemic to Vancouver Island and unlikely to occur in the sampling region. The sequence may originate from an unsequenced congener and hence has been conservatively identified to genus.There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-		-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	*Common Shrew*	99.42	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-		-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*		*Shrew*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-		-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae			*Shrew*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-		-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	*Mountain Goat*	100.00		-					-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*		*Mountain Goat*			-					-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	*Moose*	100.00		-					-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	*Wolverine*	100.00		-					-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	*American Marten*	100.00		-					-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela vison*	*American Mink*	100.00		-					-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	*American Black Bear*	100.00		-					-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	*Grizzly Bear*	100.00		-					-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	*American Beaver*	100.00		-					-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae			*Beaver*			-					-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		*Lemming*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-					-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		*Vole*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-					-

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US S. Unuk			Unuk DS S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*					-	-	-	-	-						
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*					-	-	-	0.06	-						
Fish	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*					-	-	-	-	-						
Fish	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*					-	11.47	-	-	-						
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*					-	-	-	-	-						
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*					-	-	-	-	-						
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*						-	1.76	-	-	-						
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae							-	-	-	-	-						
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae							-	-	-	-	-						
Fish	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*						-	-	-	-	-						
Fish	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*						-	-	-	-	-						
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*					-	-	-	-	-						
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*						-	-	-	-	-						
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae							-	-	-	-	-						
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*							-	-							
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*								-	-							
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*							-	-							
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*							-	-							
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*							-	-							
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela vison*							-	-							
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*							-	-							
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*							-	-							
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*							-	99.95							
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae									-	-							
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*								-	-							
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*								-	-							

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*							-	-	-	-	-	-	1.81	-	-
Fish	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*								-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae									-	-	0.19	-	-	2.83	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae									-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*								-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*								-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*							-	-	0.15	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*								-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae									-	-	-	-	-	0.18	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*							-	-	-	-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*								-	-	-	-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*							-	-	-	-	-	-		72.65	
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*							-	-	-	-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*							-	-	-	-	-	-		0.22	
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela vison*							-	-	-	-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*							-	-	-	-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*							-	-	-	-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*							32.34	22.88	60.06	-	33.71	-		-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae									-	-	-	-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*								-	-	-	-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*								-	-	-	-	-	-		-	

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	0.19	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	-	-	-	-	0.39	-	-	-	-	-	0.20	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*		-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			0.22	-	-	-	-	-	0.40	-	-	0.10	-	1.89
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*		-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	-	-	-	-	-	-	0.15	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*		-	-	-	-	-	-	0.06	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae			-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*			-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela vison*		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*		-		32.45	-	100.00	-	-	97.63	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae				-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*			-		0.06	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*			-		-	-	-	-	-	-	-	-	-

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-				-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-				-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-	-				-	4.63	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	-				-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	-	-	-				-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	-	-	-				-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*		-	-	-				-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-				-	-	-	-	-	0.20
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-				-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*		-	-	-				-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		-	-	-				-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	-	-				-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*		-	-	-				-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae			-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	41.27	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*		-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	-	51.30	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela vison*	-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-	-				21.91	100.00	16.24	-	0.80	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	71.26				39.21	-	-	100.00	30.79	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-				0.57	-	53.98	-	1.19	0.94

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty DS			Bell US Treaty			Bell DS Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	0.10	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	0.11	0.38	-	0.10	0.27	0.16	0.12	0.28
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	-	1.97	0.05	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	-	0.10	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*		-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	0.10	0.75	0.45	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*		-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*		-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae			-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-	3.04	-	1.34	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	-	-	16.10	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela vison*	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-	-	-	-	-	-	-	3.95	1.22
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-	-	-	-	-	-	1.90	0.09
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	54.03	44.60	80.24	62.38	69.71	62.93	82.04	62.63	56.35
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	2.33	-	-	1.42
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-	-	-	11.66	0.05	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-	-	-	-

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Blank 1	Blank 2	Blank 3	Blank 4	Blank 5	Blank 6	Blank 7	Blank 8	Blank 9
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*				-	-				
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*				-	-				
Fish	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*				-	-				
Fish	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*				-	-				
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*				-	-				
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*				-	-				
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*					-	-				
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-	-				
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-	-				
Fish	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*					-	-				
Fish	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*					-	-				
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*				-	-				
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*					-	-				
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae						-	-				
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*									
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*										
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*									
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*									
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*									
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela vison*									
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*									
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*									
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*									
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae											
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*										
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*										

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
											Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		*Vole*			100.00					-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*		*Muskrat*			-					-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	*Western Heather Vole*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-					-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*			-					-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-					-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-					-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		*Marmot*		This sequence was a 100% match to a single reference for Marmota vancouverensis (Critically Endangered - IUCN). This species is endemic to Vancouver Island and unlikely to occur in the sampling region. The sequence may originate from an unsequenced congener and hence has been conservatively identified to genus.	-					-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	*American Red Squirrel*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-					74.74
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae			*Squirrel*			-					-
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	*Common Shrew*	100.00		-					25.26
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	*Longnose Sucker*	100.00		-					-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	*White Sucker*	100.00		-					-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae			*Sucker*			-					-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/Prosopium*	*Coregonus autumnalis/ Prosopium williamsoni*	*Acrtic Cisco/Mountain Whitefish*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-					-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch/ Oncorhynchus mykiss*	*Coho Salmon/Rainbow Trout*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-					-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*	*Rainbow Trout*	100.00		-					-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		*Char*			-					-
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	*Western Toad*	100.00		-					-

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US S. Unuk			Unuk DS S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*								-	-							
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*								-	-							
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*							-	-							
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae									3.93	-							
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae									-	-							
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae									-	-							
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*								-	-							
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*							-	-							
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae									-	-							
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*							96.07	-							
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*							-	-							
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*							-	-							
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae									-	-							
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/Prosopium*	*Coregonus autumnalis/ Prosopium williamsoni*							-	-							
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch/ Oncorhynchus mykiss*							-	-							
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*							-	-							
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*								-	0.05							
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*							-	-							

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*								20.61	-	-	-	-	100.00		25.54	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*								-	-	-	-	44.43	-		-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*							-	-	27.48	-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae									-	-	-	-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae									-	11.63	-	100.00	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae									-	-	-	-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*								-	-	-	-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*							-	-	-	-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae									-	-	-	-	-	-		-	
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*							36.20	65.05	11.94	-	19.81	-		-	
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*							10.39	-	-	-	-	-		-	
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*							-	-	-	-	-	-		-	
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae									-	-	-	-	-	-		-	
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/Prosopium*	*Coregonus autumnalis/ Prosopium williamsoni*							0.47	-	0.52	-	-	-		-	
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch/ Oncorhynchus mykiss*							-	-	-	-	-	-		-	
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*							-	0.44	-	-	2.05	-		-	
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*								-	-	-	-	-	-		1.59	
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*							-	-	-	-	-	-		-	

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*			-		-	82.88	-	-	-	-	27.59	99.44	100.00
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*			-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-		31.79	17.12	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*			-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae				-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*		-		29.41	-	-	99.69	99.80	-	67.53	-	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae				-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/Prosopium*	*Coregonus autumnalis/ Prosopium williamsoni*		-		6.20	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch/ Oncorhynchus mykiss*		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*			100.00		0.10	-	-	0.31	0.20	2.37	4.88	0.56	-
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*		-		-	-	-	-	-	-	-	-	-

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		40.57	45.25	-				-	-	-	-	28.54	70.61
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*		-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-	-				-	-	20.33	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-				38.31	-	9.44	-	38.27	27.08
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae			-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae			-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/Prosopium*	*Coregonus autumnalis/ Prosopium williamsoni*	-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch/ Oncorhynchus mykiss*	0.12	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*	-	-	-				-	-	-	-	-	0.27
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-				-	-	-	-	0.41	1.10
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	18.04	3.45	28.74				-	-	-	-	-	-

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty DS			Bell US Treaty			Bell DS Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		-	17.36	3.66	-	-	-	12.12	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*		45.97	12.80	-	-	2.75	-	-	-	5.84
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-	-	-	-	4.63	-	-	14.88
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	34.58	15.70	17.06	5.57	31.52	5.80
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae			-	-	-	-	-	-	-	-	4.66
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	25.24	-	-	11.83	-	-	-	9.58
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae			-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/Prosopium*	*Coregonus autumnalis/ Prosopium williamsoni*	-	-	-	-	-	-	0.22	-	0.06
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch/ Oncorhynchus mykiss*	-	-	-	-	-	0.06	-	-	0.09
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	-	-	-	-	-	-	-

Appendix D5: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Blank 1	Blank 2	Blank 3	Blank 4	Blank 5	Blank 6	Blank 7	Blank 8	Blank 9
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*										
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*										
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*									
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae											
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae											
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae											
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*										
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*									
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae											
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*									
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*									
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*									
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae											
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/Prosopium*	*Coregonus autumnalis/ Prosopium williamsoni*									
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch/ Oncorhynchus mykiss*									
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*									
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*										
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*									

Notes:

Blank cells indicate samples which failed to amplify and therefore eDNA metabarcoding was not successful

Dashes (-) indicate zero detections for a particular taxa in samples that successfully amplified and metabarcoding analysis was completed

Appendix D6: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
											Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	*White Sucker*	100.00		-				-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus/Ictiobus*	*Catostomus catostomus/ Ictiobus cyprinellus*	*Longnose Sucker*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-				-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	*Northern Pike*	100.00		-				-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Gasterosteiformes	Gasterosteidae	*Gasterosteus*	*Gasterosteus aculeatus*	*Three-Spined Stickleback*	100.00		-				-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/ Oncorhynchus nerka*	*Pink Salmon/ Sockeye Salmon*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-				-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	*Coho Salmon*	100.00		-				-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	*Chinook Salmon*	100.00		-				-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*					-				-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus/Salvelinus namaycush*	*Bull Trout*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0.50				0.16	0.20
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*					99.50				29.69	43.24
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*					-				-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae						-				-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	*Coastrange Sculpin*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-				-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Siluriformes	Ictaluridae	*Ameiurus*	*Ameiurus nebulosus*	*Brown Bullhead*	100.00		-				-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	*Western Toad*	100.00		-				-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	*Columbia Spotted Frog*	100.00		-				-	-
Vertebrates	Animalia	Chordata	Amphibia	Caudata	Ambystomatidae	*Ambystoma*		*Salamander*			-				-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*		*Eagle*			-				-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			*Duck*			-				-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			*Duck*			-				-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			*Duck*			-				-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			*Duck*			-				-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	*White-Tailed Ptarmigan*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-				-	-
Vertebrates	Animalia	Chordata	Aves	Gaviiformes	Gaviidae	*Gavia*		*Loon*			-				-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*	*Bombycilla cedrorum/ Bombycilla garrulus*	*Cedar Waxwing*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-				-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	*American Dipper*	100.00		-				-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	*American Dipper*	99.08		-				-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	*Dark-Eyed Junco*	100.00		-				-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae			*Warbler*			-				-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	*Veery*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-				-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	*Swainson's Thrush*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-				-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	*Varied Thrush*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-				-	47.59
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Turdus*		*Redwing*			-				-	-

Appendix D6: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US S. Unuk			Unuk DS S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus/Ictiobus*	*Catostomus catostomus/ Ictiobus cyprinellus*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Actinopterygii	Gasterosteiformes	Gasterosteidae	*Gasterosteus*	*Gasterosteus aculeatus*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/ Oncorhynchus nerka*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	11.39		-		35.14	42.56	67.58		24.71						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		0.06		-		0.18	0.19	0.32		0.12						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus/Salvelinus namaycush*	-		-		11.75	12.83	-		-						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		0.05		-		0.18	32.46	0.39		0.11						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Actinopterygii	Siluriformes	Ictaluridae	*Ameiurus*	*Ameiurus nebulosus*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Amphibia	Caudata	Ambystomatidae	*Ambystoma*		-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*		-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Aves	Gaviiformes	Gaviidae	*Gavia*		-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*	*Bombycilla cedrorum/ Bombycilla garrulus*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae			-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Turdus*		-		-		-	-	-		-						

Appendix D6: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*				-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus/Ictiobus*	*Catostomus catostomus/ Ictiobus cyprinellus*				-	-	-	-	6.98	3.71	5.84	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*				-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Gasterosteiformes	Gasterosteidae	*Gasterosteus*	*Gasterosteus aculeatus*				-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/ Oncorhynchus nerka*				-	-	-	-	-	0.03	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*				-	-	-	42.57	50.64	36.17	45.34	38.28	46.88	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*				-	-	-	0.66	0.37	2.23	-	2.01	0.22	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*					-	-	-	17.53	34.46	15.13	12.04	15.23	19.98	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus/Salvelinus namaycush*				-	-	-	8.37	-	4.87	5.69	2.32	0.03	0.49	0.49	0.51
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*					-	-	-	9.44	1.33	7.62	13.14	9.55	5.98	88.57	90.19	92.71
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*					-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae						-	-	-	13.63	2.55	15.46	9.15	23.02	5.00	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*				-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Siluriformes	Ictaluridae	*Ameiurus*	*Ameiurus nebulosus*				-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*				-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*				-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Caudata	Ambystomatidae	*Ambystoma*					-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*					-	-	-	-	-	-	2.69	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae						-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae						-	-	-	-	-	0.07	-	-	0.34	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae						-	-	-	-	-	-	-	-	0.08	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae						-	-	-	-	-	2.18	-	-	15.07	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*				-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Gaviiformes	Gaviidae	*Gavia*					-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*	*Bombycilla cedrorum/ Bombycilla garrulus*				-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*				-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*				-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*				-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae						-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*				-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*				-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*				-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Turdus*					-	-	-	-	-	-	-	-	-	-	-	-

Appendix D6: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus/Ictiobus*	*Catostomus catostomus/ Ictiobus cyprinellus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Gasterosteiformes	Gasterosteidae	*Gasterosteus*	*Gasterosteus aculeatus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/ Oncorhynchus nerka*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	-	-	-	0.09	0.15	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	8.91	7.48	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus/Salvelinus namaycush*	0.57	0.46	0.48	0.35	0.32	0.32	0.38	0.36	0.41	0.46	0.83	0.94	0.58	0.57	
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		91.43	97.19	95.15	41.14	65.04	75.02	96.78	85.69	99.59	99.54	85.40	92.39	99.42	99.43	
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Actinopterygii	Siluriformes	Ictaluridae	*Ameiurus*	*Ameiurus nebulosus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Amphibia	Caudata	Ambystomatidae	*Ambystoma*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	0.07	-	0.03	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	0.03	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	6.13	-	4.34	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Aves	Gaviiformes	Gaviidae	*Gavia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*	*Bombycilla cedrorum/ Bombycilla garrulus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	-	-	-	5.98	-	3.27	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Turdus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Appendix D6: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus/Ictiobus*	*Catostomus catostomus/ Ictiobus cyprinellus*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Gasterosteiformes	Gasterosteidae	*Gasterosteus*	*Gasterosteus aculeatus*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/ Oncorhynchus nerka*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*				-		-		-	-	69.78	56.09	79.46
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*					-		-		-	-	5.22	0.25	0.30
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus/Salvelinus namaycush*				0.17		0.21		0.44	-	-	0.09	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*					26.00		39.29		93.90	-	7.42	10.70	0.31
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*					-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae						-		-		-	43.46	-	27.17	18.17
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Siluriformes	Ictaluridae	*Ameiurus*	*Ameiurus nebulosus*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*				-		-		-	-	-	-	1.76
Vertebrates	Animalia	Chordata	Amphibia	Caudata	Ambystomatidae	*Ambystoma*					-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*					-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae						-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae						-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae						-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae						-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Gaviiformes	Gaviidae	*Gavia*					-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*	*Bombycilla cedrorum/ Bombycilla garrulus*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae						-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Turdus*					-		-		-	-	-	-	-

Appendix D6: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
											Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Aves	Passeriformes						There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-				-	-
Vertebrates	Animalia	Chordata	Aves	Piciformes	Picidae	*Picoides*		*Woodpecker*			-				-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Bison*	*Bison bison*	*American Bison*	100.00		-				-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	*Mountain Goat*	100.00		-				-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	*Moose*	100.00		-				-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Lontra*		*Otter*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-				-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	*American Marten*	100.00		-				-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	*American Black Bear*	99.06		-				-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	*Grizzly Bear*	100.00		-				-	-
Vertebrates	Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Lepus*	*Lepus americanus*	*Snowshoe Hare*	100.00		-				-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	*American Beaver*	100.00		-				-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			*Beaver*			-				-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			*Beaver*			-				-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		*Collared Lemming*			-				-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	*Canadian Lemming*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-				-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		*Lemming*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-				-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	*Eastern Meadow Vole*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-				-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		*Vole*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-				-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	*Northern Red-Backed Vole*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-				-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	*Muskrat*	100.00		-				-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	*Deer Mouse*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-				-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	*Western Heather Vole*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-				-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*			-				-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*			-				-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*			-				-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-				-	8.97
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	*North American Porcupine*	100.00		-				-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	*Southern Flying Squirrel*	100.00		-				-	-

Appendix D6: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US S. Unuk			Unuk DS S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Aves	Passeriformes				-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Aves	Piciformes	Picidae	*Picoides*		-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Bison*	*Bison bison*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Lontra*		-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Lepus*	*Lepus americanus*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	-		-		52.75	-	-		-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	-		-		-	-	-		12.10						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-		-		-	11.96	31.71		32.00						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	88.49		100.00		-	-	-		-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	-		-		-	-	-		-						

Appendix D6: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Aves	Passeriformes							-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Piciformes	Picidae	*Picoides*					-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Bison*	*Bison bison*				-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*				1.05	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*				-	-	-	-	-	-	-	-	-	-	1.54	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Lontra*					-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*				-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*				-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*				-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Lepus*	*Lepus americanus*				-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*				-	-	-	2.86	-	0.99	-	-	3.96	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae						-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae						-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*					-	-	-	-	-	-	-	5.16	-	2.50	1.89	5.52
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*				-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*					-	-	-	3.36	-	3.38	1.36	2.24	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*				-	-	-	-	2.11	-	1.16	-	2.46	7.20	4.73	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*					-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*				-	-	-	1.59	-	-	3.59	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*				-	-	-	-	0.18	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*				-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*				-	-	-	-	-	4.05	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						1.33	-	-	-	0.52	4.12	-	2.19	-	-	1.16	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*				93.89	100.00	100.00	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*				-	-	-	-	-	-	-	-	-	-	-	-

Appendix D6: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Aves	Passeriformes				-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Aves	Piciformes	Picidae	*Picoides*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Bison*	*Bison bison*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Lontra*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-	-	-	-	-	-	-	3.02	-	-	0.67	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Lepus*	*Lepus americanus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		2.47	-	-	15.18	12.15	6.02	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-	2.62	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	5.53	-	4.37	12.79	8.16	2.06	2.84	-	-	-	3.27	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	-	2.35	-	-	-	-	-	10.93	-	-	7.07	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	-	-	-	-	6.70	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	6.71	-	4.27	-	-	-	-	2.76	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	-	-	-	-	-	4.69	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Appendix D6: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Aves	Passeriformes							-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Piciformes	Picidae	*Picoides*					-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Bison*	*Bison bison*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Lontra*					-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Lepus*	*Lepus americanus*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*				-		50.76		-	-	-	4.11	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae						-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae						-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*					-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*					-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*				20.30		-		-	13.28	-	1.60	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*					-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*				20.57		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*				32.97		-		-	22.94	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-		-		-	20.32	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-		-		5.66	-	17.58	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*				-		-		-	-	-	-	-

Appendix D6: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
											Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		*Marmot*		This sequence was a 100% match to a single reference for Marmota vancouverensis (Critically Endangered - IUCN). This species is endemic to Vancouver Island and unlikely to occur in the sampling region. The sequence may originate from an unsequenced congener and hence has been conservatively identified to genus.	-				-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus douglasii/ Tamiasciurus hudsonicus*	*Douglas Squirrel/American Red Squirrel*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-				-	-
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*		100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-				70.15	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	*Longnose Sucker*	100.00		-	-				
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	*White Sucker*	100.00		-	-				
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Margariscus*		*Pearl Dace*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-				
Fish	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	*Northern Pike*	100.00		-	-				
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Perca*	*Perca flavescens*	*Yellow Perch*	100.00		-	-				
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Sander*	*Sander vitreus*	*Walleye*	100.00		-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus*		*Whitefish*			-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	*Cutthroat Trout*	100.00		-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	*Coho Salmon*	100.00		-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*	*Rainbow Trout*	100.00		-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	*Sockeye Salmon*	100.00		-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	*Chinook Salmon*	100.00		-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		*Salmon/Trout*			-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		*Salmon/Trout*			-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	*Mountain Whitefish*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus alpinus*	*Arctic Char*	100.00		-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	*Bull Trout*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*	*Dolly Varden*	100.00		96.96	100.00				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*					-	-				
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*		*Sculpin*			-	-				
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	*Harlequin Duck*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-				
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	*Eurasion Wren*	99.45	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-				
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	*Mountain Goat*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-				
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	*Moose*	100.00		-	-				
Fish	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	*Grizzly Bear*	100.00		-	-				
Fish	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	*American Beaver*	100.00		-	-				

Appendix D6: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US S. Unuk			Unuk DS S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus douglasii/ Tamiasciurus hudsonicus*	-		-		-	-	-		-						
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-		-		-	-	-		30.96						
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-		-	-	-		-							
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	-	-		-	-	-		-							
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Margariscus*		-	-		-	-	-		-							
Fish	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	-	-		-	-	-		-							
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Perca*	*Perca flavescens*	-	-		-	-	-		-							
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Sander*	*Sander vitreus*	-	-		-	-	-		-							
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus*		-	-		-	-	-		-							
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	-	-		-	-	-		-							
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	84.73	70.81		64.20	81.47	72.31		12.86							
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*	-	-		-	-	-		-							
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	-	-		-	-	-		-							
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	0.85	0.92		0.04	1.09	-		-							
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	2.87		2.65	-	2.11		1.17							
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-		-	-	-		-							
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	-	-		-	-	-		-							
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus alpinus*	-	12.29		29.82	-	19.80		35.12							
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	-	-		-	-	-		-							
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*	12.55	8.26		0.65	15.52	0.58		0.21							
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		1.79	4.86		2.63	1.87	2.24		1.01							
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*		-	-		-	-	-		49.62							
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	-	-		-	-	-		-							
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	-	-		-	-	2.96		-							
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-		-	-	-		-							
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-		-	-	-		-							
Fish	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-		-	-	-		-							
Fish	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-		-	-	-		-							

Appendix D6: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*					-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus douglasii/ Tamiasciurus hudsonicus*				-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*				3.74	-	-	-	0.86	-	-	-	-	1.25	-	1.26
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*							-	5.02	14.26	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Margariscus*								-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Perca*	*Perca flavescens*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Sander*	*Sander vitreus*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus*								-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*							42.32	57.42	38.03	49.87	70.24	43.75	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*							35.74	32.51	14.70	5.69	2.67	8.29	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*							1.01	1.20	0.66	0.14	0.12	0.27	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*							0.29	0.21	2.17	11.91	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*								-	-	0.12	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*								-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*							11.11	0.12	10.49	27.04	26.97	47.69	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus alpinus*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*							0.18	-	0.33	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*							7.66	3.10	17.20	4.73	-	-	100.00	100.00	100.00
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*								1.64	0.42	2.03	0.63	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*								-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*							-	-	-	-	-	-	-	-	-

Appendix D6: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus douglasii/ Tamiasciurus hudsonicus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	-	-	-	-	-	-	-	-	-	-	6.67	-	-	
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Margariscus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fish	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Perca*	*Perca flavescens*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Sander*	*Sander vitreus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	1.38	-	-	-	-	-	-	-	0.38	-	-	-	-	-	
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*	-	-	-	4.33	-	-	-	-	-	-	-	-	-	-	
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	0.07	-	-	-	-	-	-	-	0.37	-	-	-	-	-	
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	0.08	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		0.09	-	-	-	-	-	-	-	0.35	-	-	-	-	-	
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	-	-	-	5.17	-	-	-	-	-	-	-	-	-	-	
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus alpinus*	0.67	-	-	-	-	-	-	-	0.80	-	-	-	-	-	
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*	97.50	100.00	100.00	90.28	99.95	100.00	100.00	100.00	97.57	100.00	100.00	100.00	100.00	95.17	
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		0.21	-	-	0.22	-	-	-	-	0.12	-	-	-	-	-	
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fish	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fish	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	-	-	-	-	-	-	0.35	-	-	-	-	-	

Appendix D6: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*					-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus douglasii/ Tamiasciurus hudsonicus*				-		-		-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*				-		9.74		-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*					-			-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*					-			-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Margariscus*						-			-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*					-			-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Perca*	*Perca flavescens*					-			-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Perciformes	Percidae	*Sander*	*Sander vitreus*					-			-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus*						-			-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*					-			-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*					-			10.83	-	100.00	68.69	94.90
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*					-			-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*					-			-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*					-			0.69	-	-	1.81	0.39
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*						-			-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*						-			-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*					-			-	73.59	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus alpinus*					-			-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*					-			-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*					99.92			85.66	26.20	-	25.97	3.92
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*						-			1.21	0.21	-	3.52	0.79
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*						-			-	-	-	-	-
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*					-			-	-	-	-	-
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*					-			-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*					-			-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*					-			-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*					-			-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*					-			1.62	-	-	-	-

Appendix D6: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
											Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	*Northern Red-Backed Vole*	99.41	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-				
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	*Muskrat*	100.00		-	-				
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*		*Mouse*			-	-				
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-				
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*			-	-				
Fish	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*		*Porcupine*			-	-				
Fish	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		*Marmot*		This sequence was a 100% match to a single reference for Marmota vancouverensis (Critically Endangered - IUCN). This species is endemic to Vancouver Island and unlikely to occur in the sampling region. The sequence may originate from an unsequenced congener and hence has been conservatively identified to genus.There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-				
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	*Common Shrew*	99.42	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-				
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*		*Shrew*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-				
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae			*Shrew*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	3.04	-				
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	*Mountain Goat*	100.00							-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*		*Mountain Goat*								-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	*Moose*	100.00							-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	*Wolverine*	100.00							-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	*American Marten*	100.00							100.00
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela vison*	*American Mink*	100.00							-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	*American Black Bear*	100.00							-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	*Grizzly Bear*	100.00							-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	*American Beaver*	100.00							-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae			*Beaver*								-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		*Lemming*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.						-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		*Vole*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.						-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		*Vole*								-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*		*Muskrat*								-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	*Western Heather Vole*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.						-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*								-

Appendix D6: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US S. Unuk			Unuk DS S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	-	-		-	-	-		-							
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	-	-		-	-	-		-							
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*		-	-		-	-	-		-							
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-		-	-	-		-							
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-		-	-	-		-							
Fish	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*		0.09	-		-	-	-		-							
Fish	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		-	-		-	-	-		-							
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	-		-	-	-		-							
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*		-	-		-	-	-		-							
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae			-	-		-	0.05	-		-							
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*			-												
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*				-												
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*			18.25												
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*			-												
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*			-												
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela vison*			-												
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*			-												
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*			-												
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*			81.75												
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae					-												
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*				-												
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*				-												
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*				-												
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*				-												
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*			-												
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae					-												

Appendix D6: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*								-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae									0.05	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae									-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*								-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*								-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*								-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae									-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*					-		-	-	-	-		-	-	-	
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*						-		-	-	-	-		-	-	-	
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*					-		-	-	-	-		-	-	-	
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*					-		-	-	-	-		-	-	-	
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*					-		-	-	-	-		-	-	-	
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela vison*					-		-	15.26	-	-		-	-	-	
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*					-		-	-	-	-		-	-	-	
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*					-		-	-	-	-		-	-	-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*					-		12.01	-	-	38.56		43.00	-	-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae							-		-	-	-	-		31.66	-	-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*						-		0.07	0.06	-	17.21		19.75	-	-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*						-		-	-	-	-		-	-	-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*						100.00		54.96	-	32.05	36.64		-	-	100.00	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*						-		-	37.94	-	-		-	-	-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*					-		-	0.47	-	-		-	99.65	-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae							-		-	-	-	-		-	-	-	

Appendix D6: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*		-	-	-	-	-	-	-	-	0.04	-	-	-	-	-	
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	0.05	-	-	-	-	-	-	-	-	4.83	
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fish	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fish	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*		-		-	-		-			-	-			-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*			-		-	-		-			-	-			-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*		-		-	-		-			-	-			-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*		-		-	-		-			-	-			-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*		-		-	-		-			-	-			-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela vison*		-		-	-		-			-	-			-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*		-		-	-		-			-	-			-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*		-		-	-		-			-	-			-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*		-		-	-		-			-	-			-	99.94
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae				-		-	-		-			-	-			-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*			-		-	-		-			-	-			-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*			-		-	-		-			-	-			-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*			-		-	-		99.62			-	-			-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*			-		-	-		-			-	-			100.00	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*		-		-	21.36		-			-	-			-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-		-	78.64		-			-	9.03			-	-

Appendix D6: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*					-			-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*					-			-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*						-			-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae							-			-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae							0.08			-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*						-			-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*						-			-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*					-			-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*						-			-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae							-			-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*					-		-					
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*						-		-					
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*					-		-					
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*					-		-					
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*					-		-					
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela vison*					-		-					
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*					-		-					
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*					-		-					
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*					-		100.00					
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae							-		-					
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*						-		-					
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*						-		-					
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*						-		-					
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*						-		-					
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*					-		-					
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae							-		-					

Appendix D6: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
											Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.						-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.						-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		*Marmot*		This sequence was a 100% match to a single reference for Marmota vancouverensis (Critically Endangered - IUCN). This species is endemic to Vancouver Island and unlikely to occur in the sampling region. The sequence may originate from an unsequenced congener and hence has been conservatively identified to genus.						-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	*American Red Squirrel*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.						-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae			*Squirrel*								-
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	*Common Shrew*	100.00							-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	*Longnose Sucker*	100.00							-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*	*White Sucker*	100.00							-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae			*Sucker*								-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/Prosopium*	*Coregonus autumnalis/ Prosopium williamsoni*	*Acrtic Cisco/Mountain Whitefish*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.						-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch/ Oncorhynchus mykiss*	*Coho Salmon/Rainbow Trout*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.						-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*	*Rainbow Trout*	100.00							-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		*Char*								-
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	*Western Toad*	100.00							-

Appendix D6: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US S. Unuk			Unuk DS S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae					-												
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae					-												
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*				-												
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*			-												
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae					-												
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*			-												
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*			-												
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*			-												
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae					-												
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/Prosopium*	*Coregonus autumnalis/ Prosopium williamsoni*			-												
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch/ Oncorhynchus mykiss*			-												
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*			-												
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*				-												
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*			-												

Appendix D6: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae							-		32.96	46.21	55.08	7.35		5.29	-	-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae							-		-	-	-	-		-	-	-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*						-		-	-	-	-		-	-	-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*					-		-	-	-	-		-	-	-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae							-		-	-	-	-		-	-	-	
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*					-		-	-	12.75	-		0.30	-	-	
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*					-		-	-	-	-		-	-	-	
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*					-		-	-	-	-		-	-	-	
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae							-		-	-	-	-		-	-	-	
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/Prosopium*	*Coregonus autumnalis/ Prosopium williamsoni*					-		-	-	-	-		-	-	-	
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch/ Oncorhynchus mykiss*					-		-	0.07	0.12	0.24		-	-	-	
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*					-		-	-	-	-		-	-	-	
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*						-		-	-	-	-		-	0.35	-	
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*					-		-	-	-	-		-	-	-	

Appendix D6: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-		92.43	-		-			-	-			-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-		-	-		-			-	-			-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*			-		-	-		-			-	-			-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*		-		-	-		-			-	-			-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae				-		-	-		-			-	-			-	-
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*		-		7.57	-		-			100.00	90.97			-	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*		-		-	-		-			-	-			-	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*		-		-	-		-			-	-			-	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae				-		-	-		-			-	-			-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/Prosopium*	*Coregonus autumnalis/ Prosopium williamsoni*		-		-	-		-			-	-			-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch/ Oncorhynchus mykiss*		-		-	-		-			-	-			-	0.06
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*		-		-	-		-			-	-			-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*			100.00		-	-		0.38			-	-			-	-
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*		-		-	-		-			-	-			-	-

Appendix D6: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), October 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae							100.00		-					
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae							-		-					
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*						-		-					
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*					-		-					
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae							-		-					
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*					-		-					
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*					-		-					
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus commersonii*					-		-					
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae							-		-					
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/Prosopium*	*Coregonus autumnalis/ Prosopium williamsoni*					-		-					
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch/ Oncorhynchus mykiss*					-		-					
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*					-		-					
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*						-		-					
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*					-		-					

Notes:

Blank cells indicate samples which failed to amplify and therefore eDNA metabarcoding was not successful

Dashes (-) indicate zero detections for a particular taxa in samples that successfully amplified and metabarcoding analysis was completed

Appendix D7: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
											Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus/ Ictiobus cyprinellus*	*Longnose Sucker/ Bigmouth Buffalo*	100.00		-			-		
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/ Oncorhynchus nerka*	*Pink Salmon/Sockeye Salmon*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-			-		
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	*Chinook Salmon*	100.00		-			-		
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	*Coho Salmon*	100.00		-			-		
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*					99.83			99.67		
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*					0.17			0.33		
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae						-			-		
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	*Western Toad*	100.00		-			-		
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Clangula*	*Clangula hyemalis*	*Long-Tailed Duck*	100.00		-			-		
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Mergus*	*Mergus merganser/ Mergus serrator*	*Common Merganser/ Red-Breasted Merganser*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-			-		
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae						-			-		
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae						-			-		
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae						-			-		
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	*American Dipper*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-			-		
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Ovis*	*Ovis aries/Ovis canadensis*	*Sheep/Bighorn Sheep*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-			-		
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	*Moose*	100.00		-			-		
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	*Grizzly Bear*	100.00		-			-		
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	*Beaver*	100.00		-			-		
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae						-			-		
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	*Canadian Lemming*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-			-		
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		*Lemming*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-			-		
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	*Long-Tailed Vole*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-			-		
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	*Eastern Meadow Vole*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-			-		
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes gapperi/Myodes rutilus*	*Southern Red-Backed Vole/Northern Red-Backed Vole*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-			-		
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			*Rodent*			-			-		
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	*Masked Shrew*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-			-		
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	*Mountain Goat*	100.00		-				33.88	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	*Moose*	100.00		-				-	-

Appendix D7: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US S. Unuk			Unuk DS S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus/ Ictiobus cyprinellus*	-			-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/ Oncorhynchus nerka*	-			-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	-			-	1.34	0.87	-	-	-						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	14.74			40.94	48.66	45.88	25.81	26.53	40.48						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		83.42			58.98	50.00	49.72	73.24	67.22	47.28						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		0.19			0.08	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-			-	-	0.02	-	-	-						
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-			-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Clangula*	*Clangula hyemalis*	1.64			-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Mergus*	*Mergus merganser/ Mergus serrator*	-			-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-			-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-			-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-			-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-			-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Ovis*	*Ovis aries/Ovis canadensis*	-			-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-			-	-	0.25	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-			-	-	0.28	0.96	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-			-	-	2.42	-	6.26	12.24						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-			-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	-			-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-			-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	-			-	-	0.15	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	-			-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes gapperi/Myodes rutilus*	-			-	-	0.02	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-			-	-	0.38	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-			-	-	-	-	-	-						
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*				-	-	-		-	-						
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*				-	-	-		-	-						

Appendix D7: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus/ Ictiobus cyprinellus*										-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/ Oncorhynchus nerka*										-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*										-	-	0.91	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*										68.05	5.80	58.90	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*											0.40	0.03	2.20	99.55	88.18	90.32
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*											0.09	-	0.09	0.25	0.18	0.40
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae												3.79	5.63	24.44	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*										-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Clangula*	*Clangula hyemalis*										-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Mergus*	*Mergus merganser/ Mergus serrator*										-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae												-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae												-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae												-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*										-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Ovis*	*Ovis aries/Ovis canadensis*										-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*										-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*										-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*										19.74	88.55	9.62	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae												-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*										-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*											0.96	-	0.16	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*										6.06	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*										-	-	3.68	0.19	11.64	3.15
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes gapperi/Myodes rutilus*										0.91	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae												-	-	-	-	-	6.12
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*										-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*													-	-	
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*													-	-	

Appendix D7: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus/ Ictiobus cyprinellus*	-	-		-			-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/ Oncorhynchus nerka*	-	-		-			-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	-	-		-			-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	-	-		-			-	-	-	-	-	-		18.43	35.98
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		71.56	98.70		-			75.98	99.61	94.63	95.61	93.52	88.57		27.67	38.11
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		0.37	0.30		-			0.07	0.28	0.06	0.36	0.07	0.08		-	0.03
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-		-			-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-		-			-	-	-	-	-	-		-	5.76
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Clangula*	*Clangula hyemalis*	-	-		-			-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Mergus*	*Mergus merganser/ Mergus serrator*	-	-		-			-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-		-			-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-		-			-	-	0.18	-	0.17	-		-	0.24
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-		-			-	-	5.12	-	3.72	-		-	5.79
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-		-			-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Ovis*	*Ovis aries/Ovis canadensis*	7.10	0.81		-			-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	5.43	-		-			-	-	-	1.16	-	7.87		-	3.21
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-		-			-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-		-			-	-	-	-	-	-		44.34	10.66
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-		-			-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	-	-		-			-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-		-			-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	4.90	-		100.00			-	0.03	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	6.33	0.20		-			15.40	0.04	-	2.87	0.58	0.11		9.56	0.22
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes gapperi/Myodes rutilus*	-	-		-			8.54	-	-	-	1.94	3.36		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			4.32	-		-			-	0.04	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	-		-			-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-		-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-		-	-	-	-	-	-	-	14.76	22.41		8.05	85.62

Appendix D7: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus/ Ictiobus cyprinellus*				-			-	-		-			0.83	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/ Oncorhynchus nerka*				-			-	-		-			1.20	-	0.39
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*				-			-	-		-			-	0.09	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*				-			-	64.43		19.22			5.27	3.67	7.81
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*					72.50			37.80	14.15		28.62			1.38	0.54	0.77
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*					-			0.07	0.03		-			-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae						0.05			62.13	21.38		38.14			89.30	92.41	86.45
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*				-			-	-		-			-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Clangula*	*Clangula hyemalis*				-			-	-		-			-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Mergus*	*Mergus merganser/ Mergus serrator*				-			-	-		-			-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae						-			-	-		-			-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae						-			-	-		0.14			-	-	0.05
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae						-			-	-		8.82			-	-	0.80
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*				-			-	-		-			-	0.15	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Ovis*	*Ovis aries/Ovis canadensis*				-			-	-		-			-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*				-			-	-		-			-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*				-			-	-		-			-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*				27.45			-	-		4.61			0.18	2.70	0.95
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae						-			-	-		-			-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*				-			-	-		-			-	-	0.46
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*					-			-	-		-			1.80	0.44	2.33
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*				-			-	-		-			0.04	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*				-			-	-		0.47			-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes gapperi/Myodes rutilus*				-			-	-		-			-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-			-	-		-			-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*				-			-	-		-			-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*							-						-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*							-						0.25	-	1.10

Appendix D7: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4	Blank 5	Blank 6	Blank 7	Blank 8	Blank 9
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus/ Ictiobus cyprinellus*	-	-	-									
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/ Oncorhynchus nerka*	-	-	-									
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	2.22	2.10	-									
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	4.20	26.17	4.14									
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		0.64	0.14	0.04									
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-									
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			92.07	71.47	84.16									
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	-									
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Clangula*	*Clangula hyemalis*	-	-	-									
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Mergus*	*Mergus merganser/ Mergus serrator*	-	-	3.47									
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	0.13									
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-									
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-									
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-	-									
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Ovis*	*Ovis aries/Ovis canadensis*	-	-	-									
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-									
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-	-									
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	0.88	-	2.19									
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	1.04									
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	-	-	0.81									
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	3.47									
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	-	0.12	-									
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	-	-	-									
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes gapperi/Myodes rutilus*	-	-	-									
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	0.23									
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	-	0.32									
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-									
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	4.25	-									

Appendix D7: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
											Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*		*Moose*			-				-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	*Beaver*	100.00		-				-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae						-				-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	*Long-Tailed Vole*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-				-	99.48
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-				-	0.52
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*					-				10.51	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	*Western Heather Vole*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-				-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*					-				-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-				-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae					There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-				-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae					There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	100.00				-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	*American Red Squirrel*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-				-	-
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	*Masked Shrew*	100.00		-				55.61	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	*Longnose Sucker*	99.13		-				-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/Prosopium*	*Coregonus autumnalis/Prosopium williamsoni*	*Acrtic Cisco/ Mountain Whitefish*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-				-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch/ Oncorhynchus mykiss*	*Coho Salmon/ Rainbow Trout*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-				-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*					-				-	-
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	*Western Toad*	100.00		-				-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	*Longnose Sucker*	100.00		-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus macrocheilus*	*Largescale Sucker*	100.00		-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	*Coastal Cutthroat Trout*	100.00		-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii/ Oncorhynchus mykiss*	*Coho Salmon/Rainbow Trout*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	*Coho Salmon*	100.00		-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	*Chinook Salmon*	99.41	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*					-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*					-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	*Mountain Whitefish*	100.00		-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus alpinus/ Salvelinus malma*	*Arctic Char/ Dolly Varden*	100.00		100.00	100.00	99.20	90.25	70.47	99.79

Appendix D7: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US S. Unuk			Unuk DS S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*					-	-	-		-	-						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*				99.39	45.96	-		99.66	20.10						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae						-	-	-		-	-						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*				-	50.80	99.45		-	11.58						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*					-	-	0.55		-	68.22						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*					-	-	-		-	-						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*				-	-	-		-	-						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*					-	-	-		-	-						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-	-	-		-	-						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-	-	-		-	-						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-	-	-		-	-						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*				-	-	-		-	-						
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*				-	-	-		-	-						
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*				-	-	-		-	-						
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/Prosopium*	*Coregonus autumnalis/Prosopium williamsoni*				-	-	-		-	-						
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch/ Oncorhynchus mykiss*				0.42	2.75	-		0.34	-						
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*					0.19	0.48	-		-	0.10						
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*				-	-	-		-	-						
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-			-	-	-	-	-	-						
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus macrocheilus*	-			-	-	-	-	-	-						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	-			-	-	-	-	-	6.14						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii/ Oncorhynchus mykiss*	-			-	-	-	-	0.13	-						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	31.57			38.60	49.47	51.42	34.16	42.49	49.44						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	1.36			2.56	1.73	0.92	0.99	1.44	0.81						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-			-	0.63	-	0.37	-	-						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-			-	-	-	0.70	-	-						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	-			-	-	-	-	-	-						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus alpinus/ Salvelinus malma*	67.07			58.84	48.17	47.67	56.35	44.38	22.97						

Appendix D7: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*														-	-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*													-	-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae															-	-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*													-	-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*														-	-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*														-	-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*													-	-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*														-	-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae															-	-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae															-	-	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae															100.00	100.00	
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*													-	-	
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*													-	-	
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*													-	-	
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/Prosopium*	*Coregonus autumnalis/Prosopium williamsoni*													-	-	
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch/ Oncorhynchus mykiss*													-	-	
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*														-	-	
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*													-	-	
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*										-	-	0.04	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus macrocheilus*										-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*										-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii/ Oncorhynchus mykiss*										19.04	24.95	15.62	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*										39.64	38.08	37.70	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*										0.68	0.09	0.92	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*											-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*											0.66	1.83	3.01	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*										23.61	21.86	21.67	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus alpinus/ Salvelinus malma*										14.92	2.18	12.48	100.00	99.22	100.00

Appendix D7: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*		-	-		-	-	-	-	-	-	-	-	-		-	0.03
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-		72.67	100.00	65.43	-	-	-	-	-	-		24.10	11.28
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-		-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	-	-		26.98	-	0.88	-	8.56	-	-	-	62.75		-	1.97
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-		0.17	-	-	-	9.26	-	-	-	0.42		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		39.17	-		-	-	-	61.26	-	-	35.04	-	14.42		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-		-	-	-	-	26.26	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*		-	-		-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-		-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-		-	-	3.82	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			60.83	-		-	-	29.88	38.74	55.32	99.91	64.96	73.47	-		67.85	0.34
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	-	100.00		-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	-		-	-	-	-	-	-	-	10.94	-		-	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-		-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/Prosopium*	*Coregonus autumnalis/Prosopium williamsoni*	-	-		0.10	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch/ Oncorhynchus mykiss*	-	-		-	-	-	-	-	-	-	-	-		-	0.04
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-		-	-	-	-	0.60	0.09	-	0.84	-		-	-
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-		0.09	-	-	-	-	-	-	-	-		-	0.71
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*		-		-			-	-	-	-	-	-		-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus macrocheilus*		-		-			-	-	-	-	-	-		-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*		-		-			-	-	-	-	-	-		-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii/ Oncorhynchus mykiss*		-		-			-	-	-	-	-	-		36.47	3.43
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*		-		-			-	-	-	-	-	-		55.12	42.59
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*		-		-			-	-	-	-	-	-		-	3.40
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*			-		-			-	-	-	-	-	-		-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*			-		-			-	-	-	-	-	-		-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*		-		-			-	-	-	-	-	-		-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus alpinus/ Salvelinus malma*		91.74		-			100.00	100.00	100.00	100.00	100.00	100.00		-	40.95

Appendix D7: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*								-						-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*							11.69						45.80	47.26	67.87
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae									-						0.04	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*							16.05						3.42	7.15	15.17
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*								0.10						0.06	0.15	0.22
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*								-						0.62	-	0.68
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*							-						-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*								72.16						13.22	4.32	2.54
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae									-						-	0.03	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae									-						29.79	32.62	11.86
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae									-						6.24	7.67	0.38
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*							-						-	-	-
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*							-						-	0.07	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*							-						-	0.03	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/Prosopium*	*Coregonus autumnalis/Prosopium williamsoni*							-						0.57	0.62	0.18
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch/ Oncorhynchus mykiss*							-						-	0.07	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*								-						-	-	-
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*							-						-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*				-			-	-	-	-		-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus macrocheilus*				-			-	-	-	-		-	-	-	1.82
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*				-			-	-	-	-		-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii/ Oncorhynchus mykiss*				11.76			34.09	-	-	-		21.73	0.86	0.23	1.62
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*				-			-	-	-	100.00		42.44	5.99	6.21	7.39
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*				0.11			0.04	-	-	-		1.03	0.04	0.03	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*					-			-	-	-	-		-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*					-			-	-	-	-		0.03	0.09	0.10	0.23
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*				5.35			61.43	41.41	100.00	-		20.11	92.08	92.63	87.32
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus alpinus/ Salvelinus malma*				82.66			4.44	58.59	-	-		14.52	0.49	0.35	0.21

Appendix D7: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4	Blank 5	Blank 6	Blank 7	Blank 8	Blank 9
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*		-	-	-									
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	55.26	53.50	50.46									
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	1.56	-									
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	0.05	-	3.57									
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		7.89	-	0.81									
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		-	-	-									
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-	-									
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*		4.89	-	5.48									
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-									
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			30.20	35.00	39.49									
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	5.23	-									
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	-	-	-									
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	-	-									
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	0.86	-	-									
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/Prosopium*	*Coregonus autumnalis/Prosopium williamsoni*	0.85	0.33	0.16									
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch/ Oncorhynchus mykiss*	-	0.13	0.03									
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-									
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	-									
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	2.11	0.54	-									
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus macrocheilus*	-	-	-									
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	-	-	-									
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii/ Oncorhynchus mykiss*	1.14	0.43	0.40									
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	5.45	36.98	9.08									
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	0.04	0.03	0.04									
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-									
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		0.19	-	0.04									
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	89.12	61.73	89.53									
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus alpinus/ Salvelinus malma*	0.59	0.23	0.72									

Appendix D7: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Similarity	Comments	Unuk US Eskay			Unuk DS Eskay		
											Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	*Bull Trout*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*					-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae						-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*					-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	*Mountain Goat*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	29.52	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	*Moose*	100.00		-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Odocoileus*	*Odocoileus virginianus*	*White-Tailed Deer*	100.00		-	-	-	-	-	0.21
Fish	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	*American Ermine*	100.00		-	-	0.04	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	*Beaver*	100.00		-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		*Lemming*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	*Long-Tailed Vole*	100.00	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*					-	-	0.76	8.38	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	*Muskrat*	100.00		-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	*Masked Shrew*	99.42	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	1.37	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae					There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-

Appendix D7: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US S. Unuk			Unuk DS S. Unuk			Unuk Border			Mitchell			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	-			-	-	-	-	-	-						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-			-	-	-	-	2.27	-						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-			-	-	-	-	-	-						
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*		-			-	-	-	7.43	9.29	20.63						
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-			-	-	-	-	-	-						
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-			-	-	-	-	-	-						
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Odocoileus*	*Odocoileus virginianus*	-			-	-	-	-	-	-						
Fish	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	-			-	-	-	-	-	-						
Fish	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-			-	-	-	-	-	-						
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-			-	-	-	-	-	-						
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	-			-	-	-	-	-	-						
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-			-	-	-	-	-	-						
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	-			-	-	-	-	-	-						
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-			-	-	-	-	-	-						
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae			-			-	-	-	-	-	-						

Appendix D7: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*										1.16	3.23	8.38	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*											-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae												0.18	0.13	0.18	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*											-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*										-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*										-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Odocoileus*	*Odocoileus virginianus*										-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*										-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*										-	7.64	-	-	0.78	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*											-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*										0.10	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*											-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*										-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*										-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae												-	-	-	-	-	-

Appendix D7: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*		-		-			-	-	-	-	-	-		-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*			-		-			-	-	-	-	-	-		-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae				-		-			-	-	-	-	-	-		-	-
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*			-		-			-	-	-	-	-	-		-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*		-		-			-	-	-	-	-	-		-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*		-		-			-	-	-	-	-	-		-	9.18
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Odocoileus*	*Odocoileus virginianus*		-		-			-	-	-	-	-	-		-	-
Fish	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*		-		-			-	-	-	-	-	-		-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*		-		-			-	-	-	-	-	-		-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*			-		-			-	-	-	-	-	-		-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*		-		100.00			-	-	-	-	-	-		-	0.04
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*			8.26		-			-	-	-	-	-	-		8.41	0.06
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*		-		-			-	-	-	-	-	-		-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*		-		-			-	-	-	-	-	-		-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae				-		-			-	-	-	-	-	-		-	0.36

Appendix D7: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*				-			-	-	-	-		-	0.27	0.29	1.05
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*					-			-	-	-	-		-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae						0.04			-	-	-	-		0.07	0.18	0.16	0.31
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*					-			-	-	-	-		-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*				-			-	-	-	-		-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*				-			-	-	-	-		-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Odocoileus*	*Odocoileus virginianus*				-			-	-	-	-		-	-	-	-
Fish	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*				-			-	-	-	-		-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*				-			-	-	-	-		-	-	-	0.05
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*					-			-	-	-	-		-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*				0.08			-	-	-	-		-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*					-			-	-	-	-		-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*				-			-	-	-	-		0.07	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*				-			-	-	-	-		-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae						-			-	-	-	-		-	-	-	-

Appendix D7: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), November 2022

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4	Blank 5	Blank 6	Blank 7	Blank 8	Blank 9
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	1.03	-	0.04									
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-									
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			0.30	-	0.12									
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*		-	-	-									
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-									
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-									
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Odocoileus*	*Odocoileus virginianus*	-	-	-									
Fish	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	-	-	-									
Fish	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	0.03	0.05	-									
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	0.03									
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	-	-	-									
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-									
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	-	-	-									
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	-	-									
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae			-	-	-									

Notes:
Blank cells indicate samples which failed to amplify and therefore eDNA metabarcoding was not successful
Dashes (-) indicate zero detections for a particular taxa in samples that successfully amplified and metabarcoding analysis was completed

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk			Unuk DS S. Unuk		
									Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Lumbricus*	*Lumbricus rubellus*						-		-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Mesenchytraeus*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					0.21		0.20	0.14	0.25	0.05	0.11	0.05
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Nais*	*Nais elinguis*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	0.03	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Nais*							-		-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Stylaria*	*Stylaria lacustris*						-		-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae								-		0.33	-	-	-	0.09	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae								-		-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata										-		-	-	-	-	0.03	-
Insects	Animalia	Annelida	Clitellata										-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Ereynetidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Eupodidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Ceriodaphnia*	*Ceriodaphnia laticaudata*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Ceriodaphnia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Daphnia*	*Daphnia dentifera*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Daphnia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Eurycercidae	*Eurycercus*	*Eurycercus glacialis*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Eurycercidae	*Eurycercus*	*Eurycercus longirostris*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Polyphemidae	*Polyphemus*	*Polyphemus pediculus*						-		-	-	-	-	0.06	-
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Tomoceridae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Dicyrtomidae	*Dicyrtoma*	*Dicyrtoma maculosa*						-		-	-	-	0.05	0.03	-
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Dicyrtomidae	*Dicyrtoma*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Diplopoda	Chordeumatida	Cleidogonidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Diplopoda	Chordeumatida	Cleidogonidae								-		-	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Acanthocyclops*	*Acanthocyclops capillatus*						-		0.06	0.04	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Diacyclops*	*Diacyclops nanus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia										-		-	-	0.13	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Aegialiidae	*Psammoporus*	*Psammoporus lacustris*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Amphizoidae	*Amphizoa*	*Amphizoa insolens*						-		-	-	0.17	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Aphodiidae	*Agoliinus*	*Agoliinus piceatus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Byturidae	*Byturus*	*Byturus unicolor*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Byturidae	*Byturus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Bembidion*	*Bembidion kuprianovii*						0.03		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Cicindela*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Nebria*							-		-	-	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Trechus*	*Trechus chalybeus*						-		-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Chrysomelidae	*Bruchus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Agabus*	*Agabus tristis*						-		-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			McTagg			Gingras			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Lumbricus*	*Lumbricus rubellus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Mesenchytraeus*		-	0.17	-				0.23	0.34	0.59	0.18	0.03	0.07			
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Nais*	*Nais elinguis*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Nais*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Stylaria*	*Stylaria lacustris*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae			-	0.02	-				-	-	-	-	-	-			
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Annelida	Clitellata					-	-	0.02				-	-	-	-	-	-			
Insects	Animalia	Annelida	Clitellata					-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Ereynetidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Eupodidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Ceriodaphnia*	*Ceriodaphnia laticaudata*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Ceriodaphnia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Daphnia*	*Daphnia dentifera*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Daphnia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Eurycercidae	*Eurycercus*	*Eurycercus glacialis*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Eurycercidae	*Eurycercus*	*Eurycercus longirostris*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Polyphemidae	*Polyphemus*	*Polyphemus pediculus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Tomoceridae			-	-	0.03				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Dicyrtomidae	*Dicyrtoma*	*Dicyrtoma maculosa*	0.02	-	0.07				-	-	-	-	0.08	-			
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Dicyrtomidae	*Dicyrtoma*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Diplopoda	Chordeumatida	Cleidogonidae			-	-	0.03				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Diplopoda	Chordeumatida	Cleidogonidae			-	-	-				-	-	-	0.03	-	-			
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Acanthocyclops*	*Acanthocyclops capillatus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Diacyclops*	*Diacyclops nanus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Hexanauplia					-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Aegialiidae	*Psammoporus*	*Psammoporus lacustris*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Amphizoidae	*Amphizoa*	*Amphizoa insolens*	-	-	-				-	-	-	0.05	-	0.03			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Aphodiidae	*Agoliinus*	*Agoliinus piceatus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Byturidae	*Byturus*	*Byturus unicolor*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Byturidae	*Byturus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Bembidion*	*Bembidion kuprianovii*	-	-	0.06				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Cicindela*		-	0.07	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Nebria*		-	-	-				0.06	-	0.05	0.02	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Trechus*	*Trechus chalybeus*	0.05	-	-				-	-	-	-	-	0.03			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Chrysomelidae	*Bruchus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Agabus*	*Agabus tristis*	-	-	-				-	-	-	-	-	-			

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Lumbricus*	*Lumbricus rubellus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Mesenchytraeus*					0.09			-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Nais*	*Nais elinguis*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Nais*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Stylaria*	*Stylaria lacustris*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae						-			0.11	-	0.05	0.10	0.11	0.07	0.71	0.46	0.67
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata								0.03			-	-	-	0.08	0.06	0.06	-	-	-
Insects	Animalia	Annelida	Clitellata								0.06			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Ereynetidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Eupodidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Ceriodaphnia*	*Ceriodaphnia laticaudata*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Ceriodaphnia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Daphnia*	*Daphnia dentifera*				-			-	-	-	0.03	0.02	0.03	-	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Daphnia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Eurycercidae	*Eurycercus*	*Eurycercus glacialis*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Eurycercidae	*Eurycercus*	*Eurycercus longirostris*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Polyphemidae	*Polyphemus*	*Polyphemus pediculus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Tomoceridae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Dicyrtomidae	*Dicyrtoma*	*Dicyrtoma maculosa*				0.14			-	-	-	-	0.03	0.04	-	0.13	-
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Dicyrtomidae	*Dicyrtoma*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Diplopoda	Chordeumatida	Cleidogonidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Diplopoda	Chordeumatida	Cleidogonidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Acanthocyclops*	*Acanthocyclops capillatus*				0.10			-	-	-	-	0.03	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Diacyclops*	*Diacyclops nanus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae						-			-	-	-	0.15	0.30	0.25	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida							-			-	-	-	-	-	0.02	0.28	0.17	0.23
Insects	Animalia	Arthropoda	Hexanauplia								-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Aegialiidae	*Psammoporus*	*Psammoporus lacustris*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Amphizoidae	*Amphizoa*	*Amphizoa insolens*				-			-	-	-	-	-	-	0.03	-	0.02
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Aphodiidae	*Agoliinus*	*Agoliinus piceatus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Byturidae	*Byturus*	*Byturus unicolor*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Byturidae	*Byturus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Bembidion*	*Bembidion kuprianovii*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Cicindela*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Nebria*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Trechus*	*Trechus chalybeus*				-			-	-	-	-	-	-	-	-	0.05
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Chrysomelidae	*Bruchus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Agabus*	*Agabus tristis*				-			-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Lumbricus*	*Lumbricus rubellus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Mesenchytraeus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Nais*	*Nais elinguis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Nais*		-	-	-	-	-	-	-	-	-	-	-	-	0.07	0.07	0.06
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Stylaria*	*Stylaria lacustris*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae			-	0.07	-	-	-	-	-	-	-	-	-	-	0.25	0.17	0.15
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae			1.34	1.49	1.46	-	-	0.03	0.42	0.48	0.44	0.54	0.28	0.18	1.46	1.35	1.38
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae			-	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata					-	-	-	0.03	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Ereynetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Eupodidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Ceriodaphnia*	*Ceriodaphnia laticaudata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Ceriodaphnia*		-	-	-	-	-	-	-	-	-	-	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Daphnia*	*Daphnia dentifera*	-	-	-	-	-	-	-	-	-	-	-	-	0.33	0.58	0.04
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Daphnia*		-	-	-	-	-	-	-	-	-	-	-	-	0.09	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Eurycercidae	*Eurycercus*	*Eurycercus glacialis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Eurycercidae	*Eurycercus*	*Eurycercus longirostris*	-	-	0.03	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Polyphemidae	*Polyphemus*	*Polyphemus pediculus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Tomoceridae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Dicyrtomidae	*Dicyrtoma*	*Dicyrtoma maculosa*	0.12	0.14	0.21	-	-	-	0.10	0.05	0.11	0.02	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Dicyrtomidae	*Dicyrtoma*		-	-	-	-	-	-	-	0.05	0.02	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Diplopoda	Chordeumatida	Cleidogonidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Diplopoda	Chordeumatida	Cleidogonidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Acanthocyclops*	*Acanthocyclops capillatus*	-	-	0.07	-	-	-	0.03	-	-	0.02	-	0.05	1.18	0.69	0.08
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Diacyclops*	*Diacyclops nanus*	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	0.06
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae			0.09	0.08	0.10	-	-	-	-	-	-	-	-	-	0.03	0.07	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida				0.04	0.33	0.57	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Aegialiidae	*Psammoporus*	*Psammoporus lacustris*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Amphizoidae	*Amphizoa*	*Amphizoa insolens*	-	0.07	-	-	-	-	-	-	-	-	0.04	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Aphodiidae	*Agoliinus*	*Agoliinus piceatus*	-	-	0.03	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Byturidae	*Byturus*	*Byturus unicolor*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Byturidae	*Byturus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Bembidion*	*Bembidion kuprianovii*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Cicindela*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Nebria*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Trechus*	*Trechus chalybeus*	0.10	0.10	-	-	-	-	0.10	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Chrysomelidae	*Bruchus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Agabus*	*Agabus tristis*	0.05	0.07	-	-	-	-	0.03	-	0.02	0.02	-	-	0.03	0.04	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Lumbricus*	*Lumbricus rubellus*				-		-	-	-	-	-	-	-	0.02	0.02	-
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Mesenchytraeus*					0.08		0.37	0.22	0.06	-	0.27	0.22	0.41	-	-	0.03
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Nais*	*Nais elinguis*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Nais*					-		-	0.07	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Stylaria*	*Stylaria lacustris*				-		-	-	-	-	-	-	-	-	-	0.03
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae						-		0.58	-	0.17	1.02	0.39	0.02	0.20	0.24	0.29	0.30
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata								-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata								-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Ereynetidae						-		0.05	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Eupodidae						-		-	-	0.19	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Ceriodaphnia*	*Ceriodaphnia laticaudata*				-		-	-	0.08	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Ceriodaphnia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Daphnia*	*Daphnia dentifera*				0.03		0.07	0.04	0.17	0.05	0.02	-	-	-	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Daphnia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Eurycercidae	*Eurycercus*	*Eurycercus glacialis*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Eurycercidae	*Eurycercus*	*Eurycercus longirostris*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Polyphemidae	*Polyphemus*	*Polyphemus pediculus*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Tomoceridae						-		-	-	-	-	-	0.06	-	-	-	-
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Dicyrtomidae	*Dicyrtoma*	*Dicyrtoma maculosa*				0.02		-	-	-	-	-	0.11	-	-	-	-
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Dicyrtomidae	*Dicyrtoma*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Diplopoda	Chordeumatida	Cleidogonidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Diplopoda	Chordeumatida	Cleidogonidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Acanthocyclops*	*Acanthocyclops capillatus*				-		0.75	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Diacyclops*	*Diacyclops nanus*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia								-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Aegialiidae	*Psammoporus*	*Psammoporus lacustris*				-		-	-	-	-	-	-	-	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Amphizoidae	*Amphizoa*	*Amphizoa insolens*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Aphodiidae	*Agoliinus*	*Agoliinus piceatus*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Byturidae	*Byturus*	*Byturus unicolor*				-		-	-	-	-	2.07	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Byturidae	*Byturus*					-		-	-	-	-	0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Bembidion*	*Bembidion kuprianovii*				-		-	-	-	-	0.07	0.11	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Cicindela*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Nebria*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Trechus*	*Trechus chalybeus*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Chrysomelidae	*Bruchus*					-		-	-	-	-	0.05	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Agabus*	*Agabus tristis*				-		-	-	-	-	0.06	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Annelida	Clitellata	Crassiclitellata	Lumbricidae	*Lumbricus*	*Lumbricus rubellus*	-	-	-				
Insects	Animalia	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Mesenchytraeus*		-	-	-				
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Nais*	*Nais elinguis*	-	-	-				
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Nais*		-	-	-				
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Stylaria*	*Stylaria lacustris*	0.05	-	-				
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae			-	-	-				
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae			0.32	0.22	0.13				
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae			-	-	-				
Insects	Animalia	Annelida	Clitellata					0.02	0.03	-				
Insects	Animalia	Annelida	Clitellata					-	-	-				
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Ereynetidae			-	-	-				
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Eupodidae			-	-	-				
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Ceriodaphnia*	*Ceriodaphnia laticaudata*	-	-	-				
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Ceriodaphnia*		-	-	-				
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Daphnia*	*Daphnia dentifera*	-	-	-				
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Daphnia*		-	-	-				
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Eurycercidae	*Eurycercus*	*Eurycercus glacialis*	-	0.03	-				
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Eurycercidae	*Eurycercus*	*Eurycercus longirostris*	-	-	-				
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Polyphemidae	*Polyphemus*	*Polyphemus pediculus*	-	-	-				
Insects	Animalia	Arthropoda	Collembola	Entomobryomorpha	Tomoceridae			-	-	-				
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Dicyrtomidae	*Dicyrtoma*	*Dicyrtoma maculosa*	-	-	-				
Insects	Animalia	Arthropoda	Collembola	Symphypleona	Dicyrtomidae	*Dicyrtoma*		-	-	-				
Insects	Animalia	Arthropoda	Diplopoda	Chordeumatida	Cleidogonidae			-	-	-				
Insects	Animalia	Arthropoda	Diplopoda	Chordeumatida	Cleidogonidae			-	-	-				
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Acanthocyclops*	*Acanthocyclops capillatus*	-	-	0.06				
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Diacyclops*	*Diacyclops nanus*	-	-	-				
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae			-	-	-				
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida				-	-	-				
Insects	Animalia	Arthropoda	Hexanauplia					-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Aegialiidae	*Psammoporus*	*Psammoporus lacustris*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Amphizoidae	*Amphizoa*	*Amphizoa insolens*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Aphodiidae	*Agoliinus*	*Agoliinus piceatus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Byturidae	*Byturus*	*Byturus unicolor*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Byturidae	*Byturus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Bembidion*	*Bembidion kuprianovii*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Cicindela*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Nebria*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Carabidae	*Trechus*	*Trechus chalybeus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Chrysomelidae	*Bruchus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Agabus*	*Agabus tristis*	-	0.03	-				

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk			Unuk DS S. Unuk		
									Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Agabus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Boreonectes*	*Boreonectes griseostriatus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Sanfilippodytes*	*Sanfilippodytes compertus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Sanfilippodytes*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae								-		-	-	0.10	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae	*Selatosomus*	*Selatosomus montanus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elmidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Melandryidae	*Orchesia*	*Orchesia ornata*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Oedemeridae	*Ditylus*	*Ditylus quadricollis*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Pythidae	*Pytho*	*Pytho americanus*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Scraptiidae	*Anaspis*	*Anaspis rufa*						-		-	-	-	-	0.47	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Arpedium*	*Arpedium brunnescens*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*	*Atheta brumalis*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Bisnius*							-		-	-	-	0.17	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Bledius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Deinopteroloma*	*Deinopteroloma subcostatum*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Eusphalerum*	*Eusphalerum pothos*						-		-	0.05	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Liogluta*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Liogluta*							-		-	-	-	-	0.24	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Lypoglossa*	*Lypoglossa angularis*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Microedus*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Microedus*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	0.06	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Micropeplus*	*Micropeplus punctatus*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum boreale*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum consimile*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum consimile*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum rotundicolle*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Oxypoda*	*Oxypoda frigida*						-		-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			McTagg			Gingras			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Agabus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Boreonectes*	*Boreonectes griseostriatus*	-	-	0.04				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Sanfilippodytes*	*Sanfilippodytes compertus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Sanfilippodytes*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae	*Selatosomus*	*Selatosomus montanus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elmidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Melandryidae	*Orchesia*	*Orchesia ornata*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Oedemeridae	*Ditylus*	*Ditylus quadricollis*	-	0.08	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Pythidae	*Pytho*	*Pytho americanus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Scraptiidae	*Anaspis*	*Anaspis rufa*	-	0.17	-				-	-	-	-	-	0.04			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Arpedium*	*Arpedium brunnescens*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*	*Atheta brumalis*	-	0.17	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Bisnius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Bledius*		0.06	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Deinopteroloma*	*Deinopteroloma subcostatum*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Eusphalerum*	*Eusphalerum pothos*	-	-	0.12				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Liogluta*		-	0.06	-				-	-	0.02	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Liogluta*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Lypoglossa*	*Lypoglossa angularis*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Microedus*		-	-	-				-	-	-	-	0.07	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Microedus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Micropeplus*	*Micropeplus punctatus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum boreale*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum consimile*	-	-	0.11				-	-	-	-	0.04	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum consimile*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum rotundicolle*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Oxypoda*	*Oxypoda frigida*	-	-	-				-	-	-	-	-	-			

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Agabus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Boreonectes*	*Boreonectes griseostriatus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Sanfilippodytes*	*Sanfilippodytes compertus*				-			-	-	-	-	-	-	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Sanfilippodytes*					-			-	-	-	-	-	-	-	0.05	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae	*Selatosomus*	*Selatosomus montanus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elmidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Melandryidae	*Orchesia*	*Orchesia ornata*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Oedemeridae	*Ditylus*	*Ditylus quadricollis*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Pythidae	*Pytho*	*Pytho americanus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Scraptiidae	*Anaspis*	*Anaspis rufa*				-			0.06	0.02	0.04	0.06	0.06	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Arpedium*	*Arpedium brunnescens*				0.13			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*	*Atheta brumalis*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*					-			-	-	-	-	-	-	0.07	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*					-			-	-	-	-	-	-	-	0.24	0.08
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Bisnius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Bledius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Deinopteroloma*	*Deinopteroloma subcostatum*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Eusphalerum*	*Eusphalerum pothos*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Liogluta*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Liogluta*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Lypoglossa*	*Lypoglossa angularis*				-			-	-	-	-	-	0.02	-	0.11	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Microedus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Microedus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Micropeplus*	*Micropeplus punctatus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum boreale*				-			-	-	-	-	-	-	0.10	0.22	0.21
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum consimile*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum consimile*				-			-	-	-	0.02	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum rotundicolle*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Oxypoda*	*Oxypoda frigida*				-			-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Agabus*		-	-	-	-	-	-	-	-	-	-	-	-	0.03	0.04	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Boreonectes*	*Boreonectes griseostriatus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Sanfilippodytes*	*Sanfilippodytes compertus*	-	-	-	-	-	-	0.08	0.03	0.03	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Sanfilippodytes*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae			-	-	-	-	-	-	-	0.04	-	-	0.03	0.03	0.07	0.07	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae	*Selatosomus*	*Selatosomus montanus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elmidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Melandryidae	*Orchesia*	*Orchesia ornata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Oedemeridae	*Ditylus*	*Ditylus quadricollis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Pythidae	*Pytho*	*Pytho americanus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Scraptiidae	*Anaspis*	*Anaspis rufa*	-	-	-	0.15	0.29	0.16	-	-	-	-	0.10	0.07	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Arpedium*	*Arpedium brunnescens*	-	-	0.04	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*	*Atheta brumalis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*		-	-	-	-	-	-	0.04	0.10	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Bisnius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Bledius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Deinopteroloma*	*Deinopteroloma subcostatum*	-	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Eusphalerum*	*Eusphalerum pothos*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Liogluta*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Liogluta*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Lypoglossa*	*Lypoglossa angularis*	0.08	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Microedus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Microedus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Micropeplus*	*Micropeplus punctatus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum boreale*	0.11	0.07	0.12	-	-	-	0.25	0.29	0.27	0.17	0.14	0.22	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum consimile*	-	-	-	-	-	-	-	-	-	0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum consimile*	-	-	-	-	-	-	0.04	0.05	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum rotundicolle*	0.08	0.14	-	-	-	-	-	0.09	-	-	0.04	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Oxypoda*	*Oxypoda frigida*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Agabus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Boreonectes*	*Boreonectes griseostriatus*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Sanfilippodytes*	*Sanfilippodytes compertus*				-		-	-	0.41	-	-	0.29	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Sanfilippodytes*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae						-		-	-	-	0.18	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae	*Selatosomus*	*Selatosomus montanus*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae						-		-	-	-	-	-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae						-		-	-	-	-	-	-	-	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elmidae						-		-	-	-	-	-	-	-	-	0.09	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Melandryidae	*Orchesia*	*Orchesia ornata*				-		-	-	-	-	-	-	0.17	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Oedemeridae	*Ditylus*	*Ditylus quadricollis*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Pythidae	*Pytho*	*Pytho americanus*				-		-	-	-	0.15	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Scraptiidae	*Anaspis*	*Anaspis rufa*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Arpedium*	*Arpedium brunnescens*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*	*Atheta brumalis*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*					-		-	-	-	-	-	-	-	-	-	0.02
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Bisnius*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Bledius*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Deinopteroloma*	*Deinopteroloma subcostatum*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Eusphalerum*	*Eusphalerum pothos*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Liogluta*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Liogluta*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Lypoglossa*	*Lypoglossa angularis*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Microedus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Microedus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Micropeplus*	*Micropeplus punctatus*				-		-	-	-	-	-	-	-	0.20	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum boreale*				-		-	-	0.76	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum consimile*				-		-	-	-	-	-	-	-	-	0.07	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum consimile*				-		-	-	-	-	-	-	-	-	-	0.05
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum rotundicolle*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Oxypoda*	*Oxypoda frigida*				-		-	-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Agabus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Boreonectes*	*Boreonectes griseostriatus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Sanfilippodytes*	*Sanfilippodytes compertus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Sanfilippodytes*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae			-	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae	*Selatosomus*	*Selatosomus montanus*	0.04	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elateridae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elmidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Melandryidae	*Orchesia*	*Orchesia ornata*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Oedemeridae	*Ditylus*	*Ditylus quadricollis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Pythidae	*Pytho*	*Pytho americanus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Scraptiidae	*Anaspis*	*Anaspis rufa*	-	0.27	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Arpedium*	*Arpedium brunnescens*	0.03	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*	*Atheta brumalis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Atheta*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Bisnius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Bledius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Deinopteroloma*	*Deinopteroloma subcostatum*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Eusphalerum*	*Eusphalerum pothos*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Liogluta*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Liogluta*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Lypoglossa*	*Lypoglossa angularis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Microedus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Microedus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Micropeplus*	*Micropeplus punctatus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum boreale*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum consimile*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum consimile*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Olophrum*	*Olophrum rotundicolle*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Oxypoda*	*Oxypoda frigida*	-	0.02	-				

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk			Unuk DS S. Unuk		
									Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Oxypoda*	*Oxypoda longicarinata*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		0.21	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Oxytelus*	*Oxytelus laqueatus*						-		-	0.21	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Phlaeopterus*	*Phlaeopterus fusconiger*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	0.20	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Phlaeopterus*	*Phlaeopterus houkae*						-		-	-	-	0.09	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Quedius*	*Quedius velox*						-		0.05	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Tachinus*	*Tachinus frigidus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Tachinus*	*Tachinus maculicollis*						-		-	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	0.21	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera									-		-	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera									-		-	0.24	-	-	0.08	0.63
Insects	Animalia	Arthropoda	Insecta	Coleoptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera									-		-	-	0.29	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Agromyza*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Liriomyza*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Liriomyza*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anisopodidae	*Sylvicola*	*Sylvicola fuscatus*						-		-	-	-	-	0.24	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Botanophila*	*Botanophila rubrigena*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*	*Delia extensa*						-		-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Egle*	*Egle concomitans*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Paradelia*	*Paradelia brunneonigra*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*	*Pegomya circumpolaris*						-		-	-	0.29	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*	*Pegomya geniculata*						-		-	-	-	-	0.06	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*							1.71		0.22	0.42	-	0.10	0.15	0.46
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*							0.67		-	-	-	0.07	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Zaphne*	*Zaphne borealis*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae								0.13		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyzidae	*Anthomyza*	*Anthomyza tenuis*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyzidae	*Arganthomyza*	*Arganthomyza carbo*						-		-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			McTagg			Gingras			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Oxypoda*	*Oxypoda longicarinata*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Oxytelus*	*Oxytelus laqueatus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Phlaeopterus*	*Phlaeopterus fusconiger*	-	-	0.02				-	-	0.17	0.09	0.15	0.17			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Phlaeopterus*	*Phlaeopterus houkae*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Quedius*	*Quedius velox*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Tachinus*	*Tachinus frigidus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Tachinus*	*Tachinus maculicollis*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			-	-	-				-	-	-	0.05	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera				-	-	-				0.02	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera				-	-	0.10				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera				-	-	-				-	-	-	-	-	0.03			
Insects	Animalia	Arthropoda	Insecta	Coleoptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Coleoptera				-	-	0.07				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Agromyza*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Liriomyza*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Liriomyza*		-	-	-				-	-	0.51	0.04	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*		-	-	-				-	-	-	0.04	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*		-	-	-				-	-	-	0.03	-	0.07			
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae			-	0.04	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anisopodidae	*Sylvicola*	*Sylvicola fuscatus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Botanophila*	*Botanophila rubrigena*	-	-	-				-	-	0.03	0.02	0.02	0.09			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*	*Delia extensa*	-	-	-				-	-	-	0.07	0.03	0.02			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*		-	-	-				-	-	-	-	0.08	0.05			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Egle*	*Egle concomitans*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Paradelia*	*Paradelia brunneonigra*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*	*Pegomya circumpolaris*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*	*Pegomya geniculata*	-	0.07	0.08				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*		0.03	0.06	0.04				0.16	0.94	-	0.14	0.10	0.15			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Zaphne*	*Zaphne borealis*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae			-	-	-				-	-	-	-	-	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae			-	-	-				-	-	0.09	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyzidae	*Anthomyza*	*Anthomyza tenuis*	-	-	-				-	-	-	-	0.03	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyzidae	*Arganthomyza*	*Arganthomyza carbo*	-	-	-				-	-	-	-	-	-			

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Oxypoda*	*Oxypoda longicarinata*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Oxytelus*	*Oxytelus laqueatus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Phlaeopterus*	*Phlaeopterus fusconiger*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Phlaeopterus*	*Phlaeopterus houkae*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Quedius*	*Quedius velox*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Tachinus*	*Tachinus frigidus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Tachinus*	*Tachinus maculicollis*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae						-			-	-	-	-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae						-			0.04	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Agromyza*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Liriomyza*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Liriomyza*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anisopodidae	*Sylvicola*	*Sylvicola fuscatus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Botanophila*	*Botanophila rubrigena*				-			0.03	-	-	0.02	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*	*Delia extensa*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Egle*	*Egle concomitans*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Paradelia*	*Paradelia brunneonigra*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*	*Pegomya circumpolaris*				-			-	-	-	-	-	-	-	-	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*	*Pegomya geniculata*				-			0.04	-	0.02	0.03	0.03	0.03	0.03	-	0.15
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*					-			0.15	0.02	0.07	0.27	0.24	0.34	0.61	0.45	0.59
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*					-			0.03	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Zaphne*	*Zaphne borealis*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyzidae	*Anthomyza*	*Anthomyza tenuis*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyzidae	*Arganthomyza*	*Arganthomyza carbo*				-			-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Oxypoda*	*Oxypoda longicarinata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Oxytelus*	*Oxytelus laqueatus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Phlaeopterus*	*Phlaeopterus fusconiger*	-	-	-	0.02	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Phlaeopterus*	*Phlaeopterus houkae*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Quedius*	*Quedius velox*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Tachinus*	*Tachinus frigidus*	0.07	-	-	-	-	-	0.07	0.09	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Tachinus*	*Tachinus maculicollis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			-	-	-	-	-	-	-	-	-	-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			-	-	-	-	-	-	-	-	-	-	0.03	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			-	-	-	0.05	-	0.03	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera				-	-	-	-	-	-	-	-	-	0.04	-	0.07	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera				-	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Agromyza*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Liriomyza*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Liriomyza*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*		-	-	-	-	-	-	-	-	0.04	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae			-	-	-	-	-	-	-	-	0.03	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae			-	-	-	-	-	-	-	-	-	-	-	-	0.03	0.04	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Anisopodidae	*Sylvicola*	*Sylvicola fuscatus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Botanophila*	*Botanophila rubrigena*	0.04	0.04	-	0.05	0.06	0.06	0.03	0.03	-	0.05	0.04	0.06	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*	*Delia extensa*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*		-	-	-	-	0.02	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Egle*	*Egle concomitans*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Paradelia*	*Paradelia brunneonigra*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*	*Pegomya circumpolaris*	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*	*Pegomya geniculata*	-	0.04	0.02	-	-	-	-	-	0.07	-	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*		0.10	0.16	0.09	0.51	0.47	0.47	0.46	0.11	0.33	1.06	0.79	1.06	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Zaphne*	*Zaphne borealis*	0.03	-	-	-	-	-	-	-	0.04	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae			-	-	-	-	-	-	0.04	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae			0.07	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyzidae	*Anthomyza*	*Anthomyza tenuis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyzidae	*Arganthomyza*	*Arganthomyza carbo*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Oxypoda*	*Oxypoda longicarinata*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Oxytelus*	*Oxytelus laqueatus*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Phlaeopterus*	*Phlaeopterus fusconiger*				-		-	-	-	-	0.11	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Phlaeopterus*	*Phlaeopterus houkae*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Quedius*	*Quedius velox*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Tachinus*	*Tachinus frigidus*				-		-	-	-	-	-	-	-	-	0.05	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Tachinus*	*Tachinus maculicollis*				-		-	-	-	-	-	-	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae						-		-	-	-	-	0.35	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae						-		-	-	-	-	-	-	-	-	0.11	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae						-		-	-	-	-	-	-	-	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Coleoptera							-		-	-	-	-	-	-	-	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Coleoptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera							-		-	1.02	-	-	-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera							-		-	-	-	-	-	-	-	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Agromyza*					-		-	-	-	-	-	-	-	-	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Liriomyza*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Liriomyza*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anisopodidae	*Sylvicola*	*Sylvicola fuscatus*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Botanophila*	*Botanophila rubrigena*				-		-	-	-	-	-	-	-	0.09	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*	*Delia extensa*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Egle*	*Egle concomitans*				-		-	-	-	-	-	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Paradelia*	*Paradelia brunneonigra*				-		-	-	-	-	-	-	-	-	-	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*	*Pegomya circumpolaris*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*	*Pegomya geniculata*				-		-	0.33	-	-	-	0.14	-	-	0.04	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*					-		-	0.69	-	-	1.88	0.94	0.51	0.18	0.25	0.10
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*					-		-	-	-	-	0.06	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Zaphne*	*Zaphne borealis*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyzidae	*Anthomyza*	*Anthomyza tenuis*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyzidae	*Arganthomyza*	*Arganthomyza carbo*				-		-	-	-	-	-	-	-	-	-	0.03

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Oxypoda*	*Oxypoda longicarinata*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Oxytelus*	*Oxytelus laqueatus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Phlaeopterus*	*Phlaeopterus fusconiger*	-	0.05	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Phlaeopterus*	*Phlaeopterus houkae*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Quedius*	*Quedius velox*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Tachinus*	*Tachinus frigidus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Tachinus*	*Tachinus maculicollis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae			0.06	0.02	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera				-	0.10	0.05				
Insects	Animalia	Arthropoda	Insecta	Coleoptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Coleoptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Agromyza*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Liriomyza*		0.04	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Liriomyza*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae	*Phytomyza*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Agromyzidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Anisopodidae	*Sylvicola*	*Sylvicola fuscatus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Botanophila*	*Botanophila rubrigena*	0.05	-	0.07				
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*	*Delia extensa*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Delia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Egle*	*Egle concomitans*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Paradelia*	*Paradelia brunneonigra*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*	*Pegomya circumpolaris*	-	0.05	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*	*Pegomya geniculata*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*		0.21	0.06	0.13				
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*		-	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Pegomya*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae	*Zaphne*	*Zaphne borealis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyiidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyzidae	*Anthomyza*	*Anthomyza tenuis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Anthomyzidae	*Arganthomyza*	*Arganthomyza carbo*	-	0.03	-				

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk			Unuk DS S. Unuk		
									Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Bibio*							-		0.09	-	-	0.08	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Bolitophilidae	*Bolitophila*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Bolitophilidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Brachystomatidae	*Boreodromia*	*Boreodromia bicolor*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Brachystomatidae	*Gloma*	*Gloma luctuosa*						-		-	0.04	-	0.04	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Brachystomatidae	*Heleodromia*	*Heleodromia chillcotti*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae	*Calliphora*	*Calliphora stelviana*						-		-	-	-	0.10	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae	*Calliphora*	*Calliphora vomitoria*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae	*Calliphora*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae	*Pollenia*	*Pollenia griseotomentosa*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Atrichopogon*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Brachypogon*							-		-	-	-	-	0.26	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Brachypogon*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Culicoides*	*Culicoides obsoletus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Culicoides*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Culicoides*							-		0.04	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Dasyhelea*	*Dasyhelea modesta*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Palpomyia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Palpomyia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Serromyia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae								-		-	0.08	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chaoboridae	*Chaoborus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*	*Ablabesmyia monilis*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*	*Ablabesmyia monilis*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Acricotopus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Bilyjomyia*	*Bilyjomyia algens*						-		-	-	-	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Brillia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*	*Chaetocladius holmgreni*						-		-	-	-	-	-	0.30
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*							-		0.51	4.19	-	-	0.44	0.74

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			McTagg			Gingras			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Bibio*		-	-	-				-	-	-	0.06	0.05	0.05			
Insects	Animalia	Arthropoda	Insecta	Diptera	Bolitophilidae	*Bolitophila*		-	-	-				-	-	0.37	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Bolitophilidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Brachystomatidae	*Boreodromia*	*Boreodromia bicolor*	-	0.29	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Brachystomatidae	*Gloma*	*Gloma luctuosa*	0.05	0.28	1.11				0.05	-	-	-	0.07	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Brachystomatidae	*Heleodromia*	*Heleodromia chillcotti*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae	*Calliphora*	*Calliphora stelviana*	-	-	-				-	-	-	-	0.02	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae	*Calliphora*	*Calliphora vomitoria*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae	*Calliphora*		-	-	-				-	-	-	-	-	0.04			
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae	*Pollenia*	*Pollenia griseotomentosa*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae			-	0.09	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Atrichopogon*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Brachypogon*		-	-	-				-	-	-	0.09	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Brachypogon*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Culicoides*	*Culicoides obsoletus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Culicoides*		-	0.10	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Culicoides*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Dasyhelea*	*Dasyhelea modesta*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*		-	-	-				-	0.13	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Palpomyia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Palpomyia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Serromyia*		-	-	-				-	-	0.15	-	0.03	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			0.02	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	0.06				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-				0.03	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chaoboridae	*Chaoborus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*	*Ablabesmyia monilis*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*	*Ablabesmyia monilis*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Acricotopus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Bilyjomyia*	*Bilyjomyia algens*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Brillia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*	*Chaetocladius holmgreni*	-	-	-				0.61	-	-	0.11	0.03	0.06			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*		-	0.23	-				-	-	-	0.09	-	0.03			

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Bibio*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Bolitophilidae	*Bolitophila*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Bolitophilidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Brachystomatidae	*Boreodromia*	*Boreodromia bicolor*				0.66			0.09	-	0.07	0.09	0.02	0.09	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Brachystomatidae	*Gloma*	*Gloma luctuosa*				-			-	-	-	-	-	-	0.02	0.15	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera	Brachystomatidae	*Heleodromia*	*Heleodromia chillcotti*				0.06			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae	*Calliphora*	*Calliphora stelviana*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae	*Calliphora*	*Calliphora vomitoria*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae	*Calliphora*					-			-	-	-	-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae	*Pollenia*	*Pollenia griseotomentosa*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Atrichopogon*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Brachypogon*					0.91			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Brachypogon*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Culicoides*	*Culicoides obsoletus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Culicoides*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Culicoides*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Dasyhelea*	*Dasyhelea modesta*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*					-			-	-	-	-	-	-	-	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*					-			0.06	-	-	0.05	-	-	-	0.05	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Palpomyia*					-			-	-	-	0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Palpomyia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Serromyia*					-			-	-	-	-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-			0.02	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						0.63			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chaoboridae	*Chaoborus*					-			-	-	-	-	0.05	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*	*Ablabesmyia monilis*				-			-	-	-	0.02	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*	*Ablabesmyia monilis*				-			0.02	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Acricotopus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Bilyjomyia*	*Bilyjomyia algens*				-			-	-	-	-	-	-	0.06	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Brillia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*	*Chaetocladius holmgreni*				-			-	-	-	0.02	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*					-			0.06	-	-	-	-	-	0.49	0.82	0.44

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Bibio*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Bolitophilidae	*Bolitophila*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Bolitophilidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Brachystomatidae	*Boreodromia*	*Boreodromia bicolor*	-	-	-	0.12	-	-	0.08	0.05	-	0.11	0.10	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Brachystomatidae	*Gloma*	*Gloma luctuosa*	0.09	0.02	0.03	0.05	0.07	0.10	0.12	0.04	0.09	0.29	0.08	0.18	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Brachystomatidae	*Heleodromia*	*Heleodromia chillcotti*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae	*Calliphora*	*Calliphora stelviana*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae	*Calliphora*	*Calliphora vomitoria*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae	*Calliphora*		-	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae	*Pollenia*	*Pollenia griseotomentosa*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Atrichopogon*		-	-	-	-	-	-	0.10	-	-	-	-	-	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Brachypogon*		-	-	-	-	0.02	0.03	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Brachypogon*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Culicoides*	*Culicoides obsoletus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Culicoides*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Culicoides*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Dasyhelea*	*Dasyhelea modesta*	-	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*		-	-	-	-	-	-	-	-	0.03	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*		0.03	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*		0.10	0.15	0.16	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Palpomyia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Palpomyia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Serromyia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-	-	-	-	0.02	0.05	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-	-	-	-	-	-	-	0.07	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-	-	-	-	-	-	0.05	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-	-	-	-	-	0.07	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	0.03	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chaoboridae	*Chaoborus*		-	-	0.27	-	-	-	-	-	-	0.03	-	-	0.03	0.06	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*	*Ablabesmyia monilis*	-	-	-	-	-	-	-	-	-	-	-	-	0.05	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*	*Ablabesmyia monilis*	-	-	-	-	-	-	-	-	-	-	-	-	0.03	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*		0.06	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*		0.06	0.05	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Acricotopus*		-	-	-	-	-	-	-	-	-	-	-	-	0.04	0.03	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Bilyjomyia*	*Bilyjomyia algens*	0.14	0.10	0.08	-	-	-	-	-	0.04	0.04	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Brillia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*	*Chaetocladius holmgreni*	-	-	-	-	-	0.03	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*		0.07	0.21	0.20	-	-	-	0.18	0.03	0.03	-	0.05	0.07	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Bibio*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Bolitophilidae	*Bolitophila*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Bolitophilidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Brachystomatidae	*Boreodromia*	*Boreodromia bicolor*				-		-	-	-	-	-	0.54	-	-	0.09	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Brachystomatidae	*Gloma*	*Gloma luctuosa*				-		-	-	-	-	0.11	-	-	0.02	-	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Brachystomatidae	*Heleodromia*	*Heleodromia chillcotti*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae	*Calliphora*	*Calliphora stelviana*				-		-	-	-	-	-	-	-	-	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae	*Calliphora*	*Calliphora vomitoria*				-		-	-	-	-	-	-	0.47	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae	*Calliphora*					-		-	-	-	-	0.26	0.07	-	0.04	0.06	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae	*Pollenia*	*Pollenia griseotomentosa*				-		-	-	-	-	-	0.06	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Atrichopogon*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Brachypogon*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Brachypogon*					-		-	-	-	-	-	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Culicoides*	*Culicoides obsoletus*				-		-	0.22	0.02	0.14	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Culicoides*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Culicoides*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Dasyhelea*	*Dasyhelea modesta*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*					-		-	-	-	-	-	0.10	0.40	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*					-		-	-	-	-	-	-	-	0.03	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*					-		-	-	-	-	-	-	-	-	0.05	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Palpomyia*					-		-	-	-	-	0.21	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Palpomyia*					-		-	-	0.06	-	0.16	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Serromyia*					-		-	-	-	-	-	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-		-	-	-	-	0.28	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-		-	-	0.18	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-		-	-	-	-	-	0.07	0.07	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-		-	-	0.11	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-		-	-	-	-	-	-	-	-	-	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-		-	-	-	-	0.08	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae						-		-	-	-	-	-	-	-	-	0.07	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chaoboridae	*Chaoborus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*	*Ablabesmyia monilis*				-		-	-	-	0.39	-	0.09	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*	*Ablabesmyia monilis*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Acricotopus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Bilyjomyia*	*Bilyjomyia algens*				-		0.27	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Brillia*					-		-	0.03	0.04	-	-	-	0.18	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*	*Chaetocladius holmgreni*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*					-		-	1.12	-	-	0.27	-	-	-	0.07	0.11

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Diptera	Bibionidae	*Bibio*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Bolitophilidae	*Bolitophila*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Bolitophilidae			-	-	0.11				
Insects	Animalia	Arthropoda	Insecta	Diptera	Brachystomatidae	*Boreodromia*	*Boreodromia bicolor*	0.14	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Brachystomatidae	*Gloma*	*Gloma luctuosa*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Brachystomatidae	*Heleodromia*	*Heleodromia chillcotti*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae	*Calliphora*	*Calliphora stelviana*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae	*Calliphora*	*Calliphora vomitoria*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae	*Calliphora*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae	*Pollenia*	*Pollenia griseotomentosa*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Calliphoridae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Atrichopogon*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Brachypogon*		-	-	0.12				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Brachypogon*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Culicoides*	*Culicoides obsoletus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Culicoides*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Culicoides*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Dasyhelea*	*Dasyhelea modesta*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Palpomyia*		0.04	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Palpomyia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Serromyia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			0.05	0.02	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chaoboridae	*Chaoborus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*	*Ablabesmyia monilis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*	*Ablabesmyia monilis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Ablabesmyia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Acricotopus*		0.04	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Bilyjomyia*	*Bilyjomyia algens*	0.02	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Brillia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*	*Chaetocladius holmgreni*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*		0.04	0.08	-				

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk			Unuk DS S. Unuk		
									Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*							-		-	-	-	-	-	0.28
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus anthracinus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus atrella*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus maturus*						-		-	-	0.08	-	0.07	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus melanescens*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*							-		0.42	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cladotanytarsus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Conchapelopia*	*Conchapelopia pallens*						-		-	-	-	0.06	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Conchapelopia*	*Conchapelopia telema*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*	*Corynoneura arctica*						-		-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*	*Corynoneura scutellata*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*							-		-	-	0.34	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*							1.09		0.77	1.61	0.83	0.21	0.18	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*							-		-	-	0.11	-	0.14	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus annulator*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		0.35	-	-	0.03	0.07	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus bicinctus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus obnixus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus sylvestris*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus tibialis*						-		0.05	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus trifasciatus*						-		-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*							-		-	-	-	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*							0.03		0.05	-	0.07	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*							-		0.32	0.65	0.39	0.88	0.53	1.13
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*							-		-	0.10	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*							0.12		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*							-		-	-	0.30	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*							-		-	-	0.18	0.05	-	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cryptochironomus*	*Cryptochironomus digitatus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*							4.60		11.27	11.14	10.49	5.96	10.36	8.39
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*							-		-	-	-	-	0.13	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*							-		0.65	0.13	-	0.27	-	0.86
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*							0.30		0.46	0.56	0.41	0.43	0.51	0.66
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*							-		-	-	-	-	-	0.19
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*							-		-	-	-	-	-	0.13
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*							2.67		3.44	3.60	2.51	1.50	3.56	2.74
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*							-		-	-	0.42	0.08	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*							2.53		4.68	2.44	5.02	1.85	2.76	2.63
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Dicrotendipes*	*Dicrotendipes tritomus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Dicrotendipes*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*	*Diplocladius cultriger*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*							-		-	-	-	0.08	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*	*Eukiefferiella claripennis*						-		-	0.63	-	-	0.16	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*							0.31		0.35	-	-	0.07	0.03	0.19

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			McTagg			Gingras			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*		-	-	-				-	-	-	-	0.12	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus anthracinus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus atrella*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus maturus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus melanescens*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cladotanytarsus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Conchapelopia*	*Conchapelopia pallens*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Conchapelopia*	*Conchapelopia telema*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*	*Corynoneura arctica*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*	*Corynoneura scutellata*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*		-	0.43	0.48				-	-	0.54	0.05	0.08	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*		-	0.06	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus annulator*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus bicinctus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus obnixus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus sylvestris*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus tibialis*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus trifasciatus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	0.10				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	0.05				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		0.02	0.17	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	0.02				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		0.13	0.30	0.48				0.44	0.98	1.77	0.49	0.49	0.46			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-				-	-	-	-	0.03	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	0.06	0.04				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-				-	-	-	0.04	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-				0.18	-	-	0.03	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	0.10				-	-	-	0.10	0.13	0.13			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	0.03				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cryptochironomus*	*Cryptochironomus digitatus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0.90	10.84	10.17				7.55	12.52	11.29	8.49	8.16	8.65			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	0.13	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	0.35	0.03				0.81	1.47	-	0.15	0.18	0.35			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0.04	0.48	0.61				0.57	0.92	0.78	0.51	0.53	0.52			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	-	-				-	-	0.09	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	-	-				0.09	-	0.12	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0.17	1.58	1.79				3.13	8.06	6.35	4.21	4.23	3.86			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	0.03	-				0.10	-	0.25	0.48	0.24	0.28			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0.26	4.45	3.56				9.12	6.23	7.37	7.34	6.92	7.33			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Dicrotendipes*	*Dicrotendipes tritomus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Dicrotendipes*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*	*Diplocladius cultriger*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*		-	0.03	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*	*Eukiefferiella claripennis*	-	0.10	0.08				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*		-	0.11	0.05				-	-	-	0.24	0.29	0.15			

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*					-			-	-	-	0.05	-	-	2.09	0.96	1.26
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*					-			0.03	-	0.04	0.06	0.02	-	-	-	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus anthracinus*				-			-	-	-	0.04	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus atrella*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus maturus*				-			-	-	-	-	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus melanescens*				-			-	-	-	0.08	0.04	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cladotanytarsus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Conchapelopia*	*Conchapelopia pallens*				-			-	-	0.03	0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Conchapelopia*	*Conchapelopia telema*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*	*Corynoneura arctica*				-			-	-	-	0.03	0.03	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*	*Corynoneura scutellata*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*					-			0.06	-	0.05	0.18	0.18	0.12	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*					-			0.05	-	0.04	0.04	0.03	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*					-			0.08	0.03	0.03	0.07	0.04	0.07	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus annulator*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus bicinctus*				-			-	-	0.03	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus obnixus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus sylvestris*				-			-	-	-	0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus tibialis*				-			-	-	-	-	-	0.04	0.05	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus trifasciatus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-			0.15	-	0.09	0.07	0.10	0.10	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					1.71			0.19	-	0.12	0.36	0.21	0.33	0.44	0.67	0.71
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-			-	-	-	-	-	-	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-			-	-	-	-	-	-	0.23	0.22	0.34
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-			-	-	-	-	0.02	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					0.29			0.03	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cryptochironomus*	*Cryptochironomus digitatus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					15.56			1.26	0.20	0.55	2.28	1.86	2.28	8.56	9.08	9.22
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					-			0.16	-	-	0.09	0.06	-	2.53	2.21	1.44
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					1.10			0.08	-	0.06	0.11	0.05	0.09	0.71	0.63	0.47
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					0.53			0.02	-	-	0.02	-	0.03	0.18	0.15	0.29
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					-			0.05	-	0.02	0.14	0.12	0.08	0.11	-	0.10
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					-			-	-	-	-	-	-	0.07	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					-			-	-	-	-	-	-	0.16	0.08	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					5.11			-	-	-	0.33	0.32	0.58	2.93	2.63	2.34
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					-			-	-	0.02	-	-	0.05	0.10	0.06	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					4.50			-	-	-	0.05	0.08	0.15	5.12	6.15	6.46
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Dicrotendipes*	*Dicrotendipes tritomus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Dicrotendipes*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*	*Diplocladius cultriger*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*					-			-	-	-	0.03	-	-	0.40	0.27	0.18
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*	*Eukiefferiella claripennis*				-			0.43	0.09	0.27	0.35	0.34	0.53	0.32	0.14	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*					-			3.96	0.55	1.98	1.97	1.33	1.64	-	0.04	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*		0.45	0.67	0.50	-	0.02	-	0.22	0.28	0.27	0.15	0.07	0.18	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*		-	-	-	0.27	0.06	0.18	-	-	-	-	0.09	0.08	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus anthracinus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus atrella*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*	-	-	-	-	-	-	-	-	-	-	-	-	7.82	1.57	0.96
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*	-	-	-	-	-	-	-	-	-	-	-	-	0.11	0.09	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus maturus*	0.17	0.16	0.12	-	-	-	0.06	-	0.03	0.03	-	-	0.18	0.19	0.13
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus melanescens*	-	-	0.08	-	-	-	-	-	-	-	-	-	2.36	2.51	0.56
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*		-	-	-	-	-	-	-	-	-	-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*		-	-	-	-	-	-	-	-	-	-	-	-	0.05	0.04	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cladotanytarsus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Conchapelopia*	*Conchapelopia pallens*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Conchapelopia*	*Conchapelopia telema*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*	*Corynoneura arctica*	0.03	0.03	-	-	-	-	0.14	0.04	0.22	0.05	0.07	0.11	0.43	2.15	1.34
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*	*Corynoneura scutellata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*		-	-	-	-	-	-	0.05	0.07	0.08	0.15	0.14	0.11	0.53	0.54	10.63
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*		-	0.08	-	-	0.05	0.04	-	-	0.09	-	-	0.05	-	-	0.14
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*		0.03	-	-	0.03	0.03	0.04	0.04	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus annulator*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus bicinctus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus obnixus*	-	-	-	-	-	-	-	-	-	0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus sylvestris*	-	-	-	-	-	-	-	0.20	0.06	0.05	0.11	0.10	0.95	0.59	0.53
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus tibialis*	0.21	0.12	0.12	-	-	-	0.06	0.13	0.06	0.05	0.05	0.12	-	-	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus trifasciatus*	-	-	-	-	-	-	-	-	-	-	-	-	1.08	0.72	1.74
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-	-	-	-	-	-	-	-	-	-	1.23	0.34	0.72
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		0.10	0.38	0.26	-	-	0.03	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-	-	-	-	-	-	-	-	-	-	0.14	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		0.22	0.19	0.22	0.21	0.14	0.08	0.13	-	0.04	0.02	0.07	0.06	0.17	0.19	0.11
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		0.03	-	-	-	0.02	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		0.25	0.20	0.34	0.04	-	-	0.13	0.14	0.28	0.05	0.05	0.11	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-	-	-	-	-	0.03	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-	-	-	-	-	-	-	-	-	-	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		0.07	0.04	0.03	0.06	0.04	0.10	-	-	-	0.03	0.03	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-	-	-	-	-	-	-	-	-	-	1.06	0.91	0.37
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cryptochironomus*	*Cryptochironomus digitatus*	-	-	-	-	-	-	-	-	-	-	-	-	0.23	0.23	0.15
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		1.73	1.65	1.20	6.66	5.31	6.15	11.63	11.92	10.08	10.97	8.59	10.14	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0.64	0.90	0.78	0.06	0.03	0.09	0.19	0.51	0.55	0.56	0.41	0.60	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0.18	0.21	0.09	0.58	0.52	0.62	0.41	0.24	0.76	0.15	0.24	0.17	0.48	0.50	0.19
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	0.05	0.06	0.06	0.06	0.07	0.25	0.33	0.17	0.09	0.11	0.12	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	0.08	0.03	-	-	-	0.04	-	-	0.02	-	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	-	-	0.05	0.04	0.03	0.04	0.05	0.06	-	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	-	-	-	-	-	0.10	0.11	0.14	0.03	-	0.09	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0.44	0.28	0.33	6.06	5.27	6.11	3.03	3.36	2.57	1.29	1.35	1.41	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	-	-	-	-	0.03	0.03	0.19	0.06	0.06	0.04	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		1.12	1.53	0.91	2.31	1.54	2.27	7.26	7.68	6.95	4.36	3.53	4.71	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Dicrotendipes*	*Dicrotendipes tritomus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Dicrotendipes*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*	*Diplocladius cultriger*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*		0.45	0.28	0.33	-	-	-	0.24	0.18	0.28	0.13	0.17	0.17	0.55	0.52	0.28
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*	*Eukiefferiella claripennis*	0.77	0.78	0.27	0.04	-	0.05	0.14	0.13	0.16	0.13	0.07	0.21	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*		-	-	0.04	0.64	0.49	0.58	-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*					0.03		-	-	-	2.46	-	0.23	0.55	0.03	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus anthracinus*				-		-	-	-	-	-	-	-	0.09	0.10	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus atrella*				-		-	-	-	-	-	-	-	-	-	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus maturus*				-		-	0.04	-	-	0.14	-	0.14	0.03	0.04	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus melanescens*				0.02		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*					-		-	-	-	-	-	0.59	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*					-		-	-	-	-	-	0.20	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*					-		-	-	-	-	0.08	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cladotanytarsus*					-		-	-	0.28	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Conchapelopia*	*Conchapelopia pallens*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Conchapelopia*	*Conchapelopia telema*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*	*Corynoneura arctica*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*	*Corynoneura scutellata*				-		-	-	-	-	-	0.08	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*					-		-	-	-	-	-	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*					-		-	-	-	-	-	-	0.06	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*					-		0.04	-	-	-	-	0.90	0.29	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*					-		-	0.24	-	-	-	-	0.15	0.05	0.10	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus annulator*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus bicinctus*				-		-	-	-	-	-	-	-	0.04	0.08	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus obnixus*				-		-	-	-	-	-	0.24	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus sylvestris*				-		-	0.06	-	1.04	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus tibialis*				-		-	0.04	-	-	-	-	0.05	0.06	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus trifasciatus*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-		-	-	0.06	-	0.52	0.12	0.58	-	0.04	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-		-	-	-	-	0.19	0.30	0.19	-	-	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-		0.82	-	-	-	-	-	-	0.15	0.16	0.13
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-		-	-	-	-	-	-	0.04	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-		-	-	-	-	-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-		-	-	-	-	-	0.04	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-		-	-	-	-	-	0.02	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-		-	-	-	-	0.06	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-		-	-	-	-	-	0.08	0.18	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*					-		-	0.20	-	0.21	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cryptochironomus*	*Cryptochironomus digitatus*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					0.16		5.44	8.82	9.49	10.80	5.59	6.51	5.43	5.18	4.60	4.56
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					0.03		-	-	-	-	0.20	0.17	-	0.10	0.64	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					0.08		-	-	-	-	0.37	0.45	0.76	0.05	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					0.06		0.45	0.14	0.13	0.37	0.32	0.36	0.62	0.03	0.06	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					-		-	-	-	-	0.04	0.09	0.26	-	0.15	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					-		-	0.02	0.05	-	-	-	-	-	0.04	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					-		0.22	0.21	-	-	-	0.10	-	-	0.15	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					0.07		3.47	0.61	3.16	7.81	1.31	4.60	0.71	1.05	0.79	0.70
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					-		1.29	0.08	0.89	-	-	0.21	0.08	-	-	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*					0.56		7.09	4.63	2.28	4.89	4.56	4.43	2.77	1.00	1.57	1.11
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Dicrotendipes*	*Dicrotendipes tritomus*				-		-	-	-	-	0.17	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Dicrotendipes*					-		-	-	-	-	-	-	-	-	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*	*Diplocladius cultriger*				-		-	-	-	-	-	-	-	-	-	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*					0.03		-	0.30	-	0.11	0.21	-	0.06	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*	*Eukiefferiella claripennis*				0.18		0.33	-	0.48	0.07	0.13	0.50	0.22	0.62	0.11	0.50
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*					0.07		-	-	-	-	0.04	0.13	-	0.23	0.17	0.22

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chaetocladius*		-	0.12	0.17				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus anthracinus*	0.06	0.14	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus atrella*	-	0.02	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*	-	0.12	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus maturus*	-	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus melanescens*	0.05	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cladotanytarsus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Conchapelopia*	*Conchapelopia pallens*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Conchapelopia*	*Conchapelopia telema*	0.04	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*	*Corynoneura arctica*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*	*Corynoneura scutellata*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*		0.02	0.07	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*		0.04	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*		-	0.06	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Corynoneura*		0.10	0.05	0.07				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus annulator*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus bicinctus*	0.03	-	0.19				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus obnixus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus sylvestris*	0.02	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus tibialis*	0.02	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus trifasciatus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	0.03	0.05				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		0.13	0.02	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		0.29	0.18	0.22				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		0.04	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		0.03	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cryptochironomus*	*Cryptochironomus digitatus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		2.75	2.90	1.67				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0.17	0.14	0.19				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0.17	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0.03	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0.61	0.69	0.27				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0.58	0.42	0.34				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Dicrotendipes*	*Dicrotendipes tritomus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Dicrotendipes*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*	*Diplocladius cultriger*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*		-	0.06	0.08				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diplocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*	*Eukiefferiella claripennis*	0.26	0.47	0.26				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*		0.11	0.21	0.09				

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk			Unuk DS S. Unuk		
									Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*							0.85		0.63	0.94	0.86	0.30	0.67	0.34
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*							-		-	-	-	-	-	0.13
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*							0.05		0.05	0.19	-	-	0.12	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Glyptotendipes*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*							0.09		0.92	0.83	1.47	1.50	1.56	1.69
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*	*Heterotrissocladius subpilosus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*							0.36		0.06	0.40	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*							-		-	-	-	0.10	0.09	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*	*Hydrobaenus conformis*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*	*Hydrobaenus fusistylus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*							-		-	-	-	0.17	0.14	0.15
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*							-		-	-	-	0.21	0.11	0.18
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*	*Krenopelopia narda*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*							0.37		-	-	-	-	0.20	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes schnelli*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes schnelli*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes schnelli*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*							1.00		1.23	0.63	0.75	0.34	0.79	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*							0.09		0.72	-	0.25	0.14	0.19	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*							-		-	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*	*Metriocnemus eurynotus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*							0.39		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*						-		-	-	0.10	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*						-		0.10	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra recurvata*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*							0.60		-	-	-	0.25	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*							1.01		0.29	1.07	0.08	0.12	1.02	0.43
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*							-		0.17	-	-	0.12	0.50	0.15
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*							-		-	0.52	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*							-		-	-	-	0.08	-	0.10
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*							-		-	-	-	-	-	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*							-		-	-	0.15	-	0.04	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*							-		0.05	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*							-		-	-	-	-	0.07	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*							-		-	-	-	0.14	0.07	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*							-		-	-	-	-	0.16	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			McTagg			Gingras			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*		-	0.51	0.55				-	0.03	-	0.09	0.04	0.12			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*		0.03	0.12	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*		-	0.05	-				-	-	-	0.44	0.58	0.44			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*		-	0.17	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Glyptotendipes*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*		0.45	0.58	0.72				-	-	-	1.01	1.09	0.94			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*	*Heterotrissocladius subpilosus*	-	0.03	-				0.15	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		-	0.06	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*	*Hydrobaenus conformis*	0.02	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*	*Hydrobaenus fusistylus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*		-	0.09	0.66				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*	*Krenopelopia narda*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*		-	-	0.08				-	-	-	-	0.04	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes schnelli*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes schnelli*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes schnelli*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0.20	0.60	0.20				0.74	0.05	0.42	0.31	0.14	0.15			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0.03	0.04	0.05				-	-	-	0.04	0.08	0.08			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*	*Metriocnemus eurynotus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		0.19	-	-				-	-	-	-	-	0.05			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		-	0.11	-				-	0.35	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra recurvata*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	0.23				-	-	-	-	0.05	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0.04	0.96	0.27				0.28	-	0.77	0.08	0.03	0.12			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0.43	0.30	0.64				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	0.09	0.04				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	0.07	0.21				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				-	-	-	0.04	0.05	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	0.10	0.14				-	-	-	0.03	0.03	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	0.03	-				-	-	-	-	-	-			

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*					0.15			10.87	1.82	5.22	7.13	5.33	7.08	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*					0.45			1.40	0.22	0.94	0.74	0.73	0.76	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Glyptotendipes*					-			-	-	-	-	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*					0.02			0.13	0.02	0.03	0.06	0.03	0.04	0.07	0.12	0.13
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*	*Heterotrissocladius subpilosus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*					-			-	-	0.06	-	0.04	0.11	1.44	0.69	1.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*					-			0.11	-	-	0.14	0.19	0.05	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*					-			-	-	-	-	-	-	0.47	0.77	0.57
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*					-			0.08	-	0.04	0.04	0.05	0.10	0.04	0.09	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*	*Hydrobaenus conformis*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*	*Hydrobaenus fusistylus*				-			-	-	-	-	-	-	0.53	0.74	0.68
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*					-			2.06	0.35	1.04	0.95	0.74	1.03	3.45	3.17	3.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*					-			0.15	0.03	0.11	0.12	0.05	0.06	1.07	0.81	0.75
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*	*Krenopelopia narda*				-			-	-	-	-	-	-	-	0.07	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*					-			-	-	-	-	-	-	0.32	0.26	0.33
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes schnelli*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes schnelli*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes schnelli*				-			-	-	-	-	-	-	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					-			0.23	-	0.12	0.05	-	0.05	0.25	0.65	0.47
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					0.45			-	-	-	-	0.03	-	0.03	0.09	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					-			0.04	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					-			-	-	-	-	-	-	0.04	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					-			-	-	0.03	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					-			0.05	-	0.04	-	-	0.04	0.29	0.05	0.18
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*	*Metriocnemus eurynotus*				-			-	-	-	-	-	-	-	-	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*					-			-	-	-	-	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*					-			-	-	-	-	-	-	0.02	0.13	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*				-			-	-	-	-	-	-	-	0.04	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*				-			-	-	-	0.21	0.05	0.11	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra recurvata*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-			0.13	0.02	0.02	0.22	0.20	0.07	2.35	2.71	3.72
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					0.23			0.12	-	0.02	0.15	0.14	0.13	2.46	3.48	3.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					0.18			0.04	-	-	0.04	0.04	0.05	0.23	0.17	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-			-	-	-	0.39	0.24	0.37	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-			0.05	-	-	-	-	-	0.11	0.57	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-			-	-	-	0.02	-	0.04	-	-	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					0.05			-	-	-	-	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-			-	-	-	-	-	-	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-			-	-	-	0.04	-	0.04	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					0.24			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-			-	-	-	-	-	-	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-			0.03	-	-	0.06	0.03	0.05	0.09	0.06	0.11
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-			-	-	-	-	-	-	0.10	0.29	0.27
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					0.03			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-			-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*		-	-	0.04	2.53	2.16	2.35	-	0.05	-	0.02	0.06	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*		-	-	-	0.26	0.29	0.23	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Glyptotendipes*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*		0.04	0.11	0.05	0.03	-	0.03	-	-	-	0.04	0.04	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*	*Heterotrissocladius subpilosus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		0.17	0.33	0.27	-	-	-	-	0.04	0.08	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		-	0.04	0.07	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		0.60	0.29	0.24	-	-	-	0.18	0.17	0.34	0.05	0.10	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		1.03	0.58	0.94	0.04	-	-	2.33	2.43	2.35	1.80	2.05	2.02	30.38	31.88	27.00
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*	*Hydrobaenus conformis*	-	-	-	-	-	-	-	-	-	0.02	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*	*Hydrobaenus fusistylus*	0.07	0.18	0.11	-	-	-	0.26	0.31	0.17	0.21	0.19	0.32	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*		7.49	6.69	7.08	0.48	0.29	0.36	0.17	0.35	0.20	0.27	0.10	0.16	0.12	0.10	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*		1.41	1.58	1.67	0.11	0.03	0.05	0.22	0.08	0.02	0.08	0.06	0.04	0.06	0.07	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*	*Krenopelopia narda*	-	-	-	-	-	-	-	-	0.07	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*		0.11	0.07	0.08	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes schnelli*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes schnelli*	-	-	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes schnelli*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		-	-	-	-	-	-	-	-	0.06	-	-	-	0.07	0.08	2.23
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0.48	0.64	0.38	0.20	0.07	0.12	0.12	-	-	0.11	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0.11	0.13	0.06	0.03	0.03	0.05	0.06	0.06	0.16	0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		-	0.08	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		-	-	-	-	-	-	0.04	0.02	-	0.02	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		-	-	0.03	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0.06	-	-	-	-	-	0.06	0.04	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0.26	0.33	0.06	-	-	0.02	0.10	0.12	0.10	0.05	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*	*Metriocnemus eurynotus*	-	-	-	-	-	-	-	-	0.08	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		0.05	0.17	-	0.04	-	0.03	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		0.06	0.04	0.02	-	-	-	0.03	0.05	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		-	-	-	-	-	-	0.07	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		-	-	-	-	-	-	-	-	-	-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*	0.07	0.14	0.09	-	-	-	0.18	0.21	0.07	0.14	0.09	0.04	0.15	0.16	0.79
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*	0.07	-	-	-	-	-	0.04	0.12	0.08	-	-	-	0.56	0.55	0.93
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra recurvata*	-	0.14	-	-	-	-	-	0.20	0.15	0.14	0.10	0.13	0.14	0.12	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		3.27	2.62	2.81	0.13	0.07	0.11	1.90	2.71	1.61	2.20	2.04	1.92	0.14	0.13	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		3.43	2.96	2.91	0.25	0.10	0.10	0.99	0.75	0.68	1.10	0.79	1.01	0.12	0.11	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0.27	0.34	0.17	-	-	-	0.06	0.05	0.05	-	-	-	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	0.07	-	-	-	-	-	-	-	0.04	0.06	0.06	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0.31	0.78	0.30	-	-	0.03	0.14	0.46	0.15	0.10	0.02	-	0.25	0.33	0.22
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	0.32	0.14	0.19	0.50	0.22	0.26	0.05	0.09	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0.10	0.11	0.10	-	-	-	-	-	-	-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	0.06	0.03	-	0.09	0.03	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	-	-	-	-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	-	0.04	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0.03	-	0.04	-	-	-	-	-	0.03	-	-	-	0.06	0.06	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	0.04	0.10	-	-	-	-	0.02	0.05	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	0.12	-	-	-	-	-	-	0.05	0.05	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0.08	0.10	0.13	-	-	-	0.29	0.24	0.44	0.41	0.38	0.23	0.03	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	0.02	-	-	-	-	-	0.06	0.03	-	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0.06	0.22	0.12	-	-	-	0.17	0.06	0.20	0.04	0.07	0.10	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*					0.03		-	0.44	-	0.22	0.29	0.16	0.25	0.81	0.86	0.55
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*					-		-	-	-	-	-	-	-	0.40	0.45	0.39
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Glyptotendipes*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*					-		0.05	-	-	-	0.04	-	-	0.18	0.14	0.16
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*	*Heterotrissocladius subpilosus*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*					-		-	0.69	-	-	-	-	0.31	-	-	0.11
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*					-		-	-	-	-	-	-	-	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*					-		-	-	-	0.03	-	-	-	0.05	0.04	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*					0.08		-	0.96	3.16	1.85	-	1.09	0.46	0.32	0.35	0.39
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*	*Hydrobaenus conformis*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*	*Hydrobaenus fusistylus*				-		-	-	-	-	-	-	0.08	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*					-		1.14	0.96	3.05	-	0.60	0.18	0.58	0.69	0.81	0.87
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*					0.05		-	0.50	-	-	-	0.63	0.08	0.13	0.15	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*	*Krenopelopia narda*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*					-		-	-	-	-	-	-	-	0.09	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes schnelli*				-		-	-	-	-	0.15	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes schnelli*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes schnelli*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					-		-	-	-	-	0.03	0.08	0.07	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					-		-	0.51	-	1.10	1.74	-	0.29	0.09	0.07	0.18
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					-		-	0.25	-	-	-	-	0.16	0.06	0.12	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					-		-	-	-	-	-	0.15	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					-		-	-	-	-	-	-	-	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					0.05		-	-	-	-	0.28	0.35	-	0.06	0.05	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*					-		-	-	-	-	-	0.04	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*	*Metriocnemus eurynotus*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*					-		-	-	-	-	-	0.13	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*					-		-	-	-	-	-	-	-	-	-	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*				-		-	-	-	-	-	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*				-		0.32	0.21	-	0.12	-	-	-	0.04	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra recurvata*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-		-	0.04	1.53	-	0.30	0.11	-	0.13	0.21	0.45
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					0.05		1.36	0.33	1.05	0.73	-	0.04	0.21	0.08	0.04	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-		0.03	0.06	0.78	-	0.25	0.11	-	0.20	0.28	0.12
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-		-	-	-	-	-	-	0.97	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-		-	-	-	-	0.40	-	0.14	0.04	0.09	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-		-	-	-	-	-	-	-	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					0.07		-	-	-	-	0.07	0.04	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-		-	-	-	0.10	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-		0.55	0.34	0.13	-	-	-	0.10	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-		-	0.03	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-		-	0.22	-	0.04	0.05	-	-	0.03	0.05	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-		0.02	0.12	0.13	0.21	0.02	0.34	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-		-	-	-	-	0.23	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-		-	-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*		0.49	0.72	0.31				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*		0.27	0.60	0.25				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Eukiefferiella*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Glyptotendipes*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*		0.17	0.20	0.08				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*	*Heterotrissocladius subpilosus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		-	0.07	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		0.03	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		0.03	0.06	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Heterotrissocladius*		0.17	0.29	0.26				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*	*Hydrobaenus conformis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*	*Hydrobaenus fusistylus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*		0.80	0.90	0.63				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*		0.14	0.25	0.14				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*	*Krenopelopia narda*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Krenopelopia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes schnelli*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes schnelli*	0.04	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*	*Limnophyes schnelli*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0.07	0.12	0.11				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		-	0.11	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0.04	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		0.08	0.09	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Limnophyes*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*	*Metriocnemus eurynotus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		-	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Metriocnemus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra recurvata*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0.19	0.31	0.33				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0.13	0.08	0.09				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0.16	0.16	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	0.08	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0.03	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0.07	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0.04	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		0.03	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk			Unuk DS S. Unuk		
									Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Microtendipes*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*	*Orthocladius dorenus*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*	*Orthocladius oblidens*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*	*Orthocladius smolandicus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							-		0.58	0.55	0.61	0.18	0.43	0.17
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							0.18		0.14	0.09	0.09	0.12	0.17	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							0.80		-	-	-	0.16	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							0.81		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							-		0.32	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							-		0.06	0.12	0.12	0.10	-	0.19
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							0.43		1.95	2.98	3.37	3.63	5.92	6.09
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							0.12		-	0.48	0.09	0.24	0.55	0.20
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	0.10
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							0.70		0.96	1.20	0.47	20.80	1.58	1.31
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							-		-	-	-	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							-		-	1.03	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							-		0.24	0.34	0.24	0.12	0.30	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							-		-	0.29	-	-	0.08	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							-		-	-	-	0.06	0.04	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							-		-	0.03	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pagastia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parachironomus*	*Parachironomus potamogeti*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parachironomus*	*Parachironomus vitiosus*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladius*	*Paracladius alpicola*						-		-	-	-	-	0.05	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladopelma*	*Paracladopelma undine*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladopelma*							-		-	-	-	0.15	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parakiefferiella*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*							0.33		0.05	0.04	0.03	0.04	0.02	0.15
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*							-		-	-	-	0.08	-	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*							-		-	0.36	-	-	0.32	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*							-		-	0.03	-	-	0.08	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			McTagg			Gingras			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Microtendipes*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*	*Orthocladius dorenus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*	*Orthocladius oblidens*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*	*Orthocladius smolandicus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	0.09	0.13				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0.04	-	0.08				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	0.08	0.13				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	0.08	0.12				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	0.06	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0.32	3.96	4.60				2.86	3.21	2.82	5.44	5.84	4.90			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0.03	0.55	0.77				0.02	-	-	0.13	-	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				-	-	0.02	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0.07	2.70	2.18				1.70	2.53	0.70	1.43	5.41	1.11			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				0.03	-	0.20	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	0.05	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				-	-	-	-	-	0.13			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	0.04	0.09				0.25	0.46	-	0.08	0.06	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	0.08	0.10				0.06	-	0.03	0.04	0.03	0.05			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				-	0.29	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	0.02				-	0.10	0.17	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	0.09	0.04				0.03	0.05	0.14	0.02	0.04	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pagastia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parachironomus*	*Parachironomus potamogeti*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parachironomus*	*Parachironomus vitiosus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladius*	*Paracladius alpicola*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladopelma*	*Paracladopelma undine*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladopelma*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parakiefferiella*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	0.06	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	0.12				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	0.08	0.02				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	-				-	-	0.06	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	0.05	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	0.23				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	-				-	-	-	-	-	-			

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Microtendipes*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*	*Orthocladius dorenus*				-			0.70	0.11	0.42	0.81	0.54	0.80	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*	*Orthocladius oblidens*				-			-	-	-	-	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*	*Orthocladius smolandicus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-			2.87	0.45	2.33	2.55	5.60	2.39	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					1.35			-	-	-	-	-	-	0.17	0.10	0.13
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					0.17			0.44	0.07	0.25	0.55	0.46	0.54	0.08	0.04	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-			-	-	-	0.03	0.02	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-			0.04	-	0.03	0.02	0.03	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-			-	-	-	-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					3.30			4.79	1.01	2.95	6.18	7.24	6.56	1.99	1.56	2.80
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-			0.17	-	2.50	0.30	0.21	0.21	0.26	0.24	0.33
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-			0.22	0.04	0.10	0.16	0.15	0.17	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-			-	-	-	-	-	-	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					1.77			1.03	0.15	2.42	2.23	9.12	2.40	7.99	1.86	2.30
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-			-	-	-	-	-	-	-	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-			-	-	-	-	-	-	-	0.10	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-			0.03	-	0.02	0.04	0.03	0.02	0.03	0.02	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					0.21			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-			-	-	-	-	-	-	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					0.02			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pagastia*					-			-	-	-	-	-	-	0.05	0.07	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parachironomus*	*Parachironomus potamogeti*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parachironomus*	*Parachironomus vitiosus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladius*	*Paracladius alpicola*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladopelma*	*Paracladopelma undine*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladopelma*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parakiefferiella*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*					-			0.10	-	-	0.04	0.03	0.06	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*					-			0.08	-	-	0.04	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*					-			-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Microtendipes*		0.11	0.05	0.07	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*	*Orthocladius dorenus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*	*Orthocladius oblidens*	-	0.11	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*	*Orthocladius smolandicus*	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	0.02	0.03	-	-	-	0.29	0.27	0.15	0.17	0.13	0.15	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0.08	0.11	0.08	0.05	0.04	0.04	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0.07	0.07	0.10	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	0.04	-	-	-	-	-	-	-	-	0.04	-	0.07	0.76	3.95
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		1.87	1.82	1.15	6.56	5.11	5.92	3.75	3.86	3.23	1.80	1.36	1.77	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	0.08	0.07	0.09	0.07	0.07	0.40	0.46	0.48	0.32	0.29	0.33	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		5.85	4.45	13.31	1.21	1.05	1.39	4.04	3.80	4.02	3.24	12.89	3.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	0.07	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	0.05	-	0.07	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0.02	0.04	-	0.19	0.11	0.09	0.02	0.04	-	0.10	0.04	0.07	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	0.03	0.02	-	-	-	-	0.02	0.04	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pagastia*		0.06	-	0.06	-	-	-	0.04	-	-	0.04	0.03	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parachironomus*	*Parachironomus potamogeti*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parachironomus*	*Parachironomus vitiosus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladius*	*Paracladius alpicola*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladopelma*	*Paracladopelma undine*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladopelma*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parakiefferiella*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	-	-	-	-	-	-	-	-	-	-	0.04	0.07	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	-	0.04	0.04	0.07	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	-	-	-	-	0.05	0.05	0.07	-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		0.05	0.12	0.07	-	-	-	-	-	-	0.02	0.02	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Microtendipes*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*	*Orthocladius dorenus*				-		-	-	-	-	-	-	-	0.04	-	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*	*Orthocladius oblidens*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*	*Orthocladius smolandicus*				-		-	-	-	-	0.08	-	0.21	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		-	-	-	-	-	-	-	0.14	0.10	0.18
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		-	-	-	-	0.14	0.29	0.31	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		-	-	-	-	-	-	-	0.10	0.04	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		-	-	-	-	-	-	-	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		-	-	-	-	-	-	-	0.32	0.05	0.18
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		-	-	-	-	-	-	-	-	-	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		0.14	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		-	0.45	-	0.65	0.47	0.81	-	0.31	0.36	0.27
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					0.05		0.31	0.20	1.44	2.78	0.86	2.97	2.98	1.06	1.38	1.52
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		0.43	0.11	0.43	-	0.27	0.21	0.23	0.10	0.21	0.10
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					0.04		0.53	0.58	0.77	0.31	2.11	2.18	1.87	1.62	1.32	1.35
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		-	-	-	-	-	-	-	0.11	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		-	-	-	-	-	-	0.15	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					0.04		0.29	-	0.26	-	0.12	0.08	-	0.08	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		-	-	-	-	-	0.04	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		0.78	-	-	-	-	0.20	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		-	0.08	-	-	-	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*					-		0.02	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pagastia*					-		-	-	-	-	0.04	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parachironomus*	*Parachironomus potamogeti*				-		-	-	-	-	0.11	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parachironomus*	*Parachironomus vitiosus*				-		-	-	-	-	-	0.08	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladius*	*Paracladius alpicola*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladopelma*	*Paracladopelma undine*				-		-	-	-	-	-	-	-	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladopelma*					-		-	-	-	-	-	-	-	0.34	0.38	0.36
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parakiefferiella*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*					-		-	0.40	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*					-		-	-	-	0.34	-	-	-	-	0.11	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*					-		-	-	-	-	-	0.10	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*					-		-	-	0.12	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*					-		-	-	-	-	-	-	-	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*					-		-	-	-	-	-	-	-	0.12	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*					-		-	-	-	-	0.12	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Microtendipes*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*	*Orthocladius dorenus*	0.05	0.21	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*	*Orthocladius oblidens*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*	*Orthocladius smolandicus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0.12	0.16	0.15				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		2.27	0.13	0.06				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0.09	0.08	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0.05	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0.70	0.69	0.63				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0.39	0.38	0.23				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		1.45	1.54	0.97				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0.10	0.18	0.07				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		1.73	1.68	0.62				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0.05	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0.06	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0.02	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pagastia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parachironomus*	*Parachironomus potamogeti*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parachironomus*	*Parachironomus vitiosus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladius*	*Paracladius alpicola*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladopelma*	*Paracladopelma undine*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paracladopelma*		0.45	0.36	0.41				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parakiefferiella*		-	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		0.08	0.07	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		0.06	0.27	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	-				

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk			Unuk DS S. Unuk		
									Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*							-		-	-	-	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paraphaenocladius*	*Paraphaenocladius impensus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paraphaenocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratendipes*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parochlus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parorthocladius*							0.15		0.04	-	0.25	0.19	-	0.13
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Phaenopsectra*	*Phaenopsectra punctipes*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Polypedilum*	*Polypedilum tuberculum*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Polypedilum*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*	*Procladius denticulatus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*	*Procladius denticulatus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*							-		-	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Propsilocerus*	*Propsilocerus saetheri*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*	*Psectrocladius platypus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*							-		0.09	-	-	0.07	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*							-		-	-	-	0.04	-	0.37
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*							-		-	0.14	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*							0.04		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrotanypus*	*Psectrotanypus dyari*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	0.13
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pseudodiamesa*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pseudorthocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psilometriocnemus*							-		-	0.22	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Radotanypus*	*Radotanypus florens*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*	*Rheocricotopus robacki*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					0.16		0.09	0.07	-	0.71	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*							0.35		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheotanytarsus*	*Rheotanytarsus pentapoda*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheotanytarsus*							-		-	-	-	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*							-		0.04	-	-	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*							-		-	-	-	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*							-		-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*							-		-	-	-	-	0.42	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*							-		-	-	0.66	0.59	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Synorthocladius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus aculeatus*						-		-	0.38	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus anderseni*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus bathophilus*						-		-	-	0.19	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus glabrescens*						-		-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			McTagg			Gingras			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paraphaenocladius*	*Paraphaenocladius impensus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paraphaenocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratendipes*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parochlus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parorthocladius*		-	0.06	0.22				0.36	-	-	0.20	0.09	0.13			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Phaenopsectra*	*Phaenopsectra punctipes*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Polypedilum*	*Polypedilum tuberculum*	0.03	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Polypedilum*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*	*Procladius denticulatus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*	*Procladius denticulatus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Propsilocerus*	*Propsilocerus saetheri*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*	*Psectrocladius platypus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		0.03	-	0.16				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	-	0.12				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrotanypus*	*Psectrotanypus dyari*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pseudodiamesa*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pseudorthocladius*		-	-	-				-	-	-	0.04	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psilometriocnemus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Radotanypus*	*Radotanypus florens*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*	*Rheocricotopus robacki*	-	-	0.49				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*		-	0.03	0.11				-	-	-	0.65	0.70	0.55			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*		-	-	0.58				-	-	-	0.03	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*		-	-	-				-	-	-	-	0.03	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheotanytarsus*	*Rheotanytarsus pentapoda*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheotanytarsus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		-	-	-				-	-	0.32	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		-	-	-				0.07	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		-	-	-				-	0.38	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Synorthocladius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus aculeatus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus anderseni*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus bathophilus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus glabrescens*	-	-	-				-	-	-	-	-	-			

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*					-			-	-	-	0.02	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paraphaenocladius*	*Paraphaenocladius impensus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paraphaenocladius*					-			-	-	-	-	-	-	0.08	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratendipes*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parochlus*					-			-	-	-	-	-	-	0.10	0.19	0.24
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parorthocladius*					-			2.42	0.46	1.22	1.44	1.39	1.55	0.12	0.13	0.19
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Phaenopsectra*	*Phaenopsectra punctipes*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Polypedilum*	*Polypedilum tuberculum*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Polypedilum*					-			0.05	-	-	0.03	0.03	0.07	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*	*Procladius denticulatus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*	*Procladius denticulatus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Propsilocerus*	*Propsilocerus saetheri*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*	*Psectrocladius platypus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*					-			0.03	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*					-			-	-	-	0.03	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*					-			-	-	-	-	-	-	0.08	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrotanypus*	*Psectrotanypus dyari*				-			-	-	-	0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pseudodiamesa*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pseudorthocladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psilometriocnemus*					-			-	-	-	0.04	-	-	0.40	0.36	0.38
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Radotanypus*	*Radotanypus florens*				-			-	-	-	0.07	0.06	0.18	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*	*Rheocricotopus robacki*				-			-	-	-	0.38	0.16	0.13	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*					-			3.65	0.67	1.99	1.34	1.28	1.31	0.90	0.84	0.93
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*					-			-	-	-	-	-	-	0.07	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheotanytarsus*	*Rheotanytarsus pentapoda*				-			0.02	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheotanytarsus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*					-			-	-	-	-	-	-	0.02	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*					-			-	-	-	-	-	-	-	0.03	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*					-			-	-	-	-	-	-	-	-	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*					-			-	-	-	-	-	-	0.02	-	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*					-			-	-	-	-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*					-			-	0.02	0.08	-	0.04	0.09	0.19	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*					-			0.12	-	0.08	0.03	-	0.08	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Synorthocladius*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus aculeatus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus anderseni*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus bathophilus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus glabrescens*				-			-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	-	-	-	-	-	-	-	0.02	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paraphaenocladius*	*Paraphaenocladius impensus*	-	0.02	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paraphaenocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratendipes*		-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parochlus*		0.02	0.15	0.08	-	-	-	-	-	-	0.02	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parorthocladius*		0.18	0.21	0.32	0.43	21.48	0.39	0.11	0.15	0.29	0.12	0.06	0.14	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Phaenopsectra*	*Phaenopsectra punctipes*	-	0.07	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Polypedilum*	*Polypedilum tuberculum*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Polypedilum*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*	*Procladius denticulatus*	-	-	-	-	-	-	-	-	-	-	-	-	0.07	0.06	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*	*Procladius denticulatus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*		-	-	-	-	-	-	-	-	-	-	-	-	0.30	0.28	0.25
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*		-	-	-	-	-	-	-	0.03	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*		0.05	0.12	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Propsilocerus*	*Propsilocerus saetheri*	-	-	0.04	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*	*Psectrocladius platypus*	-	-	-	-	-	-	-	-	-	-	-	-	0.05	1.45	0.21
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		0.08	-	0.13	-	-	-	0.05	-	-	0.02	0.02	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	-	-	-	-	-	-	-	-	-	-	-	0.02	0.11	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	-	-	-	-	-	-	-	-	-	-	-	0.18	0.16	0.22
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.77
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	0.04	-	-	-	-	-	-	-	-	-	-	-	-	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrotanypus*	*Psectrotanypus dyari*	0.02	-	0.06	-	-	-	-	0.03	-	0.02	-	0.02	0.80	0.81	0.56
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pseudodiamesa*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pseudorthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psilometriocnemus*		0.21	0.21	0.08	-	-	-	1.35	1.12	0.59	0.56	0.54	0.43	0.04	0.02	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Radotanypus*	*Radotanypus florens*	-	-	-	-	-	-	-	-	-	-	-	-	0.17	0.20	0.33
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*	*Rheocricotopus robacki*	-	-	-	-	-	-	-	-	-	-	-	-	1.69	1.67	0.58
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*		0.58	0.33	0.38	1.90	1.60	1.62	1.64	1.59	1.30	1.28	1.20	1.54	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheotanytarsus*	*Rheotanytarsus pentapoda*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheotanytarsus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		-	0.04	-	-	-	-	-	-	-	0.02	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		-	-	-	-	-	0.02	-	-	-	0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		0.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		-	0.04	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		-	-	-	0.03	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*		0.52	0.34	0.45	0.10	-	0.11	0.64	0.31	0.51	0.51	0.69	0.48	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*		0.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*		0.09	-	0.03	0.06	0.02	-	0.14	-	-	0.11	0.09	0.15	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Synorthocladius*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus aculeatus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus anderseni*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus bathophilus*	-	-	-	-	-	-	-	-	-	-	-	-	0.06	0.08	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus glabrescens*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paraphaenocladius*	*Paraphaenocladius impensus*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paraphaenocladius*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratendipes*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parochlus*					-		-	0.12	-	-	-	0.08	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parorthocladius*					-		0.04	0.15	1.92	-	0.19	-	0.40	0.24	0.10	0.19
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Phaenopsectra*	*Phaenopsectra punctipes*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Polypedilum*	*Polypedilum tuberculum*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Polypedilum*					-		-	-	-	-	-	-	-	0.03	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*	*Procladius denticulatus*				-		-	-	-	-	-	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*	*Procladius denticulatus*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*					-		-	-	-	-	-	0.22	-	0.07	0.35	0.22
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*					-		0.05	-	-	-	-	-	-	-	0.05	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Propsilocerus*	*Propsilocerus saetheri*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*	*Psectrocladius platypus*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*					-		-	-	-	-	0.37	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*					-		-	0.42	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*					-		-	-	-	-	-	-	-	-	0.06	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*					-		-	-	-	-	-	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrotanypus*	*Psectrotanypus dyari*				-		-	0.03	-	-	-	-	-	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pseudodiamesa*					-		-	-	0.20	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pseudorthocladius*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psilometriocnemus*					-		0.31	0.41	-	-	0.38	-	0.42	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Radotanypus*	*Radotanypus florens*				-		-	-	-	-	-	-	-	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*	*Rheocricotopus robacki*				-		2.31	-	-	-	-	0.09	1.54	-	-	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*					0.06		0.62	1.51	0.45	1.94	0.24	0.80	1.21	0.55	0.58	0.72
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*					-		-	-	-	-	-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*					-		-	-	-	-	-	0.19	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheotanytarsus*	*Rheotanytarsus pentapoda*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheotanytarsus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*					-		-	-	-	-	-	0.42	0.18	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*					-		-	-	-	-	-	-	0.13	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*					-		-	-	-	-	0.20	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*					-		-	-	-	-	0.09	0.03	0.20	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*					-		-	-	-	-	-	-	0.09	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*					0.14		-	1.78	1.09	-	0.92	0.75	1.24	-	0.20	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*					-		-	-	-	-	0.94	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Synorthocladius*					-		-	-	-	-	-	-	0.06	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus aculeatus*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus anderseni*				-		-	-	-	-	-	-	-	-	-	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus bathophilus*				-		-	-	-	-	0.07	-	-	0.36	0.07	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus glabrescens*				-		-	-	-	-	-	0.10	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parametriocnemus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paraphaenocladius*	*Paraphaenocladius impensus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paraphaenocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Paratendipes*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parochlus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parorthocladius*		0.17	0.22	0.17				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Phaenopsectra*	*Phaenopsectra punctipes*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Polypedilum*	*Polypedilum tuberculum*	-	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Polypedilum*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*	*Procladius denticulatus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*	*Procladius denticulatus*	-	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*		0.08	-	0.05				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Propsilocerus*	*Propsilocerus saetheri*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*	*Psectrocladius platypus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		0.36	0.15	0.11				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		0.12	0.09	0.13				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrotanypus*	*Psectrotanypus dyari*	0.12	0.08	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pseudodiamesa*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pseudorthocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psilometriocnemus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Radotanypus*	*Radotanypus florens*	-	0.08	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*	*Rheocricotopus robacki*	-	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*		0.83	0.82	0.48				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheocricotopus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheotanytarsus*	*Rheotanytarsus pentapoda*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Rheotanytarsus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		-	0.04	0.05				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Smittia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*		0.04	0.09	0.10				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Stempellinella*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Synorthocladius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus aculeatus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus anderseni*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus bathophilus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus glabrescens*	-	-	-				

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk			Unuk DS S. Unuk		
									Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus gracilentus*						-		-	-	-	-	-	0.27
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus herrmanni*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus inaequalis*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus mendax*						0.42		-	-	-	0.09	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus mendax*						0.08		-	-	0.06	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus mendax*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus miriforceps*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*							-		-	-	-	-	-	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*							-		0.04	-	0.15	0.04	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*							-		0.17	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Thienemanniella*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Thienemanniella*							-		-	-	-	0.02	-	0.11
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Thienemannimyia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Zalutschia*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Zavrelimyia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								6.27		3.70	3.14	4.04	2.23	2.26	3.17
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		0.43	0.66	0.37	0.10	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								0.05		-	-	-	-	0.08	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					1.89		3.68	3.04	5.39	4.41	4.23	3.26
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								2.57		4.33	4.39	4.64	2.46	3.33	2.86
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								0.20		0.13	0.71	0.16	0.03	0.06	0.16
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								0.78		2.37	3.39	3.30	1.47	2.58	2.98
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		0.17	-	0.47	-	-	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	0.06	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	0.37	0.99	0.18	0.10	0.82
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	0.12	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		0.24	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	0.25	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		0.47	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								0.75		-	-	-	0.03	0.30	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								0.67		-	-	0.13	0.05	0.08	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								0.06		0.05	-	-	0.09	0.08	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								0.48		-	-	-	-	0.09	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								0.18		0.20	0.03	0.33	0.36	0.33	0.12
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	0.07	0.08	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	0.25
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		0.04	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			McTagg			Gingras			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus gracilentus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus herrmanni*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus inaequalis*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus mendax*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus mendax*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus mendax*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus miriforceps*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	0.08				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Thienemanniella*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Thienemanniella*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Thienemannimyia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Zalutschia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Zavrelimyia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.16	3.57	2.16				-	-	0.44	0.99	0.66	1.34			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			33.63	1.83	0.26				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.03	0.08	0.05				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.14	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.37	4.27	2.62				3.14	4.17	2.24	2.23	1.60	2.40			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.28	3.24	3.66				5.77	9.50	9.46	8.14	8.66	8.54			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.09	0.19				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.06	1.03	1.29				-	1.21	0.36	1.41	1.69	1.74			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.17	-				-	-	-	0.06	0.05	0.05			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.04	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.03	0.27	0.16				-	-	-	-	0.04	0.05			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.04	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.05	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	0.08	0.03	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				0.06	-	0.06	0.16	0.09	0.13			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.03	0.26				0.13	0.32	-	0.19	0.21	0.07			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.07	0.04				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.04	0.10				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.12	0.39				0.67	-	0.48	0.52	0.37	0.51			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.03	0.07				0.03	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.15	0.13				0.12	-	-	0.03	0.14	0.13			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.23				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				0.30	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.03	-				0.03	0.07	0.02	0.24	0.13	0.20			

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus gracilentus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus herrmanni*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus inaequalis*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus mendax*				-			-	-	-	-	-	-	-	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus mendax*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus mendax*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus miriforceps*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					-			-	-	0.02	0.07	0.03	0.09	-	-	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					-			0.02	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					-			0.04	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Thienemanniella*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Thienemanniella*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Thienemannimyia*					-			0.05	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Zalutschia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Zavrelimyia*					-			0.02	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						1.89			1.74	0.40	1.04	2.47	1.86	2.00	-	0.21	0.25
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	0.30	0.62	0.43	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	0.02	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.03	-	-	0.06	0.02	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						5.12			-	-	-	-	-	-	0.29	0.45	0.47
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.68			1.13	0.17	0.44	1.05	0.72	1.00	1.51	1.38	1.27
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.08	-	0.26	0.11	0.08	0.08	1.75	2.12	1.82
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						1.91			4.97	0.94	2.53	2.34	1.65	2.13	0.45	0.08	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.36			0.06	0.02	0.03	0.02	0.02	-	-	-	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						1.44			-	-	-	-	-	-	0.03	0.09	0.10
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	0.02	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	0.04	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	0.70	-	0.04	0.11	0.11
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	0.17	0.03	0.12
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	0.05	0.03	0.02	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	0.03	-	0.03	0.05	0.15	0.14	0.25
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.06	-	-	0.03	-	-	0.32	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	0.07	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.19			-	-	-	-	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.28			0.15	-	0.06	0.09	0.05	0.10	0.06	0.12	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	0.02	-	-	0.06	0.16	0.06	0.20
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.55	0.13	0.25	0.27	0.67	0.30	0.09	-	0.11
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	0.26	0.24	0.10
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.06	-	-	-	0.03	0.08	0.22	0.33	0.13
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.05	-	-	-	-	0.03	0.14	0.08	0.22
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.32			-	-	-	-	-	-	0.07	-	0.11
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.47			-	-	-	-	-	-	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.06			-	-	-	-	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	0.16	0.39	0.11
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.55	0.08	0.28	0.41	0.43	0.37	0.11	0.56	0.27
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	0.13
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.08			-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus gracilentus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus herrmanni*	0.05	0.07	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus inaequalis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus mendax*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus mendax*	0.04	0.02	0.04	-	-	-	-	-	-	-	-	-	0.02	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus mendax*	-	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus miriforceps*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-	-	-	-	-	-	0.02	0.03	0.07	0.05	3.60	3.19	1.55
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-	-	-	-	-	-	-	-	-	0.03	0.05	0.03	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-	-	-	-	-	-	-	-	-	-	0.05	0.07	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		0.11	-	0.10	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	0.03	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-	-	-	-	-	-	-	-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Thienemanniella*		-	-	-	-	-	-	-	-	-	-	-	-	0.03	0.81	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Thienemanniella*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Thienemannimyia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Zalutschia*		0.28	0.19	0.17	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Zavrelimyia*		-	-	-	-	-	-	-	-	0.03	-	-	-	0.03	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.07	0.29	0.04	7.28	5.67	7.14	-	0.25	0.11	0.35	0.36	0.35	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.39	0.12	0.14	-	-	-	0.20	0.25	0.16	0.22	0.18	0.32	5.96	5.96	17.23
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.24	0.06	-	-	-	4.82	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	0.13	0.54	-	0.42	0.20	0.41	7.77	8.93	8.19
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.10	0.11	0.10	0.04	0.11	0.61	0.72	0.59	0.34	0.16	0.18	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.07	0.27	2.32	1.67	2.01	1.73	1.98	1.02	0.92	1.31	1.11	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			1.47	1.07	1.15	0.13	0.05	0.11	2.69	0.64	0.55	0.57	0.46	0.55	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.64	0.90	0.73	3.93	2.78	3.40	0.07	-	-	0.29	0.13	0.18	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	0.02	0.03	-	-	-	-	0.67	0.76	0.94	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.03	-	0.03	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	0.03	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	0.86	0.63	0.19
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.08	-	-	-	-	-	-	0.03	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	0.03	0.04	-	0.05	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.02	-	0.04	-	-	-	0.03	0.03	-	0.06	-	0.03	1.02	1.01	0.55
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			1.20	1.34	0.98	-	-	-	0.08	-	0.09	0.03	-	-	1.28	1.41	0.40
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.03	0.03	-	-	-	0.73	0.72	1.17	0.68	0.39	0.84	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.14	0.04	-	-	-	-	-	-	0.02	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.03	-	-	0.10	0.05	0.08	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.11	0.06	0.08	0.15	0.11	0.09	0.16	0.08	0.05	0.03	0.10	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.38	0.64	0.53	-	-	-	0.07	-	0.04	0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	0.06	0.04	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.03	0.09	-	0.15	0.09	0.10	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.22	0.05	-	-	-	0.49	0.39	0.35	0.18	0.13	0.26	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.15	0.16	0.08	-	-	-	0.07	0.25	0.59	0.08	0.08	0.15	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.11	0.12	0.09	-	-	0.05	0.07	0.03	0.09	0.02	-	0.09	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	0.20	0.11	0.13	0.02	0.08	0.03	0.03	0.04	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	0.02	0.06	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	0.03	0.04	0.05	-	-	0.03	-	0.03	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.05	0.05	0.04	-	-	-	0.09	0.04	0.05	0.04	0.03	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.51	0.47	0.31	0.05	-	0.06	-	0.05	0.06	0.02	0.04	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.15	0.08	0.24	-	-	-	0.14	0.17	-	0.08	0.30	0.13	0.19	0.25	0.24
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	0.15	0.13	0.17	-	0.04	0.04	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus gracilentus*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus herrmanni*				-		-	-	-	-	0.15	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus inaequalis*				-		-	-	-	-	0.04	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus mendax*				-		-	-	-	-	-	-	0.19	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus mendax*				-		-	-	-	-	-	0.04	0.12	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus mendax*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus miriforceps*				-		-	-	-	-	-	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					-		-	0.04	-	0.06	-	-	0.11	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					-		-	-	-	-	0.64	-	-	-	0.03	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					-		-	-	-	-	-	0.22	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					-		-	0.14	-	-	-	-	0.12	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					-		-	-	-	-	-	-	-	-	-	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					-		-	-	-	-	0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					-		-	-	-	-	0.02	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					-		-	-	-	-	-	-	0.16	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Thienemanniella*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Thienemanniella*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Thienemannimyia*					-		-	-	-	-	-	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Zalutschia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Zavrelimyia*					-		-	-	-	-	-	-	0.25	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						92.31		0.03	0.33	-	1.33	0.91	0.14	0.43	1.36	1.27	1.81
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	1.02	-	0.44	-	0.46	2.66	2.98	2.31
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	0.48	0.22	-	0.46	0.31	0.15	0.18	0.09	0.21
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	0.04	0.08	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	1.56	-	-	-	0.64	-	0.04	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.53		9.47	4.39	1.45	3.17	3.92	5.32	2.31	0.14	0.41	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.12		0.87	4.14	1.50	3.75	1.29	0.74	0.34	1.03	0.77	0.90
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	0.23	0.39	0.77	-	0.04	-	0.06	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		5.34	-	-	1.75	0.36	0.16	-	1.24	0.69	0.69
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		0.96	-	1.54	2.22	-	-	0.73	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	0.06	0.13	0.08	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		0.62	0.42	1.12	-	0.96	0.26	0.29	0.12	0.26	0.26
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		1.98	-	-	-	0.68	0.59	0.41	1.03	0.67	0.70
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	0.11	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	0.82	-	-	-	0.10	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	0.46	-	-	-	-	-	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		1.74	-	-	-	-	-	0.76	0.22	0.12	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	0.08	-	0.07	-	-	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		0.94	-	0.48	-	-	-	-	-	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	0.30	0.30	0.21	0.06	0.11	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	0.56	-	-	0.07	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		0.65	-	0.06	-	-	0.11	0.24	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	0.33	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	0.28	0.15	0.34	-	0.06	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	0.20	0.11	0.29	0.13	0.06	0.22
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		0.58	0.36	-	-	0.37	-	0.28	0.05	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	0.05	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	0.06	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	0.69	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		0.16	0.07	0.04	0.03	0.24	0.10	0.47	0.03	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus gracilentus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus herrmanni*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus inaequalis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus mendax*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus mendax*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus mendax*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*	*Tanytarsus miriforceps*	0.04	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		0.07	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	0.09	0.06				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Thienemanniella*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Thienemanniella*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Thienemannimyia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Zalutschia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Zavrelimyia*		-	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.86	1.00	0.65				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			2.65	2.98	2.50				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.15	0.23	0.13				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.11	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.03	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			1.38	0.69	0.61				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.06	0.08	0.08				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			1.22	0.41	0.58				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.04	0.06	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.97	1.14	0.53				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.02	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.26	0.07	0.14				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.11	0.05	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.05	0.06	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.04	0.10	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.07	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.08	0.06	0.07				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.13	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.03	-	0.08				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk			Unuk DS S. Unuk		
									Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	0.20	0.05	0.03	-	0.27
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	0.08	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								0.16		0.05	0.03	0.05	0.18	-	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		0.16	-	0.04	0.17	-	0.19
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	0.25
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	0.15	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	0.14	0.30	-	0.08	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								0.08		0.04	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	0.14	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	0.09	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		0.15	0.04	-	-	0.05	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								0.06		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	0.06	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			McTagg			Gingras			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.02	0.02	-				0.19	-	-	0.05	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.11				-	-	-	-	-	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.04	0.05				-	-	-	0.02	0.06	0.05			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.13				-	-	-	0.03	0.07	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.03	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	0.21	-	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.03	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.08	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	0.11	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.05				-	-	-	-	-	0.09			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.06				-	-	-	-	-	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	0.05			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.12				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.15	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.10	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.02				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.14	-	0.06	0.13	0.05	0.05	0.51	0.22	0.24
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	0.20	0.11	0.20
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.32	0.06	0.17	0.34	0.21	0.20	0.39	0.26	0.48
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.06	-	0.06	-	0.09	0.03	0.08	0.05	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	0.09	0.12	0.16
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.22	0.05	0.14	0.20	0.22	0.16	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	0.07	0.10
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	0.07	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.12	0.05	0.13	0.10	0.08	0.13	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	0.06	0.18	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.24	0.05	0.15	0.18	0.16	0.14	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	0.03	0.10	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	0.02	-	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.20	-	0.05	0.13	0.05	0.06	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	0.07	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	0.06	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	0.05	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	0.03	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	0.03	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.23	0.18	0.12	0.11	0.10	0.09	0.09	0.09	-	0.08	0.07	0.14	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.14	0.13	0.11	-	-	-	0.15	0.24	0.11	0.08	0.08	0.08	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.59	0.21	0.30	0.04	0.02	0.03	-	0.03	0.03	0.13	0.10	0.07	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.09	0.03	0.11	-	0.02	-	-	-	-	0.03	0.03	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.07	0.08	0.03	-	-	-	0.05	0.06	0.09	0.05	0.04	0.23	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.12	-	-	0.05	0.04	0.07	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.10	0.14	0.20	-	-	-	-	0.06	-	-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.07	0.09	0.10	-	-	-	0.06	-	-	-	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.12	-	-	0.05	-	-	-	-	-	-	-	0.06	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	0.05	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.18	0.21	0.06	-	-	-	0.04	-	0.05	0.04	0.09	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.03	0.03	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.07	0.08	0.09	-	-	-	-	-	0.02	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.03	-	0.08	0.07	0.06	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.13	-	0.03	-	-	-	0.04	-	-	-	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	0.02	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.12	0.05	0.04	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.10	0.02	-	-	-	-	-	-	0.02	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.06	-	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.09	-	-	-	-	-	-	0.10	0.07	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.02	-	0.03	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	0.05	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.04	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.02	-	-	-	0.04	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.05	-	-	-	-	-	0.06	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.03	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	0.07	-	0.04	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.02		-	0.06	-	-	0.22	0.52	0.26	0.06	0.05	0.20
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	0.31	0.18	-	0.05	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	0.34	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		0.31	-	-	-	0.16	0.15	0.09	0.10	0.05	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	0.52	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	0.07	0.19	0.12	0.11	0.35	0.05	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	0.14	0.04	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	0.11	-	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	0.06	-	-	0.08	-	-	0.06	0.03	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	0.09	0.06	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	0.18	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	0.18	0.09	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		0.27	-	-	-	-	-	-	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	0.19	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	0.12	-	0.07	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	0.04	-	-	-	-	0.18	0.23	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	0.06	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.19	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.19	0.16	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.05				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.05	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.10	0.22	0.12				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.08				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.04	0.08	0.06				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.16	0.04	0.06				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.08				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.14	0.15	0.13				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.06	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.07	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.05	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.06	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.03	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk			Unuk DS S. Unuk		
									Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								0.03		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	0.10	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	0.26	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								4.29		2.63	2.76	2.48	2.66	5.35	7.65
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								0.41		0.43	0.80	0.02	0.22	0.32	0.15
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		0.17	-	0.09	0.21	0.37	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	0.12	-	0.31
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	0.17	0.08	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								0.03		0.29	0.17	0.25	0.15	0.63	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								0.33		-	-	0.12	-	0.07	0.14
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		0.10	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	0.04	-	-	-	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	0.07	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					7.19		5.20	4.90	6.45	3.34	1.96	1.69
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	0.08	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								0.08		-	0.16	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	0.13	-	0.07	-	0.30
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	0.35	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			McTagg			Gingras			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	0.04	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			42.99	0.09	0.10				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			11.64	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.43	5.14	8.11				1.35	-	1.14	2.76	1.73	2.64			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.02	0.66	0.55				0.68	0.15	0.79	1.00	0.98	0.96			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	0.05	0.16	0.09			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.21	0.14				-	-	-	0.02	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.05	0.30				-	0.18	0.35	0.08	0.09	0.11			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.14	0.16				0.17	-	-	0.08	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.09	0.03	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	0.06	-	0.15	0.17	0.07			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	0.04			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.09	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.06				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.02	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.07	1.51	2.83				-	-	-	0.28	0.33	0.56			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.06				-	0.21	0.05	0.20	0.12	0.22			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.02	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	0.24	0.37	0.39	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.04	-	0.03	0.05	0.05	0.09	0.12	-	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						3.58			10.67	1.90	6.20	6.34	5.12	6.30	0.77	0.48	0.26
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.65			-	-	-	0.05	-	0.08	0.11	0.15	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.49			0.16	0.03	0.05	0.11	0.05	0.07	0.20	0.05	0.18
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.04			-	-	-	-	-	-	-	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.13	0.02	0.09	0.16	0.18	0.20	0.06	0.05	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	0.08	0.06	0.08	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	0.03	0.07	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	0.09	0.06	0.10
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	0.06	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.96			2.42	0.45	1.21	2.56	2.04	2.10	0.83	0.93	1.29
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	0.05	0.03	-	0.06	0.34	1.27	1.58
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.04	-	-	0.07	0.05	0.07	0.19	0.25	0.12
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.58	0.11	0.43	0.88	0.81	0.90	-	0.14	0.12
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	0.04	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	0.02	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.03	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	0.02	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			2.10	1.38	1.68	0.07	0.03	0.11	-	-	-	-	-	-	-	-	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.47	0.32	0.51	2.49	1.84	2.22	0.50	0.29	0.50	2.29	1.87	1.93	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	0.58	0.49	0.42	0.33	0.16	0.16	0.11	0.07	0.11	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.32	0.37	0.21	0.05	0.02	0.07	0.09	0.51	0.05	0.11	0.09	0.13	0.03	0.05	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	0.47	-	0.02	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.18	0.25	0.18	0.26	0.17	0.27	-	0.04	0.06	0.12	0.09	0.12	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.10	0.14	0.07	0.42	0.24	0.39	-	0.06	-	-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.03	-	-	0.07	0.09	0.14	0.08	0.05	0.09	0.07	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.11	0.08	-	-	-	-	-	-	-	-	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	0.06	0.02	0.04	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.06	-	-	-	-	-	-	0.03	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			2.46	1.95	1.81	1.97	1.65	1.68	1.04	0.86	1.47	2.52	2.36	2.59	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			1.10	1.30	0.86	-	-	-	0.05	-	-	0.28	0.13	0.23	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.02	0.03	-	0.88	0.63	0.86	0.10	0.20	0.15	0.07	0.06	0.14	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.10	0.09	0.14	0.58	0.44	0.49	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	0.05	0.25	0.62	3.20	2.67	2.41
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.04		0.42	2.53	0.88	0.66	0.59	0.69	1.28	1.44	1.58	1.46
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		0.87	0.56	-	0.27	0.26	0.17	0.04	0.20	0.16	0.17
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		0.71	-	-	-	0.35	0.25	0.10	0.08	0.06	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		0.33	-	-	-	0.08	0.08	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	0.70	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	0.02	-	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	0.43	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		0.09	0.26	-	-	0.09	0.37	0.08	0.10	0.07	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	0.14	0.04	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	0.18	-	-	-	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	0.08	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	0.05	-	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	0.05	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	0.05	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	0.02	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.40		1.34	3.11	2.89	-	4.54	1.45	2.68	6.76	5.28	6.64
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	0.09	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	0.37	2.21	-	-	-	0.26	0.17	0.19
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.05		-	-	-	-	-	-	-	0.10	0.15	0.15
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.05				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			3.16	2.96	33.12				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			1.59	0.90	0.85				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.06	0.11	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.06	0.07	0.05				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.06	0.12	0.05				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.11	0.07	0.06				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.04	0.05				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.11	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			7.59	6.09	4.87				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.17	0.18	0.20				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.39	0.20	0.17				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk			Unuk DS S. Unuk		
									Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	0.03	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		0.04	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	0.36	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								0.70		0.56	0.48	1.10	1.25	0.20	0.17
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		0.25	-	-	0.02	0.15	0.19
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	0.09	-	-	0.13
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								0.11		0.12	-	0.15	0.16	0.06	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								0.14		0.13	0.55	0.08	0.33	0.40	0.38
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	0.47	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	0.09	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		0.03	0.04	-	-	0.15	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	0.18	-	-	0.07	0.15
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								0.35		0.35	0.92	1.28	0.82	0.64	0.54
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	0.21
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		0.05	-	0.04	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	0.06	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		0.05	0.03	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			McTagg			Gingras			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	0.15	-	0.06	0.03	0.02			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.09				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.03	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	0.03	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.24	0.33				0.32	0.33	-	2.63	2.88	3.62			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.03	0.76	0.91				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.03	0.04	0.05				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.05	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.04	0.05				0.14	0.39	0.02	0.16	0.10	0.13			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	0.04	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.47	0.58				0.47	0.48	0.93	0.84	0.57	0.67			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.09	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	0.09	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.07	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	0.08	0.04	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.34				-	-	0.08	0.09	0.05	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.34	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				0.10	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	0.02	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.06	-				0.18	-	-	0.03	-	0.06			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.06	0.76	0.53				0.33	0.21	0.33	0.48	0.28	0.33			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.03	-	-				-	-	-	-	-	0.02			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.02	-				-	-	0.03	0.04	0.03	0.05			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	0.13	-	0.03	0.04	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.04	0.18	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	0.30
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.04	-	0.03	-	0.05	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	0.11
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	0.04	-	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.50	0.08	0.28	0.62	0.59	0.69	0.82	0.58	0.29
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						1.49			0.43	0.06	0.13	0.24	0.14	0.24	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.40	0.05	0.14	0.26	0.15	0.22	-	0.10	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.39			-	-	-	-	-	-	-	0.02	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.04	0.02	0.07	0.23	0.15	0.07	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	0.02	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	0.09	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.03	-	-	0.03	0.05	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.73	0.08	0.26	0.36	0.14	0.22	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	0.19	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.28			-	-	-	-	-	-	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.70			-	-	-	-	-	-	0.05	0.03	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.12			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	0.07	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.05	-	-	-	-	-	-	-	0.02

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.07	-	-	0.06	0.04	0.04	0.06	-	0.04	0.04	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.06	0.11	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	0.03	0.02	0.04	0.03	0.03	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	0.04	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	0.03	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			1.30	1.24	1.07	0.12	0.11	0.13	0.44	0.35	3.90	0.72	0.78	0.88	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.08	0.06	0.80	0.84	0.79	0.10	-	0.09	0.17	0.12	0.15	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.05	0.07	0.03	-	-	-	-	0.03	0.04	0.03	0.03	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.04	-	-	-	0.04	0.05	0.04	0.06	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.07	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	0.02	-	-	-	0.03	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	0.04	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.03	0.12	0.09	0.11	-	-	0.10	0.03	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.23	0.11	-	0.04	0.08	0.07	-	-	-	0.16	0.05	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.04	0.18	0.03	0.03	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.07	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.07	-	0.05	-	-	-	0.04	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	0.21	0.09	0.14	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	0.06	0.02	0.08	0.14	0.06	0.10	0.04	0.12	0.08	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.03	-	0.10	-	-	-	-	0.04	0.05	-	-	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.03	-	0.03	-	0.02	0.04	0.15	0.04	-	0.04	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.03	-	-	-	-	-	0.04	0.04	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		0.52	-	-	-	-	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	0.07	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	0.06	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	0.96	0.42	0.56	-	-	-	0.16	0.44	0.52
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.07		0.24	1.20	-	-	0.09	0.36	1.26	0.26	0.09	0.19
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	0.76	0.64	0.26	0.13	-	0.05	-	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	0.14	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	0.08	0.08	0.07	0.11
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	0.08	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		0.21	-	0.13	-	-	-	-	-	-	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	0.46	-	-	0.09	0.07	0.10	0.02	0.06	0.10
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	0.16	0.21	0.39
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	0.40	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	0.34	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	0.12	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	0.50	-	-	-	-	0.05	0.12	0.11
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.07		-	-	-	-	-	0.37	-	0.07	-	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		0.03	-	-	-	0.22	-	-	0.08	0.05	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	0.10	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	0.28	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		3.18	0.29	0.14	0.26	0.49	0.26	0.66	0.03	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		0.03	-	-	-	-	-	0.08	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		0.26	-	-	-	0.41	0.05	-	0.04	-	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	0.05	-	0.05

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.54	0.42	0.37				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.07	0.16	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.05	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.05	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.04	0.05	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.06				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.05				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.59	0.56	0.30				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.03	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.06	0.02	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.03	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.05	-	-				

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk			Unuk DS S. Unuk		
									Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		0.10	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	0.07	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								0.08		-	0.64	0.42	-	0.15	0.18
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	0.07	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	0.13	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	0.14	0.06	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								0.27		-	-	0.32	0.22	0.54	0.32
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		0.09	-	-	0.13	-	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	0.09	0.32
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		0.12	-	0.17	0.11	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		0.45	-	-	0.18	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								0.72		0.40	-	0.80	0.48	0.21	0.26
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	0.09	-	0.14	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	0.15	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	0.11
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		0.05	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	0.05	0.20	0.20	0.35	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	0.04	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		0.41	1.24	0.75	0.83	0.92	1.78
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								0.30		-	-	-	0.77	0.09	0.78
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	0.17	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	0.10	0.20	0.31
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	0.06	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	0.17
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	0.27	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								1.43		2.40	1.09	1.90	2.91	3.44	2.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		0.24	0.25	0.47	0.53	0.50	0.46

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			McTagg			Gingras			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	0.03	0.05	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.03	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.31				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.17	0.10				-	-	-	0.12	0.11	0.11			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.05	-				-	-	-	0.09	-	0.05			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.36	1.10				-	-	-	0.45	0.66	0.63			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.16	0.18				0.29	-	-	0.04	-	0.13			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.02	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.10	0.11				0.15	-	-	0.03	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.04	0.03	-				-	-	-	0.11	0.19	0.08			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.03	0.07	0.10				-	-	-	0.52	0.69	0.52			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.06	0.07				-	-	-	0.06	0.05	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.62				-	-	-	-	0.05	0.08			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.61	0.43				-	-	-	0.16	0.14	0.10			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.05	-				0.13	-	-	0.04	0.02	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	1.61	0.79				17.35	14.08	10.85	2.13	1.53	2.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.05	0.56	0.79				0.44	-	-	0.04	0.12	0.16			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.62	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.04	0.03				-	-	0.22	0.22	0.32	0.29			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.04	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	0.16	0.06	-	0.03	0.07			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.03	0.22				-	-	-	0.18	0.23	0.39			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.30	3.97	3.60				9.77	8.31	9.38	4.23	4.41	4.09			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.04	1.02	0.52				1.55	0.91	1.79	0.94	0.68	0.78			

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.04	-	-	0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	0.04	0.06	0.13
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	0.88	2.02	0.92
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.08	-	-	-	-	-	0.11	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.04	-	-	0.07	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.03	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	0.02	0.08	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	0.02	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.11			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.05			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.06	-	-	-	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.04	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.13			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.08			-	-	-	-	-	-	0.08	0.10	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	0.08	0.12	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	0.05	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						5.18			0.02	-	-	-	0.02	0.06	1.17	1.82	2.25
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	0.06	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.06	-	-	0.09	0.07	0.11	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.24			-	-	-	-	-	-	0.15	0.03	0.11
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.37			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	0.09	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	0.03	0.12
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.03	-	-	-	-	-	0.02	0.03	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			1.53	0.26	0.74	3.04	6.73	2.88	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	0.85	1.32	0.74
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						4.51			-	-	-	0.05	-	0.03	1.59	1.95	1.87
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						1.31			-	-	-	0.06	-	-	1.42	1.27	1.27

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	0.03	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.07	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.08	-	0.02	-	-	-	0.02	0.03	0.06	-	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.48	0.47	0.32	-	0.03	-	0.16	0.14	0.17	0.13	0.07	0.14	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	0.02	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.07	0.10	0.08	0.02	0.03	0.04	-	0.06	0.08	0.03	0.03	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.76	0.77	0.25	-	-	-	-	-	-	0.03	-	-	0.27	0.27	0.18
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.05	0.15	0.08	-	0.02	-	0.06	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	0.02	-	0.04	-	-	-	-	0.03	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	0.06	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.03	0.11	0.06	-	0.03	-	0.08	-	-	0.06	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	0.03	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.04	0.10	0.05	0.12	0.03	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	0.04	-	-	0.08	0.09	0.04	0.02	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	0.05	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	0.07	0.03	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	0.06	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	0.16	0.12	0.20	0.10	0.08	0.13	0.03	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.22	0.51	0.25	1.00	0.60	0.78	2.66	2.78	2.55	2.47	2.30	2.88	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.07	0.08	0.11	-	0.08	0.07	0.17	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	0.14	0.07	0.12	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.05	-	-	0.04	0.05	0.06	0.06	0.10	0.11	0.06	-	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.07	-	-	-	-	-	0.03	0.08	-	0.08	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.03	0.06	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	0.16	0.12	0.06	0.04	0.04	0.11	-	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	0.02	0.05	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.19	0.18	0.16	-	-	-	0.12	0.27	0.15	0.10	0.03	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	0.05	0.04	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.48	0.45	0.67	0.88	0.75	0.84	4.53	4.31	4.30	2.67	2.36	2.69	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.32	0.24	0.38	0.61	0.46	0.68	2.03	1.63	2.24	2.82	2.08	2.82	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	0.55	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	0.12	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		0.38	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	0.33	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	0.76	-	-	0.35	-	0.05	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.11		-	0.42	-	0.73	0.21	-	0.52	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	0.06	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	0.35	0.47	0.41
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	0.03	-	0.14	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	0.09	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	0.06	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	0.19	-	-	0.02	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		0.52	-	0.65	-	-	-	0.15	0.05	0.06	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		0.59	-	-	-	-	0.26	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	0.02	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	0.62	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	0.02	0.07	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	0.05	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	0.32	0.90	1.82	0.05	0.07	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.11		2.30	1.45	0.61	-	4.62	4.89	4.68	0.20	0.17	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	1.51	-	-	-	0.08	0.09	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	0.08	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	0.13	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	0.23	-	-	-	0.16	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	0.05	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	0.04	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	0.30	0.23	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		0.70	0.64	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	0.03	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.12		3.29	2.38	0.60	3.04	6.75	4.16	5.98	0.14	0.41	0.35
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	0.56	0.77	0.02	0.14	0.42	0.27	-	-	0.10

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.04	0.05	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.05	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.10	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.10	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.04	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.05	-	0.06				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.05	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.84	0.85	0.32				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.03	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.13	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.04	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.09	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.07	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.06				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.03	0.02	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.04	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.03	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.13	0.23	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.05	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.04	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.21	0.51	0.25				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.22	0.70	0.22				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.11	-				

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk			Unuk DS S. Unuk		
									Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		0.89	1.03	0.82	1.16	0.65	0.92
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								0.03		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								0.11		-	-	-	0.12	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	0.17
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		0.16	-	-	-	0.17	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	0.05	0.30	0.10	0.02	0.24
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								0.28		0.84	1.55	1.10	0.58	1.68	0.89
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae	*Elachiptera*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae	*Pseudopachychaeta*	*Pseudopachychaeta ruficeps*						-		-	-	-	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae								-		-	-	-	0.14	0.16	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culex*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culiseta*	*Culiseta impatiens*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culiseta*	*Culiseta morsitans*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culiseta*							-		-	-	0.35	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae								-		-	0.26	-	-	0.26	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Cylindrotomidae	*Cylindrotoma*	*Cylindrotoma distinctissima*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dixidae	*Dixella*							-		-	-	-	0.09	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dixidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			McTagg			Gingras			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.03	1.03	0.54				0.46	0.47	-	1.94	2.07	2.09			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	0.07	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	0.13	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				0.09	0.51	0.25	0.07	0.07	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.06	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.08				0.34	0.11	0.50	-	0.10	0.06			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	0.07	0.18	0.05	0.05	0.06			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.12	0.23				0.25	-	0.37	-	0.08	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.06	0.61	0.28				1.45	0.27	0.75	0.84	0.65	1.17			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae	*Elachiptera*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae	*Pseudopachychaeta*	*Pseudopachychaeta ruficeps*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae			-	0.13	-				-	-	-	0.12	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culex*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culiseta*	*Culiseta impatiens*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culiseta*	*Culiseta morsitans*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culiseta*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae			0.32	0.06	-				-	-	-	0.08	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae			-	-	0.09				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Cylindrotomidae	*Cylindrotoma*	*Cylindrotoma distinctissima*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Dixidae	*Dixella*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Dixidae			-	-	-				-	-	-	-	-	-			

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.11	0.04	0.08	0.09	0.12	0.14	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.04	-	-	-	0.03	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.73			-	-	-	-	-	-	0.07	0.09	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	0.05	0.05	0.13
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.09			0.05	-	-	0.11	0.03	0.14	0.19	0.15	0.13
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.07	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	0.05	0.08	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	0.12	0.02	0.09	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.08	-	-	0.02	0.05	0.07	0.67	0.38	0.51
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.46			2.10	0.89	1.19	1.26	1.02	1.42	0.07	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			0.05	-	0.02	0.03	0.08	-	-	0.10	0.15
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						1.02			0.15	-	0.11	0.23	0.16	0.19	3.19	3.85	3.71
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	0.25	0.17	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-			-	-	-	-	-	-	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae	*Elachiptera*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae	*Pseudopachychaeta*	*Pseudopachychaeta ruficeps*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae						-			-	-	0.03	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culex*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culiseta*	*Culiseta impatiens*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culiseta*	*Culiseta morsitans*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culiseta*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Cylindrotomidae	*Cylindrotoma*	*Cylindrotoma distinctissima*				0.06			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dixidae	*Dixella*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dixidae						0.55			-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	0.02	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.20	-	-	0.53	0.45	0.64	0.33	0.34	0.37	0.11	0.12	0.07	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	0.04	0.15	0.08	0.05	0.07	0.61	0.74	0.47
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	0.02	0.08	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	0.06	0.04	0.05	-	-	-	-	0.03	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	0.08	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.04	0.09	-	-	-	-	0.30	0.18	0.34	0.31	0.23	0.34	0.73	0.78	0.41
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.08	0.11	-	0.58	0.47	0.57	0.91	0.58	0.67	0.69	0.46	0.68	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.03	-	-	0.28	0.26	0.26	0.06	0.07	0.06	0.10	0.04	0.11	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.04	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.24	0.40	0.13	-	0.03	-	5.21	4.80	4.99	6.52	4.89	5.80	17.02	18.48	10.25
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			2.49	2.98	2.05	0.22	0.19	0.25	0.42	1.02	0.53	0.73	0.77	0.93	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.09	0.07	0.06	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	0.12	-	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae	*Elachiptera*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae	*Pseudopachychaeta*	*Pseudopachychaeta ruficeps*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae			0.05	-	-	-	-	-	-	-	-	0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culex*		-	-	-	-	-	-	-	-	-	-	-	-	0.05	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culiseta*	*Culiseta impatiens*	-	-	0.02	-	-	-	0.04	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culiseta*	*Culiseta morsitans*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culiseta*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae			0.04	0.03	0.03	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Cylindrotomidae	*Cylindrotoma*	*Cylindrotoma distinctissima*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dixidae	*Dixella*		-	-	-	-	-	-	-	-	-	-	-	-	0.13	0.17	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Dixidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	0.05	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.07		2.16	0.21	0.77	-	0.49	0.74	0.55	0.17	0.15	0.21
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	0.03	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	0.59	-	-	-	-	0.23	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	0.56	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	0.06	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	0.11	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	0.22	-	0.03	0.62	-	0.19	0.10	0.09	0.18
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	0.16	-	-	-	0.17	-	0.14	0.19	0.30
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	0.85	2.69	0.86	0.10	-	0.31
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						0.09		1.20	0.94	0.30	0.73	-	1.34	0.78	0.15	0.17	0.13
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	0.07	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae	*Elachiptera*					-		-	0.04	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae	*Pseudopachychaeta*	*Pseudopachychaeta ruficeps*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae						-		-	-	-	-	-	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culex*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culiseta*	*Culiseta impatiens*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culiseta*	*Culiseta morsitans*				-		-	-	-	-	-	0.11	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culiseta*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae						-		-	-	-	-	-	-	-	0.06	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae						-		-	-	-	-	-	-	-	1.67	1.85	1.85
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Cylindrotomidae	*Cylindrotoma*	*Cylindrotoma distinctissima*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dixidae	*Dixella*					-		-	0.20	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dixidae						-		-	-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.21	0.20	0.18				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.02	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.02	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.04	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.07	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.02	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.13	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.16	0.07	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.19	0.24	0.13				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.12	0.35	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.13	0.07	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae	*Elachiptera*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae	*Pseudopachychaeta*	*Pseudopachychaeta ruficeps*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culex*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culiseta*	*Culiseta impatiens*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culiseta*	*Culiseta morsitans*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae	*Culiseta*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae			1.57	3.02	1.20				
Insects	Animalia	Arthropoda	Insecta	Diptera	Culicidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Cylindrotomidae	*Cylindrotoma*	*Cylindrotoma distinctissima*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Dixidae	*Dixella*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Dixidae			-	-	-				

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk			Unuk DS S. Unuk		
									Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Dixidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	0.07	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae	*Dolichopus*	*Dolichopus nigricornis*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae	*Medetera*	*Medetera apicalis*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae	*Neurigona*	*Neurigona ciliata*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae	*Sympycnus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					0.83		1.13	1.12	0.82	0.43	0.88	0.95
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae	*Drosophila*							0.42		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae	*Drosophila*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae								-		-	-	-	0.12	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	0.19	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Chelifera*	*Chelifera palloris*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Chelifera*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*							-		-	-	-	-	-	0.24
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Oreothalia*	*Oreothalia spinitarsis*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*							0.24		1.19	0.08	-	0.20	0.10	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*							-		-	0.57	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*							-		-	-	-	0.08	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		0.07	-	-	-	-	0.18
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae								-		0.18	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae								-		-	-	-	-	0.11	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ephydridae	*Parydra*	*Parydra quadriloba*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ephydridae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia immaculata*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			McTagg			Gingras			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Dixidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae	*Dolichopus*	*Dolichopus nigricornis*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae	*Medetera*	*Medetera apicalis*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae	*Neurigona*	*Neurigona ciliata*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae	*Sympycnus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae			0.02	0.73	0.96				5.22	3.97	5.59	4.12	3.15	2.97			
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae	*Drosophila*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae	*Drosophila*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae			-	-	-				-	0.03	-	0.03	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Chelifera*	*Chelifera palloris*	-	0.15	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Chelifera*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*		-	0.10	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*		-	-	0.06				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Oreothalia*	*Oreothalia spinitarsis*	0.02	0.08	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*		-	0.25	0.10				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*		-	0.07	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	-	-				-	-	-	0.02	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	0.13	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	-	0.04				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ephydridae	*Parydra*	*Parydra quadriloba*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ephydridae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia immaculata*	-	-	-				-	-	-	-	-	-			

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Dixidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae	*Dolichopus*	*Dolichopus nigricornis*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae	*Medetera*	*Medetera apicalis*				0.50			-	-	-	-	-	-	-	-	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae	*Neurigona*	*Neurigona ciliata*				-			0.05	-	-	-	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae	*Sympycnus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae						-			-	-	-	-	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae						2.16			-	-	-	-	-	-	0.41	0.22	0.42
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae	*Drosophila*					-			-	-	-	-	0.03	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae	*Drosophila*					-			-	-	-	-	0.03	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae						-			-	-	-	-	-	-	0.09	0.11	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Chelifera*	*Chelifera palloris*				-			-	-	-	0.32	0.21	0.27	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Chelifera*					-			-	-	-	-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*					-			-	-	-	-	-	-	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*					-			-	-	-	-	-	-	-	-	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Oreothalia*	*Oreothalia spinitarsis*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*					-			-	-	-	-	-	0.04	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae						-			-	-	-	-	-	-	-	-	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae						0.06			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ephydridae	*Parydra*	*Parydra quadriloba*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ephydridae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia immaculata*				-			-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Dixidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae	*Dolichopus*	*Dolichopus nigricornis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae	*Medetera*	*Medetera apicalis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae	*Neurigona*	*Neurigona ciliata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae	*Sympycnus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae			-	-	-	-	-	-	-	-	-	-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae			0.09	0.16	0.03	0.44	0.32	0.48	0.26	0.40	0.76	0.33	0.42	0.51	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae	*Drosophila*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae	*Drosophila*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae			0.04	-	-	-	-	-	-	-	0.04	-	0.03	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae			-	0.02	-	-	-	-	-	-	0.06	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae			-	0.14	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Chelifera*	*Chelifera palloris*	-	0.03	-	-	-	-	-	-	-	-	-	-	0.04	0.03	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Chelifera*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*		-	-	-	-	-	-	-	-	-	0.02	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Oreothalia*	*Oreothalia spinitarsis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*		-	-	0.04	0.08	0.08	0.12	0.06	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	0.04	-	-	-	-	-	0.05	0.15	-	-	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	0.03	-	0.05	-	-	0.13	-	-	0.03	0.06	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ephydridae	*Parydra*	*Parydra quadriloba*	-	-	0.03	0.09	-	-	0.04	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ephydridae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia immaculata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Dixidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae	*Dolichopus*	*Dolichopus nigricornis*				-		-	-	-	-	-	-	0.17	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae	*Medetera*	*Medetera apicalis*				-		-	0.49	-	-	-	-	-	-	-	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae	*Neurigona*	*Neurigona ciliata*				-		-	-	-	-	-	-	0.79	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae	*Sympycnus*					-		-	-	-	-	-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae						-		-	-	-	-	-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae						0.15		1.36	0.56	1.30	1.03	2.64	2.99	2.77	0.37	0.27	0.14
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae	*Drosophila*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae	*Drosophila*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae						-		-	-	-	-	-	-	-	0.07	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae						-		-	-	-	-	-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Chelifera*	*Chelifera palloris*				-		-	-	-	-	-	0.31	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Chelifera*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*					-		-	-	-	-	0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*					-		-	-	-	-	-	-	0.24	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Oreothalia*	*Oreothalia spinitarsis*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*					-		0.13	-	-	-	-	0.23	0.05	0.06	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*					-		-	-	-	-	0.17	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*					-		-	-	-	-	-	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*					-		-	-	-	-	-	0.53	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae						-		-	-	-	-	-	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ephydridae	*Parydra*	*Parydra quadriloba*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ephydridae						-		-	0.04	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia immaculata*				-		-	-	-	-	-	-	-	0.03	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Diptera	Dixidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae	*Dolichopus*	*Dolichopus nigricornis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae	*Medetera*	*Medetera apicalis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae	*Neurigona*	*Neurigona ciliata*	0.06	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae	*Sympycnus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae			-	0.05	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Dolichopodidae			0.17	0.09	0.13				
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae	*Drosophila*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae	*Drosophila*		-	0.07	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Drosophilidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Chelifera*	*Chelifera palloris*	-	-	0.17				
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Chelifera*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*		0.29	0.26	0.20				
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Hilara*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Oreothalia*	*Oreothalia spinitarsis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ephydridae	*Parydra*	*Parydra quadriloba*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ephydridae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia immaculata*	-	-	-				

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk			Unuk DS S. Unuk		
									Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia melanura*						-		-	-	-	-	-	0.14
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia mollissima*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia sociella*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia subpellucens*						-		-	-	0.02	0.13	0.05	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*							-		-	-	-	-	-	1.73
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Borboropsis*	*Borboropsis puberula*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Oecothea*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia convergens*						-		-	-	-	-	0.21	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia convergens*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia mikii*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia nemorum*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia sororcula*						-		-	-	-	0.09	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*							0.07		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae								-		-	1.37	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		0.18	-	0.16	0.04	-	0.22
Insects	Animalia	Arthropoda	Insecta	Diptera	Heteromyzidae	*Heteromyza*	*Heteromyza oculata*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae	*Platypalpus*							0.96		0.45	-	-	0.10	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae	*Platypalpus*							-		-	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae								0.64		-	0.41	-	0.26	-	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae								-		-	0.09	0.04	-	-	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae								0.21		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae								-		0.04	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Lauxaniidae	*Poecilolycia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Lauxaniidae	*Sapromyza*							-		-	-	-	-	0.14	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Lauxaniidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*	*Dicranomyia chorea*						-		-	-	0.12	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*	*Dicranomyia defuncta*						-		-	0.06	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*							-		-	0.10	-	0.04	0.07	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Discobola*	*Discobola annulata*						-		-	-	-	-	0.11	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Erioptera*							0.21		-	0.19	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Euphylidorea*	*Euphylidorea platyphallus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Hexatoma*							0.31		-	-	0.25	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Limonia*	*Limonia nubeculosa*						0.83		0.22	0.03	0.46	0.11	0.28	0.15
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*	*Molophilus oligacanthus*						-		0.43	0.48	0.44	0.19	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Ormosia*	*Ormosia affinis*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Phylidorea*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Rhipidia*	*Rhipidia maculata*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae								-		-	-	-	-	0.10	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae								0.50		-	0.09	0.23	0.10	0.08	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae								-		-	-	-	0.07	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			McTagg			Gingras			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia melanura*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia mollissima*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia sociella*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia subpellucens*	-	-	-				-	-	0.13	0.03	0.04	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*		-	0.10	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Borboropsis*	*Borboropsis puberula*	-	-	-				-	-	-	-	-	0.05			
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Oecothea*		-	-	-				-	-	-	-	0.05	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia convergens*	-	-	-				-	-	-	0.14	0.08	0.05			
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia convergens*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia mikii*	-	0.07	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia nemorum*	-	-	-				-	-	-	0.05	0.11	0.04			
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia sororcula*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*		-	-	-				-	0.50	-	-	-	0.05			
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae			0.07	-	0.08				-	-	-	0.14	0.23	0.04			
Insects	Animalia	Arthropoda	Insecta	Diptera	Heteromyzidae	*Heteromyza*	*Heteromyza oculata*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae	*Platypalpus*		0.44	0.42	0.16				-	-	-	0.33	0.18	0.18			
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae	*Platypalpus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae			-	0.13	-				1.08	0.12	-	0.06	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae			-	-	-				-	-	-	0.04	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae			-	0.15	0.03				-	-	-	0.03	0.08	0.11			
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae			-	0.02	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae			-	-	-				-	-	-	-	0.04	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae			-	0.04	-				-	-	-	0.05	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Lauxaniidae	*Poecilolycia*		-	-	0.08				-	-	-	-	1.25	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Lauxaniidae	*Sapromyza*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Lauxaniidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*	*Dicranomyia chorea*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*	*Dicranomyia defuncta*	-	0.04	-				0.02	-	-	-	-	0.04			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*		-	-	-				-	-	-	-	0.03	0.02			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Discobola*	*Discobola annulata*	0.02	-	0.22				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Erioptera*		-	-	0.03				-	-	-	0.03	0.06	0.05			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Euphylidorea*	*Euphylidorea platyphallus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Hexatoma*		-	0.08	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Limonia*	*Limonia nubeculosa*	-	-	0.07				-	-	0.17	0.16	0.10	0.09			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*	*Molophilus oligacanthus*	-	0.22	0.28				-	0.87	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Ormosia*	*Ormosia affinis*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Phylidorea*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Rhipidia*	*Rhipidia maculata*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-				-	0.41	-	0.05	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-				-	-	-	-	0.03	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0.04	-	-				-	-	-	-	-	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	0.28	-				-	-	-	0.38	0.33	0.36			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-				-	0.05	0.27	-	0.07	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	0.04	-				-	0.05	-	-	-	0.06			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	0.13				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-				-	-	0.20	0.03	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-				-	-	-	-	-	-			

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia melanura*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia mollissima*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia sociella*				-			0.04	-	-	-	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia subpellucens*				-			-	-	-	0.03	-	-	-	-	0.10
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*					-			-	-	0.05	-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Borboropsis*	*Borboropsis puberula*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Oecothea*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia convergens*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia convergens*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia mikii*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia nemorum*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia sororcula*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae						-			-	-	-	0.03	0.02	-	0.45	0.68	0.55
Insects	Animalia	Arthropoda	Insecta	Diptera	Heteromyzidae	*Heteromyza*	*Heteromyza oculata*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae	*Platypalpus*					-			0.18	-	0.08	0.05	-	0.10	-	0.10	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae	*Platypalpus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae						-			0.10	-	0.02	-	-	-	0.23	0.08	0.18
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae						-			-	-	-	-	-	-	0.04	0.11	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae						-			-	-	-	0.02	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Lauxaniidae	*Poecilolycia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Lauxaniidae	*Sapromyza*					-			-	-	-	0.02	0.03	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Lauxaniidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*	*Dicranomyia chorea*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*	*Dicranomyia defuncta*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*					-			0.03	-	-	-	-	-	-	0.04	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*					-			-	-	-	-	-	-	-	0.08	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*					-			-	-	-	-	-	-	0.03	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*					-			-	-	-	-	-	-	-	-	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Discobola*	*Discobola annulata*				-			0.03	-	-	-	0.03	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Erioptera*					-			-	-	-	0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Euphylidorea*	*Euphylidorea platyphallus*				-			-	-	-	-	-	-	-	0.07	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Hexatoma*					-			0.15	-	0.04	0.13	0.07	0.14	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Limonia*	*Limonia nubeculosa*				-			0.02	-	0.09	0.07	0.04	0.06	0.12	0.10	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*	*Molophilus oligacanthus*				-			-	-	-	0.04	0.03	0.04	0.15	0.16	0.19
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Ormosia*	*Ormosia affinis*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Phylidorea*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Rhipidia*	*Rhipidia maculata*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						-			-	-	-	-	-	-	0.71	0.71	0.80
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						0.44			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						-			-	-	-	-	-	-	0.55	0.45	0.98
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						0.26			-	-	-	-	-	0.03	-	0.06	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						-			-	-	-	-	-	-	0.03	-	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						-			-	-	-	-	-	-	0.05	0.05	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						-			0.16	0.03	0.10	0.15	0.25	0.14	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						-			-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia melanura*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia mollissima*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia sociella*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia subpellucens*	-	-	-	0.07	0.07	0.23	-	0.03	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*		-	-	-	-	-	0.02	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*		-	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Borboropsis*	*Borboropsis puberula*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Oecothea*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia convergens*	0.07	-	-	-	-	-	-	-	-	0.06	0.07	0.06	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia convergens*	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia mikii*	-	-	-	-	0.03	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia nemorum*	-	0.06	-	-	-	-	-	-	-	-	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia sororcula*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae			0.33	0.29	0.28	0.03	0.05	0.06	0.30	0.17	0.22	0.11	0.09	0.16	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heteromyzidae	*Heteromyza*	*Heteromyza oculata*	-	-	0.04	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae	*Platypalpus*		0.06	-	-	0.08	0.04	0.04	-	-	0.11	-	0.03	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae	*Platypalpus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae			-	0.08	0.05	0.04	-	0.03	-	0.10	0.05	0.05	0.13	0.12	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae			-	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae			-	0.04	0.03	0.05	0.03	0.07	0.02	0.02	-	0.06	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae			0.02	-	-	-	-	-	-	0.05	0.04	0.02	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Lauxaniidae	*Poecilolycia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Lauxaniidae	*Sapromyza*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Lauxaniidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*	*Dicranomyia chorea*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*	*Dicranomyia defuncta*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*		-	-	-	-	-	-	0.09	-	0.03	0.02	0.03	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*		0.07	0.07	0.18	-	-	-	0.04	-	0.05	0.09	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*		-	0.04	0.10	-	-	-	-	-	0.10	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Discobola*	*Discobola annulata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Erioptera*		0.06	-	0.05	0.04	-	-	-	-	-	0.02	-	0.06	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Euphylidorea*	*Euphylidorea platyphallus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Hexatoma*		-	0.12	0.04	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Limonia*	*Limonia nubeculosa*	0.06	0.09	0.11	0.07	0.02	0.07	0.09	-	0.03	0.04	0.04	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*	*Molophilus oligacanthus*	0.67	0.74	0.17	-	0.03	0.08	0.31	-	0.13	0.04	0.11	0.04	0.02	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*		-	-	0.03	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Ormosia*	*Ormosia affinis*	0.21	0.15	0.16	-	-	-	0.05	0.16	0.05	0.14	0.04	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Phylidorea*		-	0.04	-	-	-	-	-	-	0.05	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Rhipidia*	*Rhipidia maculata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0.67	0.43	0.34	-	-	-	0.10	0.48	0.20	0.02	0.04	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0.13	0.06	0.10	-	-	-	-	-	-	0.02	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	0.03	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0.38	0.38	0.41	-	-	-	0.30	0.30	0.35	0.16	0.08	0.13	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0.03	-	0.04	0.06	0.03	0.05	0.02	0.06	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-	-	-	-	-	-	-	-	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	0.04	0.03	-	-	-	0.06	0.09	0.08	-	0.04	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-	-	-	-	-	-	-	-	0.02	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-	0.03	-	0.02	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia melanura*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia mollissima*				0.03		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia sociella*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia subpellucens*				-		-	-	0.11	-	-	-	0.19	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*					-		-	-	-	0.75	-	-	0.53	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Borboropsis*	*Borboropsis puberula*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Oecothea*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia convergens*				0.03		-	-	-	-	-	-	0.18	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia convergens*				-		-	-	-	-	-	-	-	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia mikii*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia nemorum*				-		-	-	-	-	-	-	0.59	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia sororcula*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae						-		-	-	-	-	-	0.09	0.07	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Heteromyzidae	*Heteromyza*	*Heteromyza oculata*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae	*Platypalpus*					-		-	-	-	-	-	-	-	0.12	0.08	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae	*Platypalpus*					-		-	-	0.11	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae						-		-	-	-	0.73	1.09	0.29	-	0.04	0.05	0.19
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae						-		-	-	-	-	-	0.50	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae						-		-	0.33	0.35	-	0.16	0.15	0.13	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae						-		-	-	-	-	0.09	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae						-		-	-	-	-	-	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Lauxaniidae	*Poecilolycia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Lauxaniidae	*Sapromyza*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Lauxaniidae						-		-	-	-	-	-	-	-	-	0.05	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*	*Dicranomyia chorea*				-		-	-	-	-	-	0.09	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*	*Dicranomyia defuncta*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*					0.04		0.50	0.16	-	0.91	0.09	0.42	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*					-		-	-	-	-	-	-	0.17	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*					-		-	-	-	-	-	0.05	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Discobola*	*Discobola annulata*				-		-	-	-	-	-	-	-	0.03	0.06	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Erioptera*					-		-	-	-	-	-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Euphylidorea*	*Euphylidorea platyphallus*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Hexatoma*					-		-	-	-	-	-	-	-	0.06	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Limonia*	*Limonia nubeculosa*				-		0.92	0.03	-	0.26	0.18	0.53	0.99	0.17	0.16	0.17
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*	*Molophilus oligacanthus*				-		-	1.22	-	-	-	0.49	0.85	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Ormosia*	*Ormosia affinis*				-		-	-	-	-	-	1.01	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Phylidorea*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Rhipidia*	*Rhipidia maculata*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						0.05		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						-		-	-	-	-	-	-	0.30	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						-		-	-	-	-	0.08	0.64	-	0.04	0.07	0.11
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						-		-	-	-	-	-	0.09	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						-		-	0.14	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						-		-	-	-	-	0.14	-	-	-	-	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						-		-	-	-	0.09	0.23	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						-		-	-	-	-	-	-	0.30	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia melanura*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia mollissima*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia sociella*	0.05	-	0.05				
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia subpellucens*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*		0.06	-	1.39				
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Borboropsis*	*Borboropsis puberula*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Oecothea*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia convergens*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia convergens*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia mikii*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia nemorum*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*	*Suillia sororcula*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae	*Suillia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Heleomyzidae			-	0.11	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Heteromyzidae	*Heteromyza*	*Heteromyza oculata*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae	*Platypalpus*		0.07	0.20	0.21				
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae	*Platypalpus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae			-	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Lauxaniidae	*Poecilolycia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Lauxaniidae	*Sapromyza*		-	0.02	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Lauxaniidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*	*Dicranomyia chorea*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*	*Dicranomyia defuncta*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Dicranomyia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Discobola*	*Discobola annulata*	0.09	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Erioptera*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Euphylidorea*	*Euphylidorea platyphallus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Hexatoma*		-	0.06	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Limonia*	*Limonia nubeculosa*	0.07	0.08	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*	*Molophilus oligacanthus*	-	0.15	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Molophilus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Ormosia*	*Ormosia affinis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Phylidorea*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Rhipidia*	*Rhipidia maculata*	-	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0.03	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0.03	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0.04	0.06	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			0.04	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-				

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk			Unuk DS S. Unuk		
									Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Lonchaeidae	*Lonchaea*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Lonchaeidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Milichiidae	*Neophyllomyza*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Milichiidae	*Neophyllomyza*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Atherigona*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Coenosia*	*Coenosia impunctata*						-		-	-	0.06	0.09	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Helina*	*Helina evecta*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Mesembrina*	*Mesembrina latreillii*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Mydaea*							-		-	0.02	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Phaonia*	*Phaonia canescens*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Phaonia*	*Phaonia consobrina*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Phaonia*	*Phaonia luteva*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Phaonia*	*Phaonia monticola*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Schoenomyza*	*Schoenomyza dorsalis*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*	*Spilogona arctica*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*	*Spilogona placida*						-		-	0.47	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*	*Spilogona sororcula*						-		-	-	-	-	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*							-		0.30	-	-	-	0.06	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*	*Thricops albibasalis*						-		0.06	0.43	0.21	0.17	0.22	0.13
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*	*Thricops diaphanus*						-		-	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*							0.25		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*							0.10		-	-	-	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae								-		0.24	0.02	0.15	0.16	0.14	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae								0.23		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae								-		-	0.13	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Acomopterella*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Allodia*							0.16		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Anatella*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*	*Boletina dissipata*						-		-	-	-	-	-	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*							-		0.17	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*							0.52		-	-	-	-	-	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*							-		-	-	-	0.16	0.07	0.31
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*							-		-	0.15	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Brevicornu*	*Brevicornu foliatum*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Brevicornu*							-		-	-	-	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Brevicornu*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*	*Coelosia gracilis*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Ectrepesthoneura*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Exechia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Katatopygia*	*Katatopygia sahlbergi*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycetophila*	*Mycetophila perpallida*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya danielae*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		0.08	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya humida*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya maculata*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya pulchella*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya shermani*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya trivittata*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*							-		-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			McTagg			Gingras			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Lonchaeidae	*Lonchaea*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Lonchaeidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Milichiidae	*Neophyllomyza*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Milichiidae	*Neophyllomyza*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Atherigona*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Coenosia*	*Coenosia impunctata*	-	0.09	0.03				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Helina*	*Helina evecta*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Mesembrina*	*Mesembrina latreillii*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Mydaea*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Phaonia*	*Phaonia canescens*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Phaonia*	*Phaonia consobrina*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Phaonia*	*Phaonia luteva*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Phaonia*	*Phaonia monticola*	-	-	-				-	-	-	-	-	0.02			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Schoenomyza*	*Schoenomyza dorsalis*	-	0.10	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*	*Spilogona arctica*	-	-	-				0.11	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*	*Spilogona placida*	-	0.04	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*	*Spilogona sororcula*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*	*Thricops albibasalis*	-	0.12	0.05				0.12	-	-	0.05	0.05	0.04			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*	*Thricops diaphanus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*		-	-	-				-	-	-	0.02	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae			0.02	0.40	0.29				-	-	0.25	-	0.02	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Acomopterella*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Allodia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Anatella*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*	*Boletina dissipata*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		-	-	0.16				0.48	-	-	-	-	0.05			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		-	0.10	-				-	-	-	0.03	-	0.06			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		-	0.26	0.08				-	0.08	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Brevicornu*	*Brevicornu foliatum*	-	-	-				-	-	-	-	-	0.04			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Brevicornu*		-	-	0.05				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Brevicornu*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*	*Coelosia gracilis*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*		-	-	0.10				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*		-	-	-				-	-	-	-	-	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Ectrepesthoneura*		0.02	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Exechia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Katatopygia*	*Katatopygia sahlbergi*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycetophila*	*Mycetophila perpallida*	-	-	-				0.11	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya danielae*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya humida*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya maculata*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya pulchella*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya shermani*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya trivittata*	-	-	-				-	-	-	0.04	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*		-	-	-				-	-	-	-	-	-			

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						-			0.04	-	-	0.03	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Lonchaeidae	*Lonchaea*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Lonchaeidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Milichiidae	*Neophyllomyza*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Milichiidae	*Neophyllomyza*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Atherigona*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Coenosia*	*Coenosia impunctata*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Helina*	*Helina evecta*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Mesembrina*	*Mesembrina latreillii*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Mydaea*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Phaonia*	*Phaonia canescens*				0.27			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Phaonia*	*Phaonia consobrina*				-			-	-	-	-	-	-	-	-	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Phaonia*	*Phaonia luteva*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Phaonia*	*Phaonia monticola*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Schoenomyza*	*Schoenomyza dorsalis*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*	*Spilogona arctica*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*	*Spilogona placida*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*	*Spilogona sororcula*				-			0.03	-	-	-	-	0.07	0.06	-	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*	*Thricops albibasalis*				-			0.18	0.03	0.13	0.09	0.08	0.17	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*	*Thricops diaphanus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*					0.04			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*					-			0.02	-	0.04	0.03	0.03	-	-	0.08	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*					-			-	-	-	-	-	-	-	0.04	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae						-			0.17	0.02	0.11	0.07	0.04	0.10	0.09	0.16	0.19
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae						0.17			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae						-			-	-	-	-	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Acomopterella*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Allodia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Anatella*					-			-	-	-	-	-	-	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*	*Boletina dissipata*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*					-			-	-	-	-	-	-	-	-	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*					-			-	-	-	-	-	-	0.06	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Brevicornu*	*Brevicornu foliatum*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Brevicornu*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Brevicornu*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*	*Coelosia gracilis*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*					-			-	-	-	-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*					-			-	-	-	-	-	-	-	-	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Ectrepesthoneura*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Exechia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Katatopygia*	*Katatopygia sahlbergi*				-			-	-	-	-	-	-	-	0.18	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycetophila*	*Mycetophila perpallida*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya danielae*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya humida*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya maculata*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya pulchella*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya shermani*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya trivittata*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*					-			-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Lonchaeidae	*Lonchaea*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Lonchaeidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Milichiidae	*Neophyllomyza*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Milichiidae	*Neophyllomyza*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Atherigona*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Coenosia*	*Coenosia impunctata*	-	-	-	-	-	0.03	0.04	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Helina*	*Helina evecta*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Mesembrina*	*Mesembrina latreillii*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Mydaea*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Phaonia*	*Phaonia canescens*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Phaonia*	*Phaonia consobrina*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Phaonia*	*Phaonia luteva*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Phaonia*	*Phaonia monticola*	-	0.08	0.03	0.05	0.03	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Schoenomyza*	*Schoenomyza dorsalis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*	*Spilogona arctica*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*	*Spilogona placida*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*	*Spilogona sororcula*	0.08	-	0.03	-	-	-	0.02	-	-	0.02	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*		-	-	-	-	-	-	-	-	0.02	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*	*Thricops albibasalis*	-	-	-	-	-	0.03	-	-	-	0.06	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*	*Thricops diaphanus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*		-	-	-	0.46	0.05	-	-	-	0.02	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*		0.03	0.03	-	-	-	0.03	0.03	0.14	0.05	-	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*		-	-	0.03	0.03	-	0.06	0.06	-	0.05	0.03	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae			-	0.07	0.09	0.04	0.03	0.08	0.03	0.04	0.08	0.05	0.05	0.07	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae			-	-	-	-	0.03	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae			-	-	-	-	0.03	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae			-	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Acomopterella*		-	-	-	-	-	-	0.06	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Allodia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Anatella*		0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*	*Boletina dissipata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		-	-	-	-	-	-	-	0.08	0.04	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		-	-	0.09	-	-	-	0.02	0.08	0.03	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		-	-	-	-	-	-	0.06	0.08	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Brevicornu*	*Brevicornu foliatum*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Brevicornu*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Brevicornu*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*	*Coelosia gracilis*	-	-	0.02	-	-	-	0.08	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*		-	-	-	-	-	-	-	0.05	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*		-	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*		-	-	-	-	-	-	0.02	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*		-	-	-	-	-	-	-	0.02	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Ectrepesthoneura*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Exechia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Katatopygia*	*Katatopygia sahlbergi*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycetophila*	*Mycetophila perpallida*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya danielae*	-	0.04	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya humida*	-	-	-	-	-	-	0.02	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya maculata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya pulchella*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya shermani*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya trivittata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Lonchaeidae	*Lonchaea*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Lonchaeidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Milichiidae	*Neophyllomyza*					-		-	-	-	-	0.29	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Milichiidae	*Neophyllomyza*					-		-	-	-	-	-	-	-	0.09	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Atherigona*					-		-	-	-	-	0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Coenosia*	*Coenosia impunctata*				-		-	-	-	-	-	-	0.02	0.04	0.09	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Helina*	*Helina evecta*				-		-	-	0.03	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Mesembrina*	*Mesembrina latreillii*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Mydaea*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Phaonia*	*Phaonia canescens*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Phaonia*	*Phaonia consobrina*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Phaonia*	*Phaonia luteva*				-		-	-	-	-	-	-	0.13	-	0.08	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Phaonia*	*Phaonia monticola*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Schoenomyza*	*Schoenomyza dorsalis*				-		-	-	-	-	-	-	-	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*	*Spilogona arctica*				-		-	-	-	-	-	-	-	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*	*Spilogona placida*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*	*Spilogona sororcula*				0.03		-	-	-	-	0.13	-	0.24	-	0.07	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*					-		-	-	-	-	-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*	*Thricops albibasalis*				-		0.35	0.46	0.06	-	-	0.24	0.28	0.20	0.14	0.10
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*	*Thricops diaphanus*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*					-		-	-	0.05	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*					-		-	-	-	-	0.07	0.03	-	-	0.05	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*					-		-	-	-	-	-	0.05	-	-	0.03	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae						0.02		0.25	0.31	-	-	0.11	0.26	0.44	0.09	0.06	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae						-		-	-	-	-	-	-	0.16	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Acomopterella*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Allodia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Anatella*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*	*Boletina dissipata*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*					-		0.59	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*					-		-	0.30	-	-	-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*					-		-	-	-	-	-	-	-	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Brevicornu*	*Brevicornu foliatum*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Brevicornu*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Brevicornu*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*	*Coelosia gracilis*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*					-		-	-	-	-	-	-	-	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Ectrepesthoneura*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Exechia*					-		-	-	-	-	0.06	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Katatopygia*	*Katatopygia sahlbergi*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycetophila*	*Mycetophila perpallida*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya danielae*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya humida*				-		-	-	-	-	-	-	-	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya maculata*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya pulchella*				-		-	-	-	-	-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya shermani*				-		-	-	-	-	-	-	-	0.06	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya trivittata*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*					-		-	-	-	-	-	0.25	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Lonchaeidae	*Lonchaea*		0.07	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Lonchaeidae			-	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Milichiidae	*Neophyllomyza*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Milichiidae	*Neophyllomyza*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Atherigona*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Coenosia*	*Coenosia impunctata*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Helina*	*Helina evecta*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Mesembrina*	*Mesembrina latreillii*	-	0.07	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Mydaea*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Phaonia*	*Phaonia canescens*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Phaonia*	*Phaonia consobrina*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Phaonia*	*Phaonia luteva*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Phaonia*	*Phaonia monticola*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Schoenomyza*	*Schoenomyza dorsalis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*	*Spilogona arctica*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*	*Spilogona placida*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*	*Spilogona sororcula*	0.10	0.03	0.05				
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Spilogona*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*	*Thricops albibasalis*	0.09	0.10	0.09				
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*	*Thricops diaphanus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*		-	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*		0.05	0.09	0.06				
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*		0.02	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae			0.07	0.03	0.08				
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae			-	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Acomopterella*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Allodia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Anatella*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*	*Boletina dissipata*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Boletina*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Brevicornu*	*Brevicornu foliatum*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Brevicornu*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Brevicornu*		-	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*	*Coelosia gracilis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Coelosia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Cordyla*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Ectrepesthoneura*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Exechia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Katatopygia*	*Katatopygia sahlbergi*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycetophila*	*Mycetophila perpallida*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya danielae*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya humida*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya maculata*	-	0.05	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya pulchella*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya shermani*	-	0.08	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*	*Mycomya trivittata*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*		-	-	-				

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk			Unuk DS S. Unuk		
									Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Neuratelia*							-		0.08	-	-	0.03	0.05	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Phronia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Phronia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Phronia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Rymosia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Sciophila*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Synapha*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Syntemna*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Syntemna*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Tarnania*	*Tarnania tarnanii*						-		-	-	0.25	-	0.16	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae								-		0.21	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Oreogetonidae	*Oreogeton*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pallopteridae	*Toxonevra*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*	*Dicranota guerini*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*							0.64		0.41	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Ula*	*Ula sylvatica*						0.56		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae								-		-	-	-	0.14	-	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae								0.67		0.23	0.37	0.22	0.05	-	0.48
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		0.18	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae								-		-	-	0.11	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae								-		-	-	-	0.07	0.25	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae								-		-	-	-	-	0.14	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Anevrina*	*Anevrina thoracica*						-		-	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia arcticae*						-		-	-	-	-	-	0.26
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia fungivora*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia hirticrus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia largifrontalis*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia longicostalis*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia lutea*						-		-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia robusta*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia variana*						-		-	0.22	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*							-		0.35	-	0.17	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*							0.45		-	0.23	0.08	0.12	0.11	0.10
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*							-		-	0.23	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*							-		0.14	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*							-		0.12	-	-	-	-	0.11
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*							-		-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			McTagg			Gingras			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*		-	-	-				-	-	-	-	0.07	0.05			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Neuratelia*		-	-	0.07				-	-	-	-	0.03	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Phronia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Phronia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Phronia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Rymosia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Sciophila*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Synapha*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Syntemna*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Syntemna*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Tarnania*	*Tarnania tarnanii*	-	-	-				-	-	-	-	-	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae			-	-	-				-	-	-	-	-	0.06			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae			-	-	-				-	-	-	0.07	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Oreogetonidae	*Oreogeton*		-	0.03	0.02				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pallopteridae	*Toxonevra*		-	-	-				0.09	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*	*Dicranota guerini*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*		-	0.26	0.33				-	-	-	-	0.53	0.36			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Ula*	*Ula sylvatica*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	0.11				-	-	-	0.13	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0.14	-	0.28				0.33	0.83	-	0.56	0.55	0.67			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-				-	-	0.16	-	0.02	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-				-	-	-	0.04	0.03	0.04			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	0.09	-				-	-	-	0.06	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-				-	-	-	-	0.04	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	0.16	-				-	-	-	-	-	0.04			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	0.08				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Anevrina*	*Anevrina thoracica*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia arcticae*	1.12	-	-				-	-	-	0.03	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia fungivora*	-	-	0.06				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia hirticrus*	0.07	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia largifrontalis*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia longicostalis*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia lutea*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia robusta*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia variana*	-	-	0.06				-	-	-	-	0.03	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		0.03	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				-	-	-	-	0.03	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		0.57	0.07	0.06				-	-	-	-	0.02	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		0.03	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				-	-	-	-	-	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				-	-	-	-	-	-			

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*					-			-	-	-	-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Neuratelia*					0.03			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Phronia*					-			-	-	-	-	-	-	-	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Phronia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Phronia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Rymosia*					-			-	-	-	-	-	-	-	-	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Sciophila*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Synapha*					-			-	-	-	-	-	-	0.12	-	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Syntemna*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Syntemna*					-			-	-	-	-	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Tarnania*	*Tarnania tarnanii*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Oreogetonidae	*Oreogeton*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pallopteridae	*Toxonevra*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*	*Dicranota guerini*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*					0.23			-	-	0.02	0.10	0.05	0.05	0.31	0.30	0.42
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Ula*	*Ula sylvatica*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						0.79			-	-	-	-	-	-	-	-	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						-			-	-	-	0.06	-	-	0.21	0.06	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						-			-	-	-	-	-	-	0.09	0.24	0.30
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						-			-	-	0.03	0.06	0.03	0.02	-	0.02	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						0.21			-	-	-	-	-	-	0.16	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						-			0.04	-	-	-	-	-	0.04	0.11	0.12
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						-			-	-	-	-	-	-	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						-			-	-	-	-	-	-	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Anevrina*	*Anevrina thoracica*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia arcticae*				-			0.03	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia fungivora*				-			-	-	-	-	-	-	0.04	0.13	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia hirticrus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia largifrontalis*				-			-	-	-	-	-	-	-	-	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia longicostalis*				-			-	-	-	-	-	-	0.06	0.09	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia lutea*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia robusta*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia variana*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-			-	-	-	-	-	-	-	0.12	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					0.11			0.02	-	0.06	0.03	-	0.05	0.03	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-			-	-	0.02	-	-	-	-	-	0.10
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-			-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*		0.06	-	0.07	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*		-	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Neuratelia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Phronia*		-	-	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Phronia*		-	0.04	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Phronia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Rymosia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Sciophila*		-	-	-	-	-	-	-	0.02	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Synapha*		0.03	-	-	-	-	-	-	-	0.04	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Syntemna*		-	-	-	-	0.02	-	0.05	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Syntemna*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Tarnania*	*Tarnania tarnanii*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae			0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae			-	-	0.11	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Oreogetonidae	*Oreogeton*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pallopteridae	*Toxonevra*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*	*Dicranota guerini*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*		1.12	0.61	0.68	0.14	0.19	0.16	0.26	0.45	-	0.45	0.28	0.21	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Ula*	*Ula sylvatica*	-	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-	0.08	0.03	0.03	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0.23	0.11	0.10	0.13	0.12	0.23	-	-	0.09	0.15	0.06	0.09	0.04	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	0.08	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0.10	0.03	-	-	0.03	0.03	-	0.05	0.13	0.05	0.02	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	0.08	0.11	0.02	-	-	-	-	-	0.03	0.04	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	0.19	0.10	0.04	0.05	-	0.02	0.05	0.04	0.06	0.06	0.06	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	0.09	0.11	-	-	-	0.12	0.25	0.07	0.02	0.19	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0.38	0.30	0.44	-	-	-	0.15	0.12	0.18	0.09	0.04	0.08	0.07	0.05	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Anevrina*	*Anevrina thoracica*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia arcticae*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia fungivora*	-	0.03	-	-	-	-	0.05	0.05	0.02	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia hirticrus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia largifrontalis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia longicostalis*	-	-	-	-	-	-	-	-	-	-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia lutea*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia robusta*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia variana*	-	-	-	-	-	-	-	0.04	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	-	0.17	0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		0.13	0.10	-	0.02	-	0.03	0.03	0.03	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		0.06	0.19	0.05	0.03	-	0.03	-	0.05	-	0.04	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	0.03	-	-	-	-	-	-	-	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*					-		-	-	-	-	-	-	-	-	-	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*					-		-	-	-	-	-	-	-	-	-	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Neuratelia*					-		-	-	-	-	0.05	0.18	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Phronia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Phronia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Phronia*					-		-	-	-	-	-	-	-	-	-	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Rymosia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Sciophila*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Synapha*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Syntemna*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Syntemna*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Tarnania*	*Tarnania tarnanii*				-		-	-	-	-	-	-	-	-	-	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae						-		-	-	-	-	-	-	-	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Oreogetonidae	*Oreogeton*					-		-	0.11	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pallopteridae	*Toxonevra*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*	*Dicranota guerini*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*					-		-	-	-	0.46	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*					-		-	0.76	-	-	-	-	-	0.07	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Ula*	*Ula sylvatica*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						-		-	-	-	-	-	-	-	-	0.07	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						-		-	-	-	-	0.28	0.44	0.47	0.05	-	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						-		-	-	-	-	-	0.29	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						-		-	-	-	-	-	-	-	-	-	0.11
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						-		-	-	0.22	0.58	0.11	-	-	-	-	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						-		-	-	-	-	-	-	0.28	-	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae						-		-	-	-	-	-	-	-	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Anevrina*	*Anevrina thoracica*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia arcticae*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia fungivora*				-		-	-	-	-	0.24	-	-	-	-	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia hirticrus*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia largifrontalis*				-		-	-	-	-	-	-	0.40	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia longicostalis*				-		-	-	-	-	-	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia lutea*				-		-	-	-	-	-	-	-	-	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia robusta*				-		-	-	-	-	-	0.05	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia variana*				-		-	-	-	-	0.58	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-		-	-	-	2.12	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-		-	0.15	-	1.05	-	0.13	-	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-		-	-	0.05	-	-	0.03	-	0.05	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-		-	-	-	-	-	-	-	0.06	0.04	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-		-	-	-	-	-	0.18	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*		-	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Mycomya*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Neuratelia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Phronia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Phronia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Phronia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Rymosia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Sciophila*		0.07	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Synapha*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Syntemna*		0.03	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Syntemna*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Tarnania*	*Tarnania tarnanii*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Oreogetonidae	*Oreogeton*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pallopteridae	*Toxonevra*		0.05	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*	*Dicranota guerini*	-	0.05	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Dicranota*		-	0.03	0.05				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae	*Ula*	*Ula sylvatica*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0.11	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Anevrina*	*Anevrina thoracica*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia arcticae*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia fungivora*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia hirticrus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia largifrontalis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia longicostalis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia lutea*	0.03	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia robusta*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*	*Megaselia variana*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	0.06				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	0.05	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk			Unuk DS S. Unuk		
									Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*							-		-	-	-	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*							-		-	0.04	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*							-		-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*							-		-	0.03	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Phora*							-		-	-	0.21	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phiophilidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pipunculidae	*Chalarus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Platypezidae	*Agathomyia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Platypezidae	*Microsania*	*Microsania pectipennis*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Platypezidae	*Platypezina*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Platypezidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Psilidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Pneumia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Psychoda*	*Psychoda phalaenoides*						-		-	-	-	-	-	0.19
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Psychoda*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae								0.09		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ptychopteridae	*Ptychoptera*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae	*Symphoromyia*							-		-	-	0.31	-	0.16	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae								-		0.12	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae								-		-	-	-	-	0.06	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae								-		-	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae								0.39		-	-	-	0.08	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sarcophagidae	*Agria*							-		-	-	-	-	-	0.54
Insects	Animalia	Arthropoda	Insecta	Diptera	Sarcophagidae	*Sarcophaga*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Cordilura*	*Cordilura atrata*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Megaphthalma*	*Megaphthalma pallida*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Megaphthalma*	*Megaphthalma unilineatum*						-		0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Microprosopa*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Scathophaga*	*Scathophaga spurca*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Scathophaga*							-		-	-	-	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae								-		-	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scatopsidae	*Apiloscatopse*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scatopsidae								-		-	0.16	-	0.33	0.21	0.11
Insects	Animalia	Arthropoda	Insecta	Diptera	Scatopsidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciomyzidae	*Pherbellia*							-		-	-	0.14	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sepsidae	*Sepsis*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sepsidae								-		0.26	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Gymnopais*	*Gymnopais dichopticoides*						0.42		0.21	-	0.07	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			McTagg			Gingras			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		0.05	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				-	-	-	0.05	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Phora*		0.04	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae			0.13	-	-				0.06	-	0.08	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae			-	0.02	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Phiophilidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Pipunculidae	*Chalarus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Platypezidae	*Agathomyia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Platypezidae	*Microsania*	*Microsania pectipennis*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Platypezidae	*Platypezina*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Platypezidae			-	-	-				-	-	-	-	0.04	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Psilidae			-	-	-				-	-	-	0.07	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Pneumia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Psychoda*	*Psychoda phalaenoides*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Psychoda*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae			-	0.09	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Ptychopteridae	*Ptychoptera*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae	*Symphoromyia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae			-	0.07	-				0.33	1.08	0.40	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae			-	0.11	0.26				0.17	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Sarcophagidae	*Agria*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Sarcophagidae	*Sarcophaga*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Cordilura*	*Cordilura atrata*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Megaphthalma*	*Megaphthalma pallida*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Megaphthalma*	*Megaphthalma unilineatum*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Microprosopa*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Scathophaga*	*Scathophaga spurca*	-	-	-				-	-	0.09	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Scathophaga*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae			0.10	0.03	0.04				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Scatopsidae	*Apiloscatopse*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Scatopsidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Scatopsidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciomyzidae	*Pherbellia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Sepsidae	*Sepsis*		-	-	-				-	0.23	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Sepsidae			-	0.05	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Gymnopais*	*Gymnopais dichopticoides*	-	0.09	-				-	-	-	-	-	-			

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-			-	-	-	-	-	-	-	0.04	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-			0.04	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-			-	-	40.82	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Phora*					-			-	-	-	-	0.03	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae						-			-	-	-	-	-	-	-	-	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae						-			-	-	-	-	-	-	-	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Piophilidae						-			-	-	-	-	-	-	-	0.05	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pipunculidae	*Chalarus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Platypezidae	*Agathomyia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Platypezidae	*Microsania*	*Microsania pectipennis*				-			-	-	-	-	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Platypezidae	*Platypezina*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Platypezidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Psilidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Pneumia*					-			-	-	-	-	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Psychoda*	*Psychoda phalaenoides*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Psychoda*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae						-			0.04	-	-	-	-	-	-	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ptychopteridae	*Ptychoptera*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae	*Symphoromyia*					0.25			-	-	-	-	0.04	-	-	-	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae						0.20			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sarcophagidae	*Agria*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sarcophagidae	*Sarcophaga*					-			-	-	-	-	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Cordilura*	*Cordilura atrata*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Megaphthalma*	*Megaphthalma pallida*				-			-	-	-	-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Megaphthalma*	*Megaphthalma unilineatum*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Microprosopa*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Scathophaga*	*Scathophaga spurca*				0.29			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Scathophaga*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scatopsidae	*Apiloscatopse*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scatopsidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scatopsidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciomyzidae	*Pherbellia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sepsidae	*Sepsis*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sepsidae						-			-	-	-	-	-	-	0.06	0.09	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Gymnopais*	*Gymnopais dichopticoides*				-			-	-	-	-	-	0.04	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	0.03	-	-	-	0.14	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	0.03	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		0.09	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Phora*		0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae			-	-	-	-	-	-	-	0.06	-	-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae			-	0.03	0.03	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Piophilidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pipunculidae	*Chalarus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Platypezidae	*Agathomyia*		0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Platypezidae	*Microsania*	*Microsania pectipennis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Platypezidae	*Platypezina*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Platypezidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Psilidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Pneumia*		-	-	-	-	-	-	0.04	-	0.05	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Psychoda*	*Psychoda phalaenoides*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Psychoda*		-	0.04	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae			-	0.03	0.02	-	-	-	-	-	0.04	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ptychopteridae	*Ptychoptera*		0.26	0.29	0.11	-	-	-	0.15	0.09	0.18	0.03	0.04	0.02	0.22	0.25	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae	*Symphoromyia*		-	0.05	-	0.06	-	-	-	-	-	0.06	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae			-	0.04	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae			-	-	-	-	-	-	0.09	-	-	0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sarcophagidae	*Agria*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sarcophagidae	*Sarcophaga*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Cordilura*	*Cordilura atrata*	-	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Megaphthalma*	*Megaphthalma pallida*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Megaphthalma*	*Megaphthalma unilineatum*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Microprosopa*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Scathophaga*	*Scathophaga spurca*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Scathophaga*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scatopsidae	*Apiloscatopse*		-	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scatopsidae			-	-	-	-	-	-	0.05	0.04	-	0.03	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scatopsidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciomyzidae	*Pherbellia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sepsidae	*Sepsis*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sepsidae			0.06	-	0.08	0.08	-	0.05	0.03	0.13	0.14	0.04	0.05	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Gymnopais*	*Gymnopais dichopticoides*	-	-	-	0.27	0.20	0.22	-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Phora*					-		0.04	-	-	-	-	-	-	0.06	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae						-		-	0.06	-	-	-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae						-		-	-	-	-	0.09	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Piophilidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pipunculidae	*Chalarus*					-		-	-	-	-	-	-	-	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Platypezidae	*Agathomyia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Platypezidae	*Microsania*	*Microsania pectipennis*				-		-	-	-	-	0.47	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Platypezidae	*Platypezina*					-		-	-	-	-	-	-	-	-	0.05	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Platypezidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Psilidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Pneumia*					-		-	0.44	0.70	-	0.08	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Psychoda*	*Psychoda phalaenoides*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Psychoda*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ptychopteridae	*Ptychoptera*					-		-	-	-	-	-	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae	*Symphoromyia*					-		-	0.02	-	-	-	-	0.11	0.02	0.02	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae						-		-	-	-	-	0.14	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae						-		-	-	-	-	0.18	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae						-		-	-	-	-	-	0.15	-	0.05	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Sarcophagidae	*Agria*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sarcophagidae	*Sarcophaga*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Cordilura*	*Cordilura atrata*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Megaphthalma*	*Megaphthalma pallida*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Megaphthalma*	*Megaphthalma unilineatum*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Microprosopa*					-		-	-	0.05	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Scathophaga*	*Scathophaga spurca*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Scathophaga*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scatopsidae	*Apiloscatopse*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scatopsidae						0.03		-	-	-	-	-	0.07	-	-	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Scatopsidae						-		-	0.26	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciomyzidae	*Pherbellia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sepsidae	*Sepsis*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sepsidae						-		-	-	-	-	-	-	0.09	0.12	0.05	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Gymnopais*	*Gymnopais dichopticoides*				-		-	-	-	-	-	-	-	0.06	0.04	0.10

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		0.05	0.05	0.05				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	0.06	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		0.02	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Phora*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae			0.04	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Piophilidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Pipunculidae	*Chalarus*		-	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Platypezidae	*Agathomyia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Platypezidae	*Microsania*	*Microsania pectipennis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Platypezidae	*Platypezina*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Platypezidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Psilidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Pneumia*		-	0.02	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Psychoda*	*Psychoda phalaenoides*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae	*Psychoda*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Psychodidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Ptychopteridae	*Ptychoptera*		0.05	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae	*Symphoromyia*		-	0.06	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Rhagionidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Sarcophagidae	*Agria*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Sarcophagidae	*Sarcophaga*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Cordilura*	*Cordilura atrata*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Megaphthalma*	*Megaphthalma pallida*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Megaphthalma*	*Megaphthalma unilineatum*	0.02	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Microprosopa*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Scathophaga*	*Scathophaga spurca*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae	*Scathophaga*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Scathophagidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Scatopsidae	*Apiloscatopse*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Scatopsidae			0.06	0.07	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Scatopsidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciomyzidae	*Pherbellia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Sepsidae	*Sepsis*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Sepsidae			0.24	0.12	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Gymnopais*	*Gymnopais dichopticoides*	0.15	0.08	0.09				

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk			Unuk DS S. Unuk		
									Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*	*Helodon onychodactylus*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					1.21		0.26	0.76	0.50	0.81	0.69	1.58
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*	*Helodon pleuralis*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*							-		-	-	-	-	-	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Metacnephia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*	*Prosimulium frohnei*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	0.04	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*	*Prosimulium travisi*						0.49		-	0.14	0.26	0.18	0.36	0.24
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium annulum*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium arcticum*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium bracteatum*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	0.05	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	0.06	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium tuberosum*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium verecundum*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*							-		-	-	-	-	-	0.37
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*							-		-	0.09	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*							-		-	-	-	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Stegopterna*	*Stegopterna xantha*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Copromyza*	*Copromyza neglecta*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Copromyza*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Spelobia*	*Spelobia maculipennis*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Spelobia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Terrilimosina*							-		-	-	0.08	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae								-		-	-	-	-	0.09	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Cheilosia*	*Cheilosia latrans*						-		0.17	-	-	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Parasyrphus*	*Parasyrphus macularis*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Platycheirus*	*Platycheirus podagratus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Platycheirus*							-		-	-	-	0.02	0.05	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Sericomyia*	*Sericomyia chalcopyga*						-		-	0.11	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Sphegina*	*Sphegina brachygaster*						-		-	-	-	-	-	0.20
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Syrphus*	*Syrphus ribesii*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Syrphus*	*Syrphus torvus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae								0.15		0.07	0.23	-	0.27	0.06	0.22

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			McTagg			Gingras			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*	*Helodon onychodactylus*	0.07	1.29	1.96				0.63	-	0.13	1.05	0.96	1.05			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*	*Helodon pleuralis*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Metacnephia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*	*Prosimulium frohnei*	-	-	-				-	-	-	0.03	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*	*Prosimulium travisi*	-	0.33	0.16				0.93	1.43	0.27	0.22	0.17	0.21			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium annulum*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium arcticum*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium bracteatum*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium tuberosum*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium verecundum*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		-	0.11	0.10				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Stegopterna*	*Stegopterna xantha*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Copromyza*	*Copromyza neglecta*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Copromyza*		-	-	-				-	-	-	-	-	0.06			
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Spelobia*	*Spelobia maculipennis*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Spelobia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Terrilimosina*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Cheilosia*	*Cheilosia latrans*	-	0.07	-				-	-	-	0.04	-	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Parasyrphus*	*Parasyrphus macularis*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Platycheirus*	*Platycheirus podagratus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Platycheirus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Sericomyia*	*Sericomyia chalcopyga*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Sphegina*	*Sphegina brachygaster*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Syrphus*	*Syrphus ribesii*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Syrphus*	*Syrphus torvus*	-	0.03	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae			-	0.06	0.03				-	-	-	0.03	0.11	0.05			

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*	*Helodon onychodactylus*				0.72			0.09	-	0.05	0.74	0.67	1.18	1.23	1.87	1.86
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*	*Helodon pleuralis*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*					-			0.70	0.17	0.33	2.56	2.24	3.20	0.03	0.18	0.13
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Metacnephia*					-			-	-	0.02	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*	*Prosimulium frohnei*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*	*Prosimulium travisi*				-			-	-	-	-	-	0.06	0.12	0.22	0.16
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium annulum*				-			-	-	-	-	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium arcticum*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium bracteatum*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*				-			0.05	-	-	0.03	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium tuberosum*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium verecundum*				-			-	68.85	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*					-			1.03	0.12	0.47	0.59	0.64	0.74	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*					-			0.05	-	0.03	0.08	0.08	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*					-			-	-	-	-	-	-	0.08	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Stegopterna*	*Stegopterna xantha*				-			-	-	-	-	-	-	0.05	0.15	0.11
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Copromyza*	*Copromyza neglecta*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Copromyza*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Spelobia*	*Spelobia maculipennis*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Spelobia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Terrilimosina*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae						-			-	-	-	-	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Cheilosia*	*Cheilosia latrans*				-			-	-	0.12	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Parasyrphus*	*Parasyrphus macularis*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Platycheirus*	*Platycheirus podagratus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Platycheirus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Sericomyia*	*Sericomyia chalcopyga*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Sphegina*	*Sphegina brachygaster*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Syrphus*	*Syrphus ribesii*				-			-	-	0.04	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Syrphus*	*Syrphus torvus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae						0.32			-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*	*Helodon onychodactylus*	0.49	0.74	0.43	11.41	9.32	11.22	2.88	2.11	2.20	2.34	2.09	2.41	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*	*Helodon pleuralis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*		-	-	-	-	0.02	0.04	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*		0.07	0.02	0.02	2.76	2.02	3.13	0.36	0.35	0.49	1.43	1.17	1.24	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Metacnephia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*	*Prosimulium frohnei*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*	*Prosimulium travisi*	0.05	0.06	0.16	0.30	0.21	0.27	0.20	0.35	0.14	0.10	1.10	0.09	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium annulum*	0.14	0.12	0.10	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium arcticum*	-	-	-	-	0.03	0.03	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium bracteatum*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*	0.10	0.18	0.08	-	-	-	-	-	0.03	-	0.03	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*	-	-	-	-	-	-	0.03	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium tuberosum*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium verecundum*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		-	-	0.02	0.03	0.03	-	-	0.03	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		-	0.05	0.06	-	-	-	0.10	0.05	0.06	-	-	0.08	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		-	-	-	0.02	-	-	-	-	-	-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Stegopterna*	*Stegopterna xantha*	0.07	0.03	-	-	-	-	-	-	0.03	0.06	0.05	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Copromyza*	*Copromyza neglecta*	-	-	-	-	-	-	0.02	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Copromyza*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Spelobia*	*Spelobia maculipennis*	-	-	0.02	-	-	-	-	0.09	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Spelobia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Terrilimosina*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae			-	-	0.07	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae			-	-	0.03	-	-	-	-	-	-	-	-	-	0.08	0.07	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Cheilosia*	*Cheilosia latrans*	-	-	-	-	0.03	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Parasyrphus*	*Parasyrphus macularis*	-	-	-	-	-	-	-	-	-	0.02	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Platycheirus*	*Platycheirus podagratus*	-	-	-	-	-	-	-	0.04	0.04	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Platycheirus*		-	-	-	-	-	-	-	-	-	-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Sericomyia*	*Sericomyia chalcopyga*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Sphegina*	*Sphegina brachygaster*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Syrphus*	*Syrphus ribesii*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Syrphus*	*Syrphus torvus*	-	-	-	-	-	0.02	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae			-	-	-	0.05	0.03	0.05	-	0.06	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*	*Helodon onychodactylus*				-		0.16	2.75	4.37	3.18	3.20	2.32	0.99	0.65	0.82	0.71
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*	*Helodon pleuralis*				-		-	-	-	-	-	-	-	0.11	0.16	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*					-		-	1.30	0.99	0.13	-	-	0.08	0.43	0.59	0.82
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Metacnephia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*	*Prosimulium frohnei*				-		-	-	-	-	0.22	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*	*Prosimulium travisi*				-		-	0.09	-	-	0.34	0.40	0.58	0.07	0.05	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium annulum*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium arcticum*				-		-	-	-	-	-	-	-	0.20	0.07	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium bracteatum*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*				-		-	-	-	-	-	-	0.14	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium tuberosum*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium verecundum*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*					2.17		1.24	-	0.39	-	-	-	0.13	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*					0.09		0.54	0.94	-	-	0.40	-	0.23	0.07	0.13	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*					-		-	0.73	-	-	-	-	-	0.05	0.05	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*					-		-	-	-	-	-	0.21	-	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*					-		0.25	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*					-		-	-	-	-	-	-	0.27	0.06	0.05	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*					-		-	-	-	-	-	-	-	0.02	-	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Stegopterna*	*Stegopterna xantha*				-		-	-	4.07	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Copromyza*	*Copromyza neglecta*				-		-	-	-	-	-	0.13	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Copromyza*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Spelobia*	*Spelobia maculipennis*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Spelobia*					-		-	-	-	-	-	-	0.15	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Terrilimosina*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae						-		-	-	0.92	-	-	-	-	0.08	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae						-		-	-	-	-	-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Cheilosia*	*Cheilosia latrans*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Parasyrphus*	*Parasyrphus macularis*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Platycheirus*	*Platycheirus podagratus*				-		-	0.26	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Platycheirus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Sericomyia*	*Sericomyia chalcopyga*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Sphegina*	*Sphegina brachygaster*				-		-	-	0.39	-	-	-	0.38	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Syrphus*	*Syrphus ribesii*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Syrphus*	*Syrphus torvus*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae						-		-	0.23	-	-	-	-	-	-	-	0.03

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*	*Helodon onychodactylus*	0.72	0.72	0.49				
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*	*Helodon pleuralis*	0.06	0.17	0.09				
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*		0.65	0.66	0.43				
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Metacnephia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*	*Prosimulium frohnei*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Prosimulium*	*Prosimulium travisi*	0.04	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium annulum*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium arcticum*	0.14	0.03	0.07				
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium bracteatum*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*	0.05	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium craigi*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium tuberosum*	-	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*	*Simulium verecundum*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		0.17	0.25	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		0.03	0.08	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		0.04	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		0.03	0.06	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Stegopterna*	*Stegopterna xantha*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Copromyza*	*Copromyza neglecta*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Copromyza*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Spelobia*	*Spelobia maculipennis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Spelobia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae	*Terrilimosina*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae			0.06	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Sphaeroceridae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Cheilosia*	*Cheilosia latrans*	-	0.03	0.06				
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Parasyrphus*	*Parasyrphus macularis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Platycheirus*	*Platycheirus podagratus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Platycheirus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Sericomyia*	*Sericomyia chalcopyga*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Sphegina*	*Sphegina brachygaster*	-	0.06	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Syrphus*	*Syrphus ribesii*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae	*Syrphus*	*Syrphus torvus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae			-	-	-				

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk			Unuk DS S. Unuk		
									Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tabanidae	*Chrysops*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tabanidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae	*Linnaemya*							-		-	-	0.06	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae	*Panzeria*	*Panzeria platycarina*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae	*Siphona*							-		-	-	-	-	-	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	0.15
Insects	Animalia	Arthropoda	Insecta	Diptera	Tephritidae	*Trypeta*	*Trypeta flaveola*						0.15		-	0.05	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula banffiana*						-		-	-	-	-	0.15	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula platymera*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula subtenuicornis*						-		-	-	0.43	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula tacomicola*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*							0.84		0.84	0.37	1.03	0.57	0.20	0.46
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*							-		-	-	0.55	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*							-		-	-	-	0.30	0.04	0.17
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*							-		0.07	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*							-		-	-	-	-	-	0.12
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae								-		-	-	-	-	0.05	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae								-		-	0.08	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae								-		0.07	0.06	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae	*Trichocera*							-		-	-	0.25	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Xylophagidae	*Xylophagus*	*Xylophagus cinctus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									2.03		0.89	0.46	0.88	0.80	0.97	0.47
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									0.61		-	0.35	0.54	0.04	0.21	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		0.72	0.47	0.60	0.05	0.21	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera									-		0.38	0.21	0.15	0.14	0.13	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera									0.67		0.51	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									0.22		-	-	-	0.06	0.14	-
Insects	Animalia	Arthropoda	Insecta	Diptera									0.31		0.03	-	-	0.05	-	0.38
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	0.16	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	0.05	-	0.06	0.10	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	0.08	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			McTagg			Gingras			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae			-	-	0.05				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tabanidae	*Chrysops*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tabanidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae	*Linnaemya*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae	*Panzeria*	*Panzeria platycarina*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae	*Siphona*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae			-	-	0.11				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae			-	-	-				-	-	-	-	0.03	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae			-	-	-				-	-	-	-	-	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tephritidae	*Trypeta*	*Trypeta flaveola*	-	-	-				0.15	-	-	0.03	0.03	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula banffiana*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula platymera*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula subtenuicornis*	-	-	-				-	-	0.41	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula tacomicola*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	-	0.03				0.18	0.04	0.02	0.03	-	0.05			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	0.34	0.07				0.59	1.19	2.58	1.24	0.87	1.06			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	0.09	0.15				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	0.06	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	-	-				0.12	-	-	0.03	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	-	-				-	-	-	0.04	0.05	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	-	-				-	-	0.10	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	0.11	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			-	-	-				-	-	-	-	-	0.04			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			-	-	0.12				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae	*Trichocera*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae			-	-	-				-	-	-	-	0.03	-			
Insects	Animalia	Arthropoda	Insecta	Diptera	Xylophagidae	*Xylophagus*	*Xylophagus cinctus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				0.06	0.83	0.56				-	0.15	-	0.09	0.17	0.37			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				0.05	0.20	0.05				0.79	0.37	-	0.52	0.52	0.43			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.27	0.15				-	-	-	0.18	0.17	0.20			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.16	-				-	-	-	0.04	0.09	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				0.07	0.22	0.16				0.06	-	-	-	0.06	0.05			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.14	0.06				-	-	0.18	0.12	0.02	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				0.02	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	0.05	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	0.02			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tabanidae	*Chrysops*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tabanidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae	*Linnaemya*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae	*Panzeria*	*Panzeria platycarina*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae	*Siphona*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae						-			-	-	-	-	-	-	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tephritidae	*Trypeta*	*Trypeta flaveola*				-			-	-	-	-	-	-	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula banffiana*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula platymera*				0.47			-	-	-	-	-	-	0.11	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula subtenuicornis*				-			-	-	-	-	-	-	-	0.10	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula tacomicola*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					0.14			-	-	-	-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					0.90			0.05	-	-	0.09	0.07	0.07	0.09	0.09	0.13
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					-			-	-	-	0.04	0.06	0.07	0.06	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					-			-	-	-	-	-	-	-	-	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					-			0.03	-	-	-	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					0.10			-	-	-	-	-	-	0.10	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae						-			-	-	-	0.04	-	-	0.34	0.07	0.18
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae	*Trichocera*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae						-			-	-	-	0.04	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Xylophagidae	*Xylophagus*	*Xylophagus cinctus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			0.08	-	-	0.04	0.02	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			0.42	0.04	0.18	0.36	0.29	0.14	0.54	1.00	0.56
Insects	Animalia	Arthropoda	Insecta	Diptera							-			0.18	-	0.08	0.13	0.05	0.12	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			0.04	-	0.02	0.16	0.13	0.16	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera							0.26			-	-	-	0.05	0.04	-	-	-	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	0.03	0.02	-	0.05	0.09	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	0.13
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	0.03	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	0.02	0.05	0.05	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	0.06	0.03	0.10
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	0.02	-	-	-	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	0.03	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	0.03	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tabanidae	*Chrysops*		-	-	-	-	-	-	-	-	-	-	-	-	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tabanidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae	*Linnaemya*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae	*Panzeria*	*Panzeria platycarina*	-	-	-	-	-	0.02	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae	*Siphona*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae			-	-	-	0.02	-	0.02	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tephritidae	*Trypeta*	*Trypeta flaveola*	0.08	0.04	0.03	-	-	-	0.04	0.10	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula banffiana*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula platymera*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula subtenuicornis*	-	-	0.05	-	-	-	0.06	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula tacomicola*	-	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	-	-	-	-	-	0.03	-	-	-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0.13	-	-	0.21	0.15	0.25	0.03	0.04	0.15	0.04	0.09	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0.25	0.11	-	0.03	0.05	-	0.05	-	0.02	0.04	0.03	-	0.02	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	-	-	0.04	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0.50	0.32	0.44	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0.14	0.06	0.11	-	-	-	0.14	-	0.10	0.04	-	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			-	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0.09	0.08	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae	*Trichocera*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae			-	-	-	-	-	-	0.06	-	0.09	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Xylophagidae	*Xylophagus*	*Xylophagus cinctus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	0.03	0.03	-	0.02	-	0.03	1.44	1.58	0.88
Insects	Animalia	Arthropoda	Insecta	Diptera				2.74	2.91	2.61	0.13	0.11	0.14	0.29	0.32	0.47	0.68	0.51	0.53	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	0.09	-	0.03	0.04	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.08	0.08	-	-	-	-	0.17	0.33	0.34	0.24	0.13	0.17	0.03	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	0.34	0.32	0.26	0.13	0.05	0.10	0.03	0.06	0.07	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	0.49	0.40	0.55	0.13	0.18	0.06	0.03	0.04	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	0.06	0.02	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.05	0.09	0.15	-	-	-	0.10	0.03	0.05	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	0.03	0.03	0.04	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	0.26	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.12	0.12	0.12	-	-	-	-	-	0.02	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.03	0.08	-	-	-	-	0.08	-	-	-	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	0.03	-	0.09	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.06	0.06	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.03	-	0.03	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tabanidae	*Chrysops*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tabanidae						-		-	-	-	-	-	-	0.18	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae	*Linnaemya*					-		-	-	-	-	-	-	0.12	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae	*Panzeria*	*Panzeria platycarina*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae	*Siphona*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae						-		-	-	-	-	-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tephritidae	*Trypeta*	*Trypeta flaveola*				-		-	-	0.08	-	-	0.12	0.13	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula banffiana*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula platymera*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula subtenuicornis*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula tacomicola*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					-		-	-	-	-	-	-	0.24	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					0.02		0.91	0.70	-	-	0.13	0.49	1.12	0.11	0.11	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					-		0.96	-	-	-	-	-	-	0.07	0.13	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					-		-	0.77	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae						-		-	-	-	0.15	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae						0.03		-	-	-	-	-	-	-	-	0.08	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae						-		-	-	-	-	-	0.12	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae						-		-	-	-	-	-	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae	*Trichocera*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Xylophagidae	*Xylophagus*	*Xylophagus cinctus*				-		-	-	-	-	0.82	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	0.06	2.86	0.52	0.10	-	0.32	0.79	0.79	0.76
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	0.63
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	0.39	-	-	0.55	-	-	0.17	0.18	0.10
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	0.24	-	0.19	-	0.25	-	0.12	0.14	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	0.10	-	0.13	0.02	-	0.03	-	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	0.29	-	-	0.16
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	0.48	-	-	-	-	-	0.06	-	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	0.05	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	0.26	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	0.04	0.05	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	0.02	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Diptera	Syrphidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tabanidae	*Chrysops*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tabanidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae	*Linnaemya*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae	*Panzeria*	*Panzeria platycarina*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae	*Siphona*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tachinidae			-	-	0.05				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tephritidae	*Trypeta*	*Trypeta flaveola*	0.03	0.02	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula banffiana*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula platymera*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula subtenuicornis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*	*Tipula tacomicola*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0.04	0.08	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		0.05	-	0.06				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae	*Tipula*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			-	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			0.02	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Tipulidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae	*Trichocera*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Trichoceridae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera	Xylophagidae	*Xylophagus*	*Xylophagus cinctus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.05	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.61	0.51	0.33				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.14	0.08	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.06	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.03	0.03	0.06				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.07	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.04	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk			Unuk DS S. Unuk		
									Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	0.20	0.32	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	0.07	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	0.12	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	0.06	-	-	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera									0.09		-	0.12	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		0.55	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									0.09		-	-	-	-	0.13	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	0.14	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									0.10		0.18	0.06	0.12	0.18	0.17	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	0.20	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	0.09	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	0.33
Insects	Animalia	Arthropoda	Insecta	Diptera				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					0.49		-	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera									0.18		-	-	0.30	0.17	0.02	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	0.07	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									0.20		0.06	-	-	0.19	0.15	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	0.06	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	0.06	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	0.06
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									0.17		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		0.42	0.10	0.41	0.50	-	0.10

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			McTagg			Gingras			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	0.02	0.13	0.15			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	0.03	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	0.33	0.12	0.08	0.08			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	0.12	0.09			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	0.17				-	-	-	0.10	0.05	0.14			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	0.07				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.03	0.03				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.09	-				0.23	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.18	0.16				0.03	0.25	0.21	0.34	0.24	0.19			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	0.16				-	0.10	0.12	0.05	0.08	0.05			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.07	0.06				-	-	-	0.04	-	0.04			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				0.20	-	-	-	-	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	0.26				-	-	0.40	0.15	0.09	0.07			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	0.34				0.92	-	-	0.09	0.03	0.12			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	0.03				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	0.06				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	0.03				-	-	-	0.08	0.05	0.04			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.03	-				-	-	-	0.06	-	0.04			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.03	-				-	-	-	-	0.03	0.03			
Insects	Animalia	Arthropoda	Insecta	Diptera				0.03	0.39	0.17				1.13	-	0.02	3.65	2.76	2.65			

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	0.04	0.23
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	0.06	0.07	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	0.07	-	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	0.08	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	0.06	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	0.03	-	0.08	0.10
Insects	Animalia	Arthropoda	Insecta	Diptera							0.42			-	-	-	-	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	1.12	0.06	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	0.15	0.08	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			0.03	-	-	0.06	0.05	0.06	-	-	0.11
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	0.11	0.19	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							0.31			-	-	-	-	-	-	-	0.04	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera							-			0.12	-	0.04	0.05	0.05	0.10	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			0.04	-	0.04	0.04	-	0.03	-	-	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			0.08	-	-	0.03	0.03	0.08	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			0.02	-	-	-	-	-	2.10	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			0.05	-	0.03	-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			0.10	-	0.07	0.10	0.12	0.09	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			0.02	-	-	0.06	0.03	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							0.14			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	0.03	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	0.09	0.07	0.08	0.25	0.12	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	0.03	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.04	0.03	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.06	0.10	-	-	-	0.27	0.13	0.13	0.09	0.03	0.16	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	0.03	-	0.02	-	0.06	-	-	0.04	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.10	0.05	-	-	-	0.07	0.06	0.03	0.11	0.04	0.12	-	0.03	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	0.11	0.02	0.04	0.02	-	-	0.05	0.03	0.08	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	0.06	0.10	0.10	0.11	-	0.03	0.05	0.05	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.04	0.07	0.07	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.16	0.07	0.09	-	-	-	-	0.13	-	0.05	-	-	0.23	0.24	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	0.08	0.11	0.10	-	-	-	-	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	0.06	0.05	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.03	-	0.12	0.07	0.12	0.08	-	0.10	0.05	0.05	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.04	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	0.04	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	0.05	-	0.03	0.02	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.03	0.08	0.07	-	-	-	-	-	-	-	0.03	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	0.03	-	0.03	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.03	-	0.03	0.06	-	0.05	0.10	0.04	-	0.11	0.06	0.08	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	0.05	0.03	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.11	0.04	-	-	0.03	0.03	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	0.02	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	0.09	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.07	-	-	-	0.04	-	-	0.16	-	0.15	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.03	0.02	0.04	-	-	-	-	-	-	0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	0.09	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.10	0.04	-	1.76	1.64	1.94	0.42	0.27	0.57	0.09	0.05	0.09	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	0.03	0.07	-	0.04	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	0.35	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	0.31	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							0.05		-	-	-	-	-	0.40	0.36	0.05	-	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera							-		0.66	0.32	-	-	-	-	0.08	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	0.20	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	0.02	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	0.09	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		0.58	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		0.17	0.37	0.04	0.32	-	-	0.19	-	0.03	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	0.25	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		0.39	0.02	0.08	-	-	-	0.08	0.02	0.02	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	0.16	0.10	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera							-		0.04	0.03	-	-	0.15	0.05	0.42	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	0.15	-	-	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	0.20	0.12	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	0.05	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	0.04	0.07	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	0.58	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	0.04	-	0.04	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	0.24	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	0.14	-	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	0.43	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	0.36	0.07	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	0.54	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	0.10	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	0.15	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	0.24	-	-	0.44	-	0.28	-	0.10	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.04	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.04	0.05	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.09	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.03	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.02	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.03	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.14	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.09	0.07	0.07				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.06	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.02	0.04	0.07				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.03	0.06				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.08	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.06	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.13	0.27	0.25				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.06	0.05				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.10	0.09	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.04	-	0.05				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.02	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.10	-	-				

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk			Unuk DS S. Unuk		
									Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera									0.06		0.22	-	0.24	0.36	0.57	-
Insects	Animalia	Arthropoda	Insecta	Diptera									0.57		0.55	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									0.18		-	0.74	0.21	0.32	0.23	-
Insects	Animalia	Arthropoda	Insecta	Diptera									0.21		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									0.21		0.41	0.32	0.10	0.44	0.81	0.59
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	0.50	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	0.21	0.06	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	0.21	-
Insects	Animalia	Arthropoda	Insecta	Diptera									0.18		0.36	-	-	-	0.19	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	0.60	-	0.49	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	0.39	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									0.72		0.17	0.68	0.26	0.47	0.71	0.15
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	0.48	1.47	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		0.57	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	0.20	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	0.45	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera									-		-	-	-	-	0.04	0.04
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					0.21		-	0.15	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis tricaudatus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*						1.73		2.20	0.77	0.90	0.62	0.76	1.33
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella dorothea*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella dorothea*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*							-		0.06	0.04	0.05	0.14	0.16	0.16
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		0.19	0.08	0.03	0.33	0.13	0.17
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus deceptivus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus grandis*						0.08		-	-	0.12	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*	*Rhithrogena hageni*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*	*Rhithrogena robusta*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*							3.04		1.24	0.95	1.40	1.22	1.66	1.95
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae								2.07		0.38	0.78	0.36	0.67	0.57	0.84
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			McTagg			Gingras			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.23	0.28				0.89	0.92	0.74	0.23	0.18	0.09			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	0.09			
Insects	Animalia	Arthropoda	Insecta	Diptera				0.05	-	0.12				1.27	0.24	-	0.29	0.71	0.91			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	0.07	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	0.26	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				0.04	1.75	1.03				0.30	0.29	0.87	1.84	1.46	1.28			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.06	0.06				-	-	0.70	0.09	0.14	0.18			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.04	0.04				-	-	-	0.17	0.10	0.07			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.09	-				-	-	-	0.08	0.03	0.16			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	0.37	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				0.05	1.25	1.64				0.38	0.04	0.57	1.46	1.44	1.47			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.54	0.41				0.55	0.55	0.32	0.68	1.07	0.82			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.06	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.28	0.16				0.35	0.50	-	0.09	-	0.07			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				0.07	-	-	0.02	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	0.14				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis tricaudatus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*	0.03	0.32	1.12				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella dorothea*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella dorothea*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	0.08	0.07				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		0.04	0.40	0.32				-	-	-	0.08	0.07	0.05			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus deceptivus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus grandis*	-	0.03	0.04				-	-	-	-	0.04	-			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*	*Rhithrogena hageni*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*	*Rhithrogena robusta*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*		0.05	1.48	1.36				-	-	0.05	0.24	0.28	0.27			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			0.03	0.51	0.60				-	0.09	-	0.05	0.04	0.06			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			-	-	-				-	-	-	-	-	-			

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera							0.27			-	-	-	-	-	-	0.10	0.06	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera							0.94			0.07	-	0.03	0.03	0.09	0.03	0.30	0.29	0.23
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	0.02	0.09	-	0.04	0.32	0.51
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							0.03			-	-	-	-	-	-	-	-	0.02
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							0.04			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							0.90			-	-	-	-	-	-	-	0.10	0.11
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			0.04	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							0.84			-	-	-	-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	0.03	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	0.03	0.05	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera							0.49			-	-	-	0.02	0.04	-	1.33	2.02	1.53
Insects	Animalia	Arthropoda	Insecta	Diptera							0.51			0.05	-	-	0.10	0.03	0.09	0.68	0.72	0.86
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							0.05			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	0.04
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							0.38			0.08	-	-	0.03	0.05	0.12	0.89	0.64	0.39
Insects	Animalia	Arthropoda	Insecta	Diptera							0.18			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis tricaudatus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*				0.35			2.38	0.49	1.43	1.95	1.79	3.35	0.83	0.91	0.96
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*				-			-	-	-	-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella dorothea*				-			0.08	-	0.05	0.06	0.08	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella dorothea*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*				-			4.49	0.91	2.36	6.22	5.61	6.69	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*				-			0.15	0.03	0.09	0.21	0.20	0.26	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*					0.24			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus deceptivus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus grandis*				-			-	-	-	-	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*	*Rhithrogena hageni*				-			4.11	14.94	2.78	7.45	4.48	5.13	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*	*Rhithrogena robusta*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*					-			0.49	0.08	0.21	0.63	0.49	0.72	0.44	0.33	0.30
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae						-			0.29	0.09	0.20	0.47	0.36	0.41	0.11	0.29	0.36
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae						-			-	-	-	0.08	0.08	0.06	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	0.03	0.18	0.08	0.20	0.04	0.21	0.14	0.14	0.10	0.12	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.87	0.40	0.89	-	-	0.07	0.23	0.30	0.24	0.13	0.23	0.43	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	0.09	0.27	0.16	0.25	0.23	0.99	0.39	0.19	0.09	0.15	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	0.03	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.06	0.07	-	0.08	0.04	0.06	0.12	-	0.03	0.06	0.07	0.08	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.06	0.03	-	0.03	0.03	0.03	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.05	0.02	-	-	-	0.04	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	0.05	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	0.03	0.04	0.02	0.06	0.06	0.04	-	-	0.03	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	0.20	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	0.05	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	0.05	0.06	-	0.04	0.03	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	0.05	-	0.04	0.10	0.12	0.03	0.09	0.04	0.08	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.27	0.22	0.34	0.68	0.60	0.70	1.93	1.92	1.87	1.43	1.33	1.20	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.48	0.38	0.52	0.23	0.13	0.26	0.36	0.15	0.18	0.33	0.25	0.35	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	0.06	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.06	-	-	-	-	-	0.06	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.13	0.22	0.12	0.80	0.52	0.66	0.79	1.11	1.04	0.77	0.77	1.14	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	0.02	-	-	-	-	-	-	-	-	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*		-	-	0.03	-	-	-	-	-	-	0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis tricaudatus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*	1.09	1.03	0.91	0.38	0.30	0.34	0.04	0.03	-	0.35	0.38	1.57	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella dorothea*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella dorothea*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*	0.11	0.12	0.21	0.02	0.03	0.02	-	-	-	-	0.03	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus deceptivus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus grandis*	-	-	0.03	-	-	-	-	-	0.02	-	0.03	0.10	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*	*Rhithrogena hageni*	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*	*Rhithrogena robusta*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*		0.54	0.55	0.45	0.80	0.52	0.72	0.38	0.18	0.46	1.08	0.93	1.14	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			0.30	0.32	0.26	0.55	0.37	0.43	0.24	0.27	2.28	0.81	0.73	0.80	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			-	-	-	-	-	0.02	-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	0.53	-	-	-	0.09	0.03	0.05
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	0.26	0.17	0.11	0.31
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	1.96	-	0.51	0.06	0.13	0.21
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	0.05	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	0.24	0.32	0.35
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							0.06		0.91	0.34	0.22	0.91	0.58	1.95	1.51	0.06	-	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera							0.04		-	-	-	-	0.13	-	0.07	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	0.21	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	0.60	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Diptera							-		0.33	0.25	0.60	0.40	0.64	1.55	1.28	0.45	0.47	0.27
Insects	Animalia	Arthropoda	Insecta	Diptera							0.18		0.30	-	-	-	0.40	-	-	0.14	-	0.07
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	0.14	-	0.15	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	0.28	-	-	-	0.32	-	0.13	0.26	0.15
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	0.02	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis tricaudatus*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*				-		-	0.22	0.03	0.79	-	0.12	0.06	1.48	1.27	1.22
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella dorothea*				-		-	-	-	-	-	-	-	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella dorothea*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*				-		-	-	-	-	-	-	-	14.24	14.50	15.95
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*				-		-	-	-	-	-	-	-	0.10	0.17	0.16
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*					-		-	-	-	-	0.15	-	-	0.82	0.93	0.95
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus deceptivus*				-		-	-	-	-	-	-	-	-	0.05	0.03
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus grandis*				-		-	-	-	-	-	-	-	0.04	0.08	0.13
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*	*Rhithrogena hageni*				-		0.45	0.11	-	-	0.52	0.03	0.48	5.59	5.28	5.45
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*	*Rhithrogena robusta*				-		-	-	-	-	-	-	-	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*					0.07		0.26	1.27	0.31	0.47	0.36	0.56	0.16	2.70	2.96	2.71
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae						-		-	1.12	1.40	0.96	0.29	0.16	0.26	1.75	1.99	1.91
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae						-		-	-	-	-	-	-	-	0.03	0.04	0.02

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Diptera				0.10	0.11	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.38	0.06	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.39	0.22	0.06				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.21	0.37	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	0.05				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.04	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.03	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.31	0.26	0.11				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.05	0.10				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.04	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				0.27	0.11	0.07				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis tricaudatus*	-	0.02	-				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*	1.06	1.28	1.12				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella dorothea*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella dorothea*	0.03	-	-				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*	14.31	15.28	11.82				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*	0.13	0.10	0.09				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		1.12	1.19	0.95				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus deceptivus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus grandis*	0.09	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*	*Rhithrogena hageni*	6.05	5.59	4.58				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*	*Rhithrogena robusta*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*		2.28	2.11	1.76				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			1.54	1.77	1.28				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			0.03	0.09	0.08				

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk			Unuk DS S. Unuk		
									Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae								0.12		0.04	0.06	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae								0.15		0.33	0.03	0.26	0.10	0.18	0.28
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	0.08	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Cicadellidae	*Balclutha*	*Balclutha rhenana*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Cicadellidae	*Macrosteles*	*Macrosteles bifurcatus*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Cicadellidae	*Typhlocyba*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Miridae	*Deraeocoris*							-		-	0.03	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Miridae	*Psallovius*	*Psallovius piceicola*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Dolerus*	*Dolerus konowi*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Dolerus*	*Dolerus konowi*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Euura*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Tenthredo*							-		-	0.04	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Gelechiidae	*Coleotechnites*	*Coleotechnites blastovora*						0.03		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Hepialidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Lyonetiidae	*Lyonetia*	*Lyonetia pulverulentella*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Acleris*							0.03		0.22	-	-	-	0.04	0.03
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Epinotia*	*Epinotia myricana*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Epinotia*	*Epinotia nisella*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Epinotia*	*Epinotia solandriana*						-		-	-	-	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Zeiraphera*	*Zeiraphera fortunana*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius discretus*						-		-	0.02	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius humulinus*						0.27		-	0.07	0.03	-	0.07	-
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius ovalis*						0.12		-	-	-	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Micromus*	*Micromus borealis*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Bolshecapnia*	*Bolshecapnia milami*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia coloradensis*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia confusa*						-		-	-	-	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia nana*						-		-	0.50	0.27	0.14	0.27	0.24
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia petila*						-		-	-	0.22	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*							-		0.09	0.33	-	0.09	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Eucapnopsis*	*Eucapnopsis brevicauda*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia spenceri*						-		0.19	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia vedderensis*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Utacapnia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Alloperla*	*Alloperla serrata*						-		-	-	0.06	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Kathroperla*	*Kathroperla perdita*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*	*Plumiperla diversa*						-		-	-	-	0.03	0.03	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*							1.30		0.30	-	0.33	0.98	0.38	1.07
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa borealis*						-		-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			McTagg			Gingras			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			-	-	0.03				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			-	0.05	0.08				-	-	-	0.06	0.08	0.09			
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*		-	-	0.14				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Cicadellidae	*Balclutha*	*Balclutha rhenana*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Cicadellidae	*Macrosteles*	*Macrosteles bifurcatus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Cicadellidae	*Typhlocyba*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Miridae	*Deraeocoris*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Miridae	*Psallovius*	*Psallovius piceicola*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Dolerus*	*Dolerus konowi*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Dolerus*	*Dolerus konowi*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Euura*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Tenthredo*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Gelechiidae	*Coleotechnites*	*Coleotechnites blastovora*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Hepialidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Lyonetiidae	*Lyonetia*	*Lyonetia pulverulentella*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Acleris*		-	0.02	-				-	-	-	-	0.03	-			
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Epinotia*	*Epinotia myricana*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Epinotia*	*Epinotia nisella*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Epinotia*	*Epinotia solandriana*	-	-	-				-	-	-	0.07	0.03	0.05			
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Zeiraphera*	*Zeiraphera fortunana*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius discretus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius humulinus*	-	-	-				-	-	-	0.02	-	-			
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius ovalis*	-	-	-				-	0.06	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Micromus*	*Micromus borealis*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Bolshecapnia*	*Bolshecapnia milami*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia coloradensis*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia confusa*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia nana*	-	-	-				0.21	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia petila*	-	-	0.07				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		-	0.34	0.26				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Eucapnopsis*	*Eucapnopsis brevicauda*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia spenceri*	-	0.12	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia vedderensis*	-	-	0.03				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Utacapnia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Alloperla*	*Alloperla serrata*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Kathroperla*	*Kathroperla perdita*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*	*Plumiperla diversa*	0.02	0.48	0.08				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*		0.05	0.58	1.16				-	-	-	0.06	-	0.11			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*		-	-	-				-	-	-	-	-	0.02			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa borealis*	-	0.03	-				-	-	-	-	-	-			

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae						-			0.32	0.05	0.20	0.27	0.31	0.34	0.15	0.15	0.12
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae						-			0.45	0.09	0.28	0.35	0.38	0.47	-	0.03	0.08
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*					-			0.08	-	0.05	0.07	0.08	0.08	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Cicadellidae	*Balclutha*	*Balclutha rhenana*				-			-	-	-	-	0.06	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Cicadellidae	*Macrosteles*	*Macrosteles bifurcatus*				0.04			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Cicadellidae	*Typhlocyba*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Miridae	*Deraeocoris*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Miridae	*Psallovius*	*Psallovius piceicola*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Dolerus*	*Dolerus konowi*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Dolerus*	*Dolerus konowi*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Euura*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Tenthredo*					0.18			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Gelechiidae	*Coleotechnites*	*Coleotechnites blastovora*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Hepialidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Lyonetiidae	*Lyonetia*	*Lyonetia pulverulentella*				-			-	-	-	-	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Acleris*					-			-	-	-	-	-	-	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Epinotia*	*Epinotia myricana*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Epinotia*	*Epinotia nisella*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Epinotia*	*Epinotia solandriana*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Zeiraphera*	*Zeiraphera fortunana*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius discretus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius humulinus*				-			0.03	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius ovalis*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*					-			-	-	-	-	-	-	0.08	-	-
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Micromus*	*Micromus borealis*				-			-	-	-	0.03	0.03	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Bolshecapnia*	*Bolshecapnia milami*				-			-	-	-	0.06	0.02	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia coloradensis*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia confusa*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia nana*				-			0.55	0.03	0.23	0.25	0.29	0.30	0.90	0.97	1.13
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia petila*				-			0.06	-	-	0.04	0.02	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*					-			-	-	-	0.02	0.07	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*					-			-	-	-	-	-	-	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*					-			0.07	-	-	-	0.03	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Eucapnopsis*	*Eucapnopsis brevicauda*				-			0.03	-	0.03	-	0.04	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia spenceri*				-			0.06	-	0.02	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia vedderensis*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Utacapnia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Alloperla*	*Alloperla serrata*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Kathroperla*	*Kathroperla perdita*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*	*Plumiperla diversa*				-			0.08	-	-	0.03	-	-	-	0.02	0.10
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*					-			0.25	0.09	0.12	0.24	0.30	0.41	0.34	0.63	0.12
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa borealis*				-			0.09	-	0.07	0.05	0.08	0.07	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			0.64	0.79	0.62	0.20	0.16	0.16	-	-	-	0.08	0.07	0.07	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			0.10	0.07	0.04	0.26	0.21	0.25	0.10	0.06	0.03	1.01	1.06	1.10	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Cicadellidae	*Balclutha*	*Balclutha rhenana*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Cicadellidae	*Macrosteles*	*Macrosteles bifurcatus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Cicadellidae	*Typhlocyba*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Miridae	*Deraeocoris*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Miridae	*Psallovius*	*Psallovius piceicola*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Dolerus*	*Dolerus konowi*	0.02	-	0.03	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Dolerus*	*Dolerus konowi*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Euura*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Tenthredo*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Gelechiidae	*Coleotechnites*	*Coleotechnites blastovora*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Hepialidae			-	-	-	-	-	-	0.02	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Lyonetiidae	*Lyonetia*	*Lyonetia pulverulentella*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Acleris*		-	-	-	-	-	-	0.04	0.03	0.06	0.03	0.02	0.02	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Epinotia*	*Epinotia myricana*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Epinotia*	*Epinotia nisella*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Epinotia*	*Epinotia solandriana*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Zeiraphera*	*Zeiraphera fortunana*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius discretus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius humulinus*	-	-	-	0.03	0.02	-	-	0.05	0.07	0.04	0.03	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius ovalis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*		-	-	-	-	-	-	-	-	-	-	0.02	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Micromus*	*Micromus borealis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Bolshecapnia*	*Bolshecapnia milami*	0.19	0.03	0.03	-	-	-	0.03	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia coloradensis*	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia confusa*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia nana*	0.63	1.15	1.43	0.13	0.11	0.20	0.38	0.43	0.59	1.18	0.95	1.13	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia petila*	0.08	0.07	0.05	-	-	0.05	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		0.03	-	0.06	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		0.03	-	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		-	-	-	-	-	-	-	-	-	0.06	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		-	-	-	-	-	-	-	-	-	-	0.03	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Eucapnopsis*	*Eucapnopsis brevicauda*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia spenceri*	-	0.06	0.03	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia vedderensis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Utacapnia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Alloperla*	*Alloperla serrata*	-	-	-	-	-	-	0.06	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Kathroperla*	*Kathroperla perdita*	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*	*Plumiperla diversa*	0.04	0.07	-	0.03	0.04	0.03	0.05	-	0.14	0.05	0.06	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*		0.41	0.65	0.58	0.24	0.38	0.29	0.58	0.72	0.44	0.60	0.66	0.59	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa borealis*	0.06	0.12	0.04	-	-	-	-	0.03	0.10	0.08	0.04	0.02	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae						-		-	-	0.02	-	0.02	-	-	0.11	0.12	0.14
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae						-		-	-	-	-	-	-	-	-	0.02	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae						-		0.13	0.37	0.75	0.03	0.05	-	0.14	0.32	0.26	0.16
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Cicadellidae	*Balclutha*	*Balclutha rhenana*				-		-	-	-	-	-	0.03	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Cicadellidae	*Macrosteles*	*Macrosteles bifurcatus*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Cicadellidae	*Typhlocyba*					-		-	-	-	-	-	0.02	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Miridae	*Deraeocoris*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Miridae	*Psallovius*	*Psallovius piceicola*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Dolerus*	*Dolerus konowi*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Dolerus*	*Dolerus konowi*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Euura*					-		-	0.11	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Tenthredo*					-		-	-	-	-	-	0.06	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Gelechiidae	*Coleotechnites*	*Coleotechnites blastovora*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Hepialidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Lyonetiidae	*Lyonetia*	*Lyonetia pulverulentella*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Acleris*					-		0.03	0.11	0.08	-	0.05	-	0.07	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Epinotia*	*Epinotia myricana*				-		-	0.04	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Epinotia*	*Epinotia nisella*				-		-	-	-	-	-	0.10	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Epinotia*	*Epinotia solandriana*				-		-	-	-	-	-	0.03	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Zeiraphera*	*Zeiraphera fortunana*				-		-	-	-	-	0.04	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius discretus*				-		-	-	-	-	0.08	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius humulinus*				-		0.24	-	-	-	0.05	-	0.17	-	-	0.04
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius ovalis*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*					-		-	0.07	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Micromus*	*Micromus borealis*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Bolshecapnia*	*Bolshecapnia milami*				-		-	-	-	-	-	0.05	-	0.07	0.06	0.07
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia coloradensis*				-		-	-	-	-	-	-	-	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia confusa*				-		-	-	-	-	-	-	0.13	-	-	0.02
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia nana*				-		-	-	-	-	0.15	-	0.41	0.26	0.23	0.11
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia petila*				-		-	-	-	-	-	-	-	-	0.11	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*					-		-	0.15	-	-	0.27	-	-	0.10	-	0.07
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Eucapnopsis*	*Eucapnopsis brevicauda*				-		-	-	-	-	-	-	-	-	0.06	0.03
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia spenceri*				-		-	-	-	-	-	-	-	0.25	0.39	0.51
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia vedderensis*				-		-	0.22	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Utacapnia*					-		-	-	-	-	-	-	-	0.06	0.09	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Alloperla*	*Alloperla serrata*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Kathroperla*	*Kathroperla perdita*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*	*Plumiperla diversa*				-		-	-	-	0.43	0.08	-	-	0.08	0.06	0.03
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*					0.06		-	0.81	1.11	1.16	2.27	0.07	0.83	0.55	0.46	0.96
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa borealis*				-		-	0.27	-	-	0.18	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			0.08	0.10	0.09				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			0.08	0.06	-				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			0.08	0.17	0.22				
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Cicadellidae	*Balclutha*	*Balclutha rhenana*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Cicadellidae	*Macrosteles*	*Macrosteles bifurcatus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Cicadellidae	*Typhlocyba*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Miridae	*Deraeocoris*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Miridae	*Psallovius*	*Psallovius piceicola*	-	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Dolerus*	*Dolerus konowi*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Dolerus*	*Dolerus konowi*	0.02	-	-				
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Euura*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Tenthredo*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Gelechiidae	*Coleotechnites*	*Coleotechnites blastovora*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Hepialidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Lyonetiidae	*Lyonetia*	*Lyonetia pulverulentella*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Acleris*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Epinotia*	*Epinotia myricana*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Epinotia*	*Epinotia nisella*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Epinotia*	*Epinotia solandriana*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Zeiraphera*	*Zeiraphera fortunana*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius discretus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius humulinus*	0.03	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*	*Hemerobius ovalis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Hemerobius*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Neuroptera	Hemerobiidae	*Micromus*	*Micromus borealis*	0.08	-	0.11				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Bolshecapnia*	*Bolshecapnia milami*	0.04	0.10	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia coloradensis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia confusa*	0.03	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia nana*	0.08	0.11	0.12				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia petila*	-	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Eucapnopsis*	*Eucapnopsis brevicauda*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia spenceri*	0.22	0.46	0.28				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*	*Isocapnia vedderensis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Utacapnia*		0.13	0.11	0.16				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Alloperla*	*Alloperla serrata*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Kathroperla*	*Kathroperla perdita*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*	*Plumiperla diversa*	0.11	0.02	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*		0.68	0.31	0.39				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa borealis*	-	-	-				

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk			Unuk DS S. Unuk		
									Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa fidelis*						0.15		0.22	0.65	-	0.37	-	0.32
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa oregonensis*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa revelstoka*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	0.10	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Despaxia*	*Despaxia augusta*						0.83		0.32	-	0.18	0.07	0.49	0.07
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra projecta*						-		0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*							-		-	-	0.09	-	-	0.06
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Lednia*	*Lednia borealis*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Lednia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta decepta*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*						-		0.22	-	-	0.34	-	0.51
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada columbiana*						5.89		3.43	1.07	1.41	1.66	1.71	2.73
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada frigida*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*						2.82		4.99	2.66	2.60	3.40	3.64	5.53
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*						1.45		1.37	-	0.19	0.03	0.49	0.14
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*							0.31		0.23	-	0.79	0.37	0.21	0.41
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*							0.22		-	0.07	-	0.11	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*							-		-	-	-	-	0.12	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae								-		-	-	-	0.11	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla petersoni*						-		-	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla sordida*						-		-	-	-	0.16	0.26	0.03
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*							-		-	0.13	-	-	0.10	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Kogotus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*						0.66		0.02	0.03	0.13	0.31	0.43	0.38
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*						0.13		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys subtruncata*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*							1.65		0.77	0.77	0.33	1.55	2.83	0.86
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*							-		0.04	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*							-		-	-	-	-	-	0.07
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*							0.76		0.81	1.75	0.47	0.82	1.38	1.22
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*							-		-	-	-	-	-	0.17
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae								-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera									-		-	-	-	0.03	0.02	0.12
Insects	Animalia	Arthropoda	Insecta	Plecoptera									-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Caeciliusidae	*Valenzuela*	*Valenzuela flavidus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Caeciliusidae	*Valenzuela*							0.23		0.10	0.18	0.10	0.11	0.02	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Caeciliusidae	*Valenzuela*							-		0.06	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Ectopsocidae	*Ectopsocus*	*Ectopsocus briggsi*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Mesopsocidae	*Mesopsocus*	*Mesopsocus unipunctatus*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Peripsocidae	*Peripsocus*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Philotarsidae	*Philotarsus*	*Philotarsus californicus*						0.42		0.26	0.25	0.26	0.19	0.17	0.22
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Amphigerontia*	*Amphigerontia bifasciata*						-		0.16	0.14	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Amphigerontia*	*Amphigerontia bifasciata*						-		-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			McTagg			Gingras			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa fidelis*	-	0.05	0.13				-	-	0.15	0.40	0.30	0.29			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa oregonensis*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa revelstoka*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Despaxia*	*Despaxia augusta*	-	0.33	-				-	-	-	-	0.08	0.03			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra projecta*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Lednia*	*Lednia borealis*	-	0.03	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Lednia*		-	-	-				-	0.02	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta decepta*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*	-	0.15	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada columbiana*	0.11	1.34	1.98				-	-	1.23	0.65	0.64	0.76			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada frigida*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	0.55	3.43	3.24				0.13	-	-	0.05	0.07	0.14			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	-	0.09	0.02				-	-	-	0.78	0.79	0.81			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*		-	0.26	0.33				-	-	0.10	0.12	0.05	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*		-	-	0.03				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae			-	0.02	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla petersoni*	-	-	0.05				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla sordida*	-	0.13	-				-	-	-	0.22	0.18	0.14			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*		-	0.21	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Kogotus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*	0.04	0.24	0.28				-	-	-	-	-	0.04			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys subtruncata*	-	-	-				-	-	-	-	-	0.06			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		-	-	-				-	-	0.02	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		0.11	2.34	1.57				4.45	2.30	4.85	6.49	6.33	8.22			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae			-	-	0.05				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*		0.06	0.87	1.05				0.15	0.30	-	0.50	0.49	0.43			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*		-	-	-				-	-	-	-	-	0.04			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae			-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Plecoptera				-	0.09	0.03				-	0.34	-	-	0.05	0.04			
Insects	Animalia	Arthropoda	Insecta	Plecoptera				-	-	0.08				-	-	-	0.05	0.03	-			
Insects	Animalia	Arthropoda	Insecta	Psocodea	Caeciliusidae	*Valenzuela*	*Valenzuela flavidus*	-	-	0.09				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Psocodea	Caeciliusidae	*Valenzuela*		-	0.04	0.08				0.24	-	0.18	0.07	-	0.06			
Insects	Animalia	Arthropoda	Insecta	Psocodea	Caeciliusidae	*Valenzuela*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Psocodea	Ectopsocidae	*Ectopsocus*	*Ectopsocus briggsi*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Psocodea	Mesopsocidae	*Mesopsocus*	*Mesopsocus unipunctatus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Psocodea	Peripsocidae	*Peripsocus*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Psocodea	Philotarsidae	*Philotarsus*	*Philotarsus californicus*	0.04	0.05	0.17				0.39	0.64	0.33	0.18	0.20	0.25			
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Amphigerontia*	*Amphigerontia bifasciata*	-	0.03	0.31				-	-	-	-	-	0.02			
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Amphigerontia*	*Amphigerontia bifasciata*	-	-	-				-	-	-	-	-	-			

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa fidelis*				-			-	-	-	-	0.03	0.09	0.14	-	0.08
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa oregonensis*				-			-	-	-	-	0.02	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa revelstoka*				-			-	-	-	-	-	-	-	-	0.04
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Despaxia*	*Despaxia augusta*				-			0.23	0.02	0.07	0.17	0.10	0.08	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra projecta*				-			-	-	-	-	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Lednia*	*Lednia borealis*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Lednia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta decepta*				-			-	-	-	-	-	0.03	0.05	0.04	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*				-			0.34	0.04	0.24	0.45	0.41	0.40	1.31	1.12	1.51
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada columbiana*				-			2.00	0.37	1.16	2.14	1.52	2.14	0.48	0.88	0.94
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada frigida*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*				2.49			2.77	0.54	1.73	4.32	3.41	3.87	2.83	3.43	3.19
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*				-			0.56	0.06	0.26	1.12	1.10	1.26	1.08	1.05	0.88
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*					-			0.23	0.04	0.09	0.11	0.16	0.14	0.62	0.27	0.48
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*					-			0.03	-	-	0.05	-	-	0.02	-	0.03
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*					-			-	-	-	0.04	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla petersoni*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla sordida*				-			0.23	0.05	0.18	0.38	0.28	0.37	0.03	-	0.22
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Kogotus*					-			0.14	0.03	0.08	0.19	0.11	0.22	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*				-			0.09	-	0.06	0.15	0.14	0.15	0.44	0.53	0.42
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*				-			0.03	-	-	0.07	0.03	0.03	0.02	0.03	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys subtruncata*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*					4.14			0.07	-	-	1.45	1.34	1.88	0.55	0.83	0.80
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae						-			0.20	-	0.04	0.11	0.15	0.09	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*					0.61			1.03	0.19	1.42	1.44	1.30	1.66	0.30	0.34	0.30
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*					0.12			-	-	0.06	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*				-			1.78	0.29	0.66	1.05	1.32	1.27	0.06	0.04	0.10
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae						-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera							-			0.03	-	-	0.74	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera							-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Caeciliusidae	*Valenzuela*	*Valenzuela flavidus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Caeciliusidae	*Valenzuela*					-			-	-	-	0.02	-	-	0.08	0.12	0.16
Insects	Animalia	Arthropoda	Insecta	Psocodea	Caeciliusidae	*Valenzuela*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Ectopsocidae	*Ectopsocus*	*Ectopsocus briggsi*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Mesopsocidae	*Mesopsocus*	*Mesopsocus unipunctatus*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Peripsocidae	*Peripsocus*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Philotarsidae	*Philotarsus*	*Philotarsus californicus*				0.83			0.05	-	-	0.03	0.06	0.04	0.06	0.06	0.09
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Amphigerontia*	*Amphigerontia bifasciata*				-			-	-	-	-	-	-	-	0.04	0.05
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Amphigerontia*	*Amphigerontia bifasciata*				-			-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa fidelis*	0.06	0.06	0.26	-	0.02	-	0.08	0.12	0.12	0.19	0.10	0.08	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa oregonensis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa revelstoka*	-	-	-	0.03	-	-	-	-	-	0.02	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-	-	-	-	0.05	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Despaxia*	*Despaxia augusta*	0.86	0.82	0.97	-	0.07	0.06	0.45	0.72	0.53	0.82	0.88	0.83	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra projecta*	0.07	0.04	0.02	-	-	-	-	-	0.04	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Lednia*	*Lednia borealis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Lednia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta decepta*	-	0.22	0.03	-	-	-	-	-	0.04	-	0.03	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*	4.57	3.92	4.37	0.15	0.14	0.23	0.38	0.33	0.28	0.76	0.62	0.94	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*	-	0.10	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada columbiana*	1.11	1.60	1.65	2.10	1.63	1.76	1.28	1.33	1.52	2.47	3.71	2.51	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada frigida*	-	-	0.02	-	-	-	-	-	-	0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	7.86	8.93	9.07	0.95	1.23	0.79	2.91	3.07	3.00	5.99	7.78	5.43	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	0.64	0.21	0.30	1.58	1.10	1.14	0.52	1.16	0.79	0.86	0.83	0.62	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*		0.42	0.46	0.37	0.04	-	-	0.65	0.43	0.39	1.13	1.16	1.14	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*		-	0.03	-	-	-	-	-	-	0.04	0.02	0.11	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae			0.05	0.05	-	-	-	-	-	-	-	-	0.05	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla petersoni*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla sordida*	0.41	0.34	0.40	0.13	0.09	0.07	-	0.09	0.11	0.15	0.16	0.23	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*		-	-	-	-	-	-	-	-	-	0.08	-	0.09	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Kogotus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*	1.39	1.35	1.17	0.11	0.10	0.11	0.22	0.24	0.22	0.48	0.35	0.40	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*	0.03	0.05	-	-	-	-	-	-	-	0.06	0.02	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys subtruncata*	-	-	-	-	0.06	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		-	-	-	-	-	-	-	0.03	-	0.04	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		0.18	0.20	0.13	6.05	5.71	6.58	0.62	1.03	0.86	0.86	0.77	0.83	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		-	-	-	0.03	0.04	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae			0.19	0.05	0.05	-	-	-	-	-	-	0.03	0.03	-	0.04	0.04	0.02
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*		0.22	0.29	0.27	0.77	0.51	0.72	0.52	0.58	0.63	1.27	0.83	1.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*	0.12	0.12	0.19	0.04	-	0.05	0.40	0.21	0.31	1.07	1.05	1.15	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae			-	-	-	-	-	-	-	-	0.06	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera				0.03	-	-	-	-	-	0.03	-	0.06	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Caeciliusidae	*Valenzuela*	*Valenzuela flavidus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Caeciliusidae	*Valenzuela*		0.09	0.09	0.15	0.07	0.05	0.05	0.14	0.14	0.10	0.07	0.09	0.08	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Caeciliusidae	*Valenzuela*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Ectopsocidae	*Ectopsocus*	*Ectopsocus briggsi*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Mesopsocidae	*Mesopsocus*	*Mesopsocus unipunctatus*	-	-	-	-	-	-	0.05	-	-	-	0.02	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Peripsocidae	*Peripsocus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Philotarsidae	*Philotarsus*	*Philotarsus californicus*	0.02	0.07	0.03	0.18	0.08	0.09	0.05	0.03	0.04	-	0.07	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Amphigerontia*	*Amphigerontia bifasciata*	0.03	0.13	0.05	0.14	0.06	0.09	0.05	-	0.05	0.05	0.04	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Amphigerontia*	*Amphigerontia bifasciata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa fidelis*				-		-	0.33	0.52	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa oregonensis*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa revelstoka*				-		-	-	-	-	-	-	-	-	0.05	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Despaxia*	*Despaxia augusta*				-		-	0.63	-	1.36	-	-	0.19	0.06	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra projecta*				-		-	-	-	-	-	-	-	-	0.02	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Lednia*	*Lednia borealis*				-		-	-	-	-	0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Lednia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta decepta*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*				0.07		-	0.43	-	1.49	-	-	-	-	0.11	0.10
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*				-		-	-	-	-	-	-	-	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada columbiana*				0.04		2.96	2.27	4.17	1.62	0.89	1.33	0.93	1.09	1.40	1.17
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada frigida*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*				0.37		5.13	6.22	6.24	6.80	2.98	4.34	2.26	8.45	7.79	8.34
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*				-		-	3.64	8.83	0.66	0.94	0.18	0.15	1.89	1.56	1.39
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*				-		-	-	-	0.26	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*					0.03		-	0.53	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*					-		-	0.20	-	-	-	0.08	-	0.04	0.03	0.04
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae						-		-	-	-	-	-	-	0.04	0.02	0.03	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla petersoni*				-		-	-	-	-	-	-	-	0.17	0.15	0.20
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla sordida*				-		-	-	-	-	-	-	-	0.14	0.22	0.16
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Kogotus*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*				-		0.47	0.69	0.22	1.27	0.08	0.23	0.29	1.42	1.58	1.68
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*				-		0.10	-	0.19	-	0.03	0.06	-	0.04	0.04	0.04
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys subtruncata*				-		-	-	-	-	-	-	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*					-		-	0.02	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*					0.10		3.74	0.23	-	-	0.39	0.31	1.95	2.46	3.66	3.26
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*					-		-	-	-	-	-	-	-	-	-	0.02
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae						-		-	0.13	-	-	-	-	0.04	0.43	0.46	0.35
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae						-		-	-	-	-	-	-	-	0.03	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*					-		-	0.11	-	-	-	0.49	0.69	0.64	0.83	0.82
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*					-		-	-	-	-	-	-	-	-	0.04	0.03
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*				-		-	-	0.20	0.46	0.20	-	-	0.06	0.04	0.04
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae						-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera							-		-	0.19	-	0.39	-	0.19	-	0.08	0.06	0.09
Insects	Animalia	Arthropoda	Insecta	Plecoptera							-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Caeciliusidae	*Valenzuela*	*Valenzuela flavidus*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Caeciliusidae	*Valenzuela*					-		0.39	0.04	0.15	-	0.24	0.56	0.05	0.09	0.14	0.13
Insects	Animalia	Arthropoda	Insecta	Psocodea	Caeciliusidae	*Valenzuela*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Ectopsocidae	*Ectopsocus*	*Ectopsocus briggsi*				-		-	-	-	-	-	0.17	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Mesopsocidae	*Mesopsocus*	*Mesopsocus unipunctatus*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Peripsocidae	*Peripsocus*					-		-	-	-	-	-	-	0.10	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Philotarsidae	*Philotarsus*	*Philotarsus californicus*				-		-	0.35	0.13	0.32	0.12	0.06	-	0.14	0.33	0.18
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Amphigerontia*	*Amphigerontia bifasciata*				-		-	-	-	-	-	0.04	0.20	0.11	0.08	0.02
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Amphigerontia*	*Amphigerontia bifasciata*				-		-	-	-	-	0.11	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa fidelis*	0.06	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa oregonensis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Sweltsa*	*Sweltsa revelstoka*	-	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Despaxia*	*Despaxia augusta*	0.05	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra projecta*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Lednia*	*Lednia borealis*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Lednia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Podmosta*	*Podmosta decepta*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*	0.08	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*	-	0.06	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada columbiana*	1.20	0.98	0.89				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada frigida*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	7.97	7.93	6.13				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	0.89	1.50	0.59				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	0.06	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*		0.08	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*		-	0.08	0.05				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae			-	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla petersoni*	0.07	0.11	0.17				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla sordida*	0.14	0.14	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Kogotus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*	1.42	1.46	1.01				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*	0.13	0.08	0.06				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys subtruncata*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		1.99	2.15	2.24				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae			0.37	0.37	0.14				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae			0.05	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*		0.88	0.84	0.45				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*	-	0.07	0.06				
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae			-	-	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera				0.06	0.04	-				
Insects	Animalia	Arthropoda	Insecta	Plecoptera				-	-	-				
Insects	Animalia	Arthropoda	Insecta	Psocodea	Caeciliusidae	*Valenzuela*	*Valenzuela flavidus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Psocodea	Caeciliusidae	*Valenzuela*		0.09	0.06	0.06				
Insects	Animalia	Arthropoda	Insecta	Psocodea	Caeciliusidae	*Valenzuela*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Psocodea	Ectopsocidae	*Ectopsocus*	*Ectopsocus briggsi*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Psocodea	Mesopsocidae	*Mesopsocus*	*Mesopsocus unipunctatus*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Psocodea	Peripsocidae	*Peripsocus*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Psocodea	Philotarsidae	*Philotarsus*	*Philotarsus californicus*	0.31	0.25	0.21				
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Amphigerontia*	*Amphigerontia bifasciata*	0.10	0.13	0.12				
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Amphigerontia*	*Amphigerontia bifasciata*	-	0.03	0.05				

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk			Unuk DS S. Unuk		
									Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Amphigerontia*	*Amphigerontia bifasciata*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Loensia*	*Loensia maculosa*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Trichadenotecnum*	*Trichadenotecnum majus*						-		-	-	-	0.08	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Apataniidae	*Allomyia*							0.42		-	0.21	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Apataniidae	*Allomyia*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Brachycentridae	*Micrasema*	*Micrasema bactro*						0.09		0.06	-	0.07	-	-	0.27
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Goeridae	*Lepania*	*Lepania cascada*						-		-	-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma cascadense*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma hoodi*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Cryptochia*	*Cryptochia pilosa*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Ecclisocosmoecus*	*Ecclisocosmoecus scylla*						-		-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Onocosmoecus*	*Onocosmoecus unicolor*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Psychoglypha*							-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila norcuta*						-		0.03	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila rickeri*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	0.06	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila verrula*						-		-	0.05	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Neothremma*	*Neothremma didactyla*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	0.07	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes ruthae*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes sierra*						-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta										0.07		0.32	-	0.07	-	0.04	-
Insects	Animalia	Arthropoda	Insecta										-		0.26	-	-	0.04	0.07	-
Insects	Animalia	Arthropoda	Insecta										-		0.19	0.18	-	-	-	-
Insects	Animalia	Arthropoda	Insecta										-		-	-	-	0.07	0.06	0.04
Insects	Animalia	Arthropoda	Insecta										-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta										-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta										-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Ostracoda	Podocopida	Candonidae	*Fabaeformiscandona*	*Fabaeformiscandona rectangulata*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	-	-	-	-	-
Insects	Animalia	Arthropoda	Ostracoda	Podocopida				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.					-		-	0.04	0.05	0.14	0.28	-
Insects	Animalia	Arthropoda											-		-	-	-	-	-	-
Insects	Animalia	Rotifera	Eurotatoria	Ploima	Brachionidae	*Keratella*							-		-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk Border			Mitchell			McTagg			Gingras			Sulphurets Lake Outlet		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Amphigerontia*	*Amphigerontia bifasciata*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Loensia*	*Loensia maculosa*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Trichadenotecnum*	*Trichadenotecnum majus*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Apataniidae	*Allomyia*		-	-	-				0.27	-	-	0.03	0.17	-			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Apataniidae	*Allomyia*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Brachycentridae	*Micrasema*	*Micrasema bactro*	-	0.03	0.04				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Goeridae	*Lepania*	*Lepania cascada*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma cascadense*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma hoodi*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Cryptochia*	*Cryptochia pilosa*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Ecclisocosmoecus*	*Ecclisocosmoecus scylla*	-	0.04	0.04				0.10	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Onocosmoecus*	*Onocosmoecus unicolor*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Psychoglypha*		-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila norcuta*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila rickeri*	-	-	-				0.05	-	-	0.06	0.09	0.06			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila verrula*	-	0.09	-				-	-	-	0.11	0.04	0.05			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Neothremma*	*Neothremma didactyla*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes ruthae*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes sierra*	-	0.03	0.04				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta					0.04	0.03	0.07				-	-	-	-	0.04	-			
Insects	Animalia	Arthropoda	Insecta					0.05	-	0.03				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta					-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta					-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta					-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta					-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Insecta					-	0.13	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Ostracoda	Podocopida	Candonidae	*Fabaeformiscandona*	*Fabaeformiscandona rectangulata*	-	-	-				-	-	-	-	-	-			
Insects	Animalia	Arthropoda	Ostracoda	Podocopida				-	0.18	0.06				-	-	-	-	-	-			
Insects	Animalia	Arthropoda						-	-	-				-	-	-	-	-	-			
Insects	Animalia	Rotifera	Eurotatoria	Ploima	Brachionidae	*Keratella*		-	-	-				-	-	-	-	-	-			

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets US			Sulphurets DS			Teigen US			Teigen DS			S. Teigen US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Amphigerontia*	*Amphigerontia bifasciata*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Loensia*	*Loensia maculosa*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Trichadenotecnum*	*Trichadenotecnum majus*				-			-	-	-	0.05	0.03	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Apataniidae	*Allomyia*					-			-	-	-	-	0.03	-	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Apataniidae	*Allomyia*					-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Brachycentridae	*Micrasema*	*Micrasema bactro*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Goeridae	*Lepania*	*Lepania cascada*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma cascadense*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma hoodi*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Cryptochia*	*Cryptochia pilosa*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Ecclisocosmoecus*	*Ecclisocosmoecus scylla*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Onocosmoecus*	*Onocosmoecus unicolor*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Psychoglypha*					-			-	-	-	-	-	-	0.02	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila norcuta*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila rickeri*				-			-	-	-	-	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila verrula*				-			0.03	-	-	0.07	0.05	0.15	-	0.04	0.03
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Neothremma*	*Neothremma didactyla*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes ruthae*				-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes sierra*				-			0.07	-	-	0.05	0.02	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta								-			-	-	-	-	-	-	-	-	0.03
Insects	Animalia	Arthropoda	Insecta								-			-	-	-	-	-	-	0.03	0.06	0.03
Insects	Animalia	Arthropoda	Insecta								-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta								-			-	-	-	-	-	0.02	0.02	-	-
Insects	Animalia	Arthropoda	Insecta								-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta								-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta								-			0.05	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Ostracoda	Podocopida	Candonidae	*Fabaeformiscandona*	*Fabaeformiscandona rectangulata*				-			-	-	-	-	-	0.03	-	-	-
Insects	Animalia	Arthropoda	Ostracoda	Podocopida							-			-	-	-	-	0.11	0.14	0.22	0.52	0.29
Insects	Animalia	Arthropoda									-			-	-	-	-	-	-	-	-	-
Insects	Animalia	Rotifera	Eurotatoria	Ploima	Brachionidae	*Keratella*					-			-	-	-	0.03	0.02	0.06	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1			N. Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Amphigerontia*	*Amphigerontia bifasciata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Loensia*	*Loensia maculosa*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Trichadenotecnum*	*Trichadenotecnum majus*	-	-	-	0.06	-	0.04	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Apataniidae	*Allomyia*		-	-	-	-	0.05	0.10	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Apataniidae	*Allomyia*		-	-	-	0.04	-	-	-	-	0.03	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Brachycentridae	*Micrasema*	*Micrasema bactro*	0.11	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Goeridae	*Lepania*	*Lepania cascada*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma cascadense*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma hoodi*	-	-	-	-	-	-	-	-	-	-	0.05	0.13	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Cryptochia*	*Cryptochia pilosa*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Ecclisocosmoecus*	*Ecclisocosmoecus scylla*	0.06	0.04	0.06	-	-	-	-	-	-	-	0.03	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Onocosmoecus*	*Onocosmoecus unicolor*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Psychoglypha*		-	-	-	-	-	-	-	-	-	0.03	-	-	0.08	0.08	0.07
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila norcuta*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila rickeri*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila verrula*	0.18	0.18	0.15	0.04	0.05	0.05	0.07	0.07	-	0.03	0.03	0.06	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Neothremma*	*Neothremma didactyla*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes ruthae*	0.04	-	-	0.03	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes sierra*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta					-	0.04	0.02	-	-	0.05	-	0.05	0.06	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta					-	-	-	-	-	-	-	0.03	-	0.02	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta					-	-	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta					-	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta					0.03	0.03	-	-	-	-	-	0.04	0.03	0.09	0.03	0.03	-	-	-
Insects	Animalia	Arthropoda	Ostracoda	Podocopida	Candonidae	*Fabaeformiscandona*	*Fabaeformiscandona rectangulata*	-	-	-	-	-	-	-	-	-	-	-	-	0.34	0.08	0.04
Insects	Animalia	Arthropoda	Ostracoda	Podocopida				0.47	0.68	0.52	0.02	-	0.03	0.18	0.10	0.08	0.19	0.10	0.22	0.53	0.53	0.28
Insects	Animalia	Arthropoda						-	-	0.07	-	-	-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Rotifera	Eurotatoria	Ploima	Brachionidae	*Keratella*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Amphigerontia*	*Amphigerontia bifasciata*				-		-	-	0.08	1.62	0.36	0.10	0.04	0.20	0.09	0.06
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Loensia*	*Loensia maculosa*				-		-	-	-	-	-	-	-	-	0.02	-
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Trichadenotecnum*	*Trichadenotecnum majus*				-		-	-	-	-	0.05	-	0.04	0.11	0.20	0.12
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Apataniidae	*Allomyia*					-		-	1.00	-	-	0.82	-	1.16	-	0.06	0.06
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Apataniidae	*Allomyia*					-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Brachycentridae	*Micrasema*	*Micrasema bactro*				-		0.20	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Goeridae	*Lepania*	*Lepania cascada*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma cascadense*				-		-	-	-	-	-	-	-	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma hoodi*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Cryptochia*	*Cryptochia pilosa*				-		-	-	-	-	0.29	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Ecclisocosmoecus*	*Ecclisocosmoecus scylla*				-		0.50	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Onocosmoecus*	*Onocosmoecus unicolor*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Psychoglypha*					-		-	-	-	-	-	-	-	-	-	0.03
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila norcuta*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila rickeri*				-		-	-	-	-	-	0.04	-	-	0.03	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila verrula*				-		-	-	-	0.24	-	-	-	-	0.03	0.04
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Neothremma*	*Neothremma didactyla*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes ruthae*				-		-	-	-	-	0.10	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes sierra*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta								-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta								-		-	-	-	-	-	-	-	0.03	0.04	-
Insects	Animalia	Arthropoda	Insecta								-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta								-		-	-	-	-	0.17	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta								-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta								-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta								-		-	-	0.22	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Ostracoda	Podocopida	Candonidae	*Fabaeformiscandona*	*Fabaeformiscandona rectangulata*				-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Ostracoda	Podocopida							-		-	0.09	-	0.33	-	-	-	-	-	-
Insects	Animalia	Arthropoda									-		-	-	-	-	-	-	-	-	-	-
Insects	Animalia	Rotifera	Eurotatoria	Ploima	Brachionidae	*Keratella*					-		-	-	-	-	-	-	-	-	-	-

Appendix D8: eDNA Metabarcoding Results for Samples Run against the Insects Primer, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Amphigerontia*	*Amphigerontia bifasciata*	0.11	0.10	-				
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Loensia*	*Loensia maculosa*	0.03	-	-				
Insects	Animalia	Arthropoda	Insecta	Psocodea	Psocidae	*Trichadenotecnum*	*Trichadenotecnum majus*	0.21	0.18	0.13				
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Apataniidae	*Allomyia*		0.04	0.03	-				
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Apataniidae	*Allomyia*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Brachycentridae	*Micrasema*	*Micrasema bactro*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Goeridae	*Lepania*	*Lepania cascada*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma cascadense*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Lepidostomatidae	*Lepidostoma*	*Lepidostoma hoodi*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Cryptochia*	*Cryptochia pilosa*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Ecclisocosmoecus*	*Ecclisocosmoecus scylla*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Onocosmoecus*	*Onocosmoecus unicolor*	0.03	-	-				
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Psychoglypha*		-	-	-				
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila norcuta*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila rickeri*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila verrula*	0.06	-	-				
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Neothremma*	*Neothremma didactyla*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes ruthae*	-	-	-				
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Uenoidae	*Oligophlebodes*	*Oligophlebodes sierra*	-	-	-				
Insects	Animalia	Arthropoda	Insecta					-	-	-				
Insects	Animalia	Arthropoda	Insecta					-	-	-				
Insects	Animalia	Arthropoda	Insecta					-	-	-				
Insects	Animalia	Arthropoda	Insecta					-	-	-				
Insects	Animalia	Arthropoda	Insecta					-	-	-				
Insects	Animalia	Arthropoda	Insecta					-	-	-				
Insects	Animalia	Arthropoda	Insecta					0.03	-	-				
Insects	Animalia	Arthropoda	Ostracoda	Podocopida	Candonidae	*Fabaeformiscandona*	*Fabaeformiscandona rectangulata*	-	-	-				
Insects	Animalia	Arthropoda	Ostracoda	Podocopida				0.06	0.03	-				
Insects	Animalia	Arthropoda						-	-	-				
Insects	Animalia	Rotifera	Eurotatoria	Ploima	Brachionidae	*Keratella*		-	-	-				

Appendix D9: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay	Unuk DS Eskay	Unuk US S. Unuk	Unuk DS S. Unuk	Unuk Border	Mitchell	McTagg
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Chaetogaster*	*Chaetogaster diaphanus*		-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Limnodrilus*	*Limnodrilus hoffmeisteri*		-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Limnodrilus*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Limnodrilus*			-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Nais*	*Nais communis*		-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Nais*	*Nais communis*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Slavina*	*Slavina appendiculata*		-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae				-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida					-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Sarcoptiformes	Phthiracaridae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	0.14
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Lebertiidae	*Lebertia*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Lebertiidae				-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Simocephalus*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Acanthocyclops*	*Acanthocyclops capillatus*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Diacyclops*	*Diacyclops nanus*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Macrocyclops*	*Macrocyclops albidus*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae				-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Blattodea	Ectobiidae				-	-	-	-	-	0.22	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Chrysomelidae	*Chrysomela*			-	-	-	-	-	-	1.24
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Sanfilippodytes*	*Sanfilippodytes compertus*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elmidae				-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Pelecomalium*	*Pelecomalium testaceum*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Cecidomyiidae				-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Culicoides*			0.08	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus tibialis*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*	*Diamesa chorea*		-	-	-	-	-	-	8.98
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	0.07	0.05	-	0.48	0.90
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	0.16	-	-	0.28	1.67
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*			-	-	-	-	-	0.60	1.11

Appendix D9: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Gingras	Sulphurets Lake Outlet	Sulphurets US	Sulphurets DS	Teigen US	Teigen DS	S. Teigen US2	S. Teigen US1	S. Teigen DS	N. Treaty US2
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Chaetogaster*	*Chaetogaster diaphanus*	-			-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Limnodrilus*	*Limnodrilus hoffmeisteri*	-			-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Limnodrilus*		-			-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Limnodrilus*		-			-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Nais*	*Nais communis*	-			-	-	-	-	1.17	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Nais*	*Nais communis*	-			-	-	-	-	0.29	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Slavina*	*Slavina appendiculata*	-			-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae			-			-	-	-	0.67	0.09	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida				-			-	-	-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida				-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Sarcoptiformes	Phthiracaridae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Lebertiidae	*Lebertia*		-			-	-	-	-	0.05	-	1.32
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Lebertiidae			-			-	-	-	-	0.05	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Simocephalus*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Acanthocyclops*	*Acanthocyclops capillatus*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Diacyclops*	*Diacyclops nanus*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Macrocyclops*	*Macrocyclops albidus*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Blattodea	Ectobiidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Chrysomelidae	*Chrysomela*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Sanfilippodytes*	*Sanfilippodytes compertus*	-			-	-	-	0.07	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elmidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Pelecomalium*	*Pelecomalium testaceum*	-			-	-	-	-	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Cecidomyiidae			-			-	-	-	-	-	-	0.11
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Culicoides*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*		-			-	-	-	-	-	-	9.70
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus tibialis*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-			-	-	0.22	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*	*Diamesa chorea*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-			0.31	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-			-	-	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-			-	-	-	-	-	-	1.93
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0.04			-	-	-	-	-	-	-

Appendix D9: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1	N. Treaty DS	Treaty US	Treaty US N. Treaty	Treaty US Todedada	Treaty DS	Bell US Treaty	Bell DS Treaty
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Chaetogaster*	*Chaetogaster diaphanus*	-	1.97		-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Limnodrilus*	*Limnodrilus hoffmeisteri*	-	0.47		-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Limnodrilus*		-	0.26		-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Limnodrilus*		-	0.09		-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Nais*	*Nais communis*	-	14.37		-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Nais*	*Nais communis*	-	0.27		-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae	*Slavina*	*Slavina appendiculata*	-	0.81		-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida	Naididae			-	0.19		-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida				-	0.22		-	-	-	-	-
Insects	Animalia	Annelida	Clitellata	Haplotaxida				-	0.07		-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Sarcoptiformes	Phthiracaridae			-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Lebertiidae	*Lebertia*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Arachnida	Trombidiformes	Lebertiidae			-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Branchiopoda	Diplostraca	Daphniidae	*Simocephalus*		-	0.15		-	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Acanthocyclops*	*Acanthocyclops capillatus*	-	0.39		-	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Diacyclops*	*Diacyclops nanus*	-	0.16		-	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae	*Macrocyclops*	*Macrocyclops albidus*	-	1.07		-	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae			-	1.37		-	-	-	-	-
Insects	Animalia	Arthropoda	Hexanauplia	Cyclopoida	Cyclopidae			-	0.61		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Blattodea	Ectobiidae			-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Chrysomelidae	*Chrysomela*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Dytiscidae	*Sanfilippodytes*	*Sanfilippodytes compertus*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Elmidae			-	-		-	-	-	0.06	-
Insects	Animalia	Arthropoda	Insecta	Coleoptera	Staphylinidae	*Pelecomalium*	*Pelecomalium testaceum*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Cecidomyiidae			-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Culicoides*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Ceratopogonidae	*Forcipomyia*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*	-	0.06		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*	*Chironomus bifurcatus*	-	0.28		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Chironomus*		-	0.03		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*	*Cricotopus tibialis*	-	0.05		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	1.07		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Cricotopus*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*	*Diamesa chorea*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	-		2.06	0.27	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		0.07	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	-		-	0.06	-	-	-

Appendix D9: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay	Unuk DS Eskay	Unuk US S. Unuk	Unuk DS S. Unuk	Unuk Border	Mitchell	McTagg
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*			0.16	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra subletteorum*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*			-	-	-	0.11	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*			-	-	-	-	5.43	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*			-	-	-	0.17	-	-	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*			-	-	-	-	-	-	0.47
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pagastia*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parorthocladius*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*	*Procladius denticulatus*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrotanypus*	*Psectrotanypus dyari*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pseudodiamesa*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Radotanypus*	*Radotanypus florens*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Thienemanniella*	*Thienemanniella xena*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				-	-	-	-	0.53	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				-	-	-	-	-	-	2.04
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				-	-	-	0.11	2.65	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0.42	8.42	-	2.35	-	3.36	10.94
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				-	-	-	0.18	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-

Appendix D9: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Gingras	Sulphurets Lake Outlet	Sulphurets US	Sulphurets DS	Teigen US	Teigen DS	S. Teigen US2	S. Teigen US1	S. Teigen DS	N. Treaty US2
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-			-	-	-	-	-	-	0.08
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*		-			-	-	-	0.15	2.56	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*		-			-	-	-	-	0.07	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra subletteorum*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-			4.24	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-			-	0.05	-	-	-	0.07	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-			-	-	-	-	0.30	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-			-	-	0.18	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-			-	0.74	1.67	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-			-	0.10	0.27	-	-	0.10	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-			-	-	0.41	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-			-	-	-	-	-	-	0.37
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-			-	-	-	-	-	-	0.18
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pagastia*		-			-	-	-	-	-	-	0.09
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parorthocladius*		-			-	-	0.03	0.09	-	0.12	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*	*Procladius denticulatus*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrotanypus*	*Psectrotanypus dyari*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pseudodiamesa*		-			-	-	-	0.06	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Radotanypus*	*Radotanypus florens*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Thienemanniella*	*Thienemanniella xena*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	-	0.87	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	0.24	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	0.39	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			1.14	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	0.19	-	-	-

Appendix D9: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1	N. Treaty DS	Treaty US	Treaty US N. Treaty	Treaty US Todedada	Treaty DS	Bell US Treaty	Bell DS Treaty
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Diamesa*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Gymnometriocnemus*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Hydrobaenus*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra polita*	-	3.60		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Micropsectra*	*Micropsectra subletteorum*	-	2.56		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	0.40		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		0.04	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Orthocladius*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pagastia*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Parorthocladius*		-	-		-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*	*Procladius denticulatus*	-	0.10		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*		-	0.39		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Procladius*		-	0.12		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	11.07		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	0.04		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrocladius*		-	0.12		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Psectrotanypus*	*Psectrotanypus dyari*	-	1.00		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Pseudodiamesa*		-	-		-	0.07	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Radotanypus*	*Radotanypus florens*	-	1.14		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	8.09		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Tanytarsus*		-	0.08		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae	*Thienemanniella*	*Thienemanniella xena*	-	0.05		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-		-	0.40	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.27		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-		0.14	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-		-	0.06	-	0.09	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.07		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-		2.79	1.79	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.07		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	1.09		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.81		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-		-	-	-	-	-

Appendix D9: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay	Unuk DS Eskay	Unuk US S. Unuk	Unuk DS S. Unuk	Unuk Border	Mitchell	McTagg
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	0.29	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				-	-	-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0.06	-	-	0.10	-	-	1.18
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				-	-	-	-	0.68	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	0.48	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae				-	-	-	-	-	19.05	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	3.83
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	0.16
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-

Appendix D9: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Gingras	Sulphurets Lake Outlet	Sulphurets US	Sulphurets DS	Teigen US	Teigen DS	S. Teigen US2	S. Teigen US1	S. Teigen DS	N. Treaty US2
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	0.05	-	-	-	0.06	0.55
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	-	-	-	0.14
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	-	-	-	0.73
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	-	-	0.50	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	0.08	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			0.45			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	-	0.23	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	0.31	0.22	-	0.57
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae			0.04			-	0.05	-	-	5.87	-	-

Appendix D9: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1	N. Treaty DS	Treaty US	Treaty US N. Treaty	Treaty US Todedada	Treaty DS	Bell US Treaty	Bell DS Treaty
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-		-	0.04	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-		-	-	-	0.07	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.28		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-		3.67	0.63	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.67		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	2.03		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	0.26		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chironomidae			-	-		0.86	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Chloropidae			-	-		-	-	-	-	-

Appendix D9: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay	Unuk DS Eskay	Unuk US S. Unuk	Unuk DS S. Unuk	Unuk Border	Mitchell	McTagg
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*			-	-	-	-	-	-	4.68
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia subpellucens*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae	*Platypalpus*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Keroplatidae	*Macrocera*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Hexatoma*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*	*Thricops albibasalis*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Exechia*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae				-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*			-	-	-	-	6.89	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciaridae	*Claustropyga*	*Claustropyga acanthostyla*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciaridae	*Claustropyga*	*Claustropyga acanthostyla*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*	*Helodon onychodactylus*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	0.61
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera					-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera					-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera					-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus celer*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus similior*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus velox*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis bicaudatus*		4.41	11.41	11.19	2.40	0.41	0.08	9.78
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis bicaudatus*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis tricaudatus*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Callibaetis*	*Callibaetis ferrugineus*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*		18.72	0.19	20.40	5.51	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella doddsi*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	6.36	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella doddsi*		0.41	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*			0.99	-	0.75	0.27	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*		-	-	-	0.19	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	13.23	46.25	39.74	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*			-	-	0.44	0.10	0.37	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus deceptivus*		15.68	52.40	8.59	8.05	0.61	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus grandis*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*			-	-	0.06	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*			4.89	3.65	35.24	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*	*Rhithrogena hageni*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*	*Rhithrogena robusta*		-	0.12	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae				4.84	1.42	0.52	2.98	-	-	0.40

Appendix D9: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Gingras	Sulphurets Lake Outlet	Sulphurets US	Sulphurets DS	Teigen US	Teigen DS	S. Teigen US2	S. Teigen US1	S. Teigen DS	N. Treaty US2
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*		-			-	2.13	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia subpellucens*	-			-	-	-	-	-	1.45	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae	*Platypalpus*		0.14			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Keroplatidae	*Macrocera*		-			0.20	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Hexatoma*		-			-	0.25	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*	*Thricops albibasalis*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Exechia*		-			8.40	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			0.08			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-			-	-	-	-	-	-	0.94
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciaridae	*Claustropyga*	*Claustropyga acanthostyla*	-			2.55	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciaridae	*Claustropyga*	*Claustropyga acanthostyla*	-			0.89	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*	*Helodon onychodactylus*	-			-	-	-	0.33	-	0.06	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*		-			-	-	0.48	-	-	0.29	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		-			-	-	-	0.26	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				0.08			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-			-	-	-	-	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-			-	-	0.05	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus celer*	-			-	-	-	-	0.08	0.80	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus similior*	-			-	-	-	2.40	-	0.07	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus velox*	-			-	-	-	-	-	-	0.09
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis bicaudatus*	15.15			15.17	-	0.34	0.54	-	1.01	2.30
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis bicaudatus*	0.37			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis tricaudatus*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Callibaetis*	*Callibaetis ferrugineus*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*	-			-	32.13	42.31	48.28	4.98	37.62	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*	-			-	0.10	-	-	-	0.06	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella doddsi*	0.29			-	-	-	0.70	-	0.38	3.75
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella doddsi*	-			-	2.27	2.60	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*		-			-	1.10	1.19	0.60	0.15	1.02	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*	-			-	14.96	11.33	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*	-			-	1.02	2.79	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		1.78			-	-	-	1.25	0.41	-	0.80
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-			-	-	-	0.12	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-			-	-	-	0.05	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus deceptivus*	1.95			-	32.49	21.76	1.43	0.44	38.24	0.70
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus grandis*	0.05			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*		0.44			-	0.03	-	-	-	0.61	0.50
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*	*Rhithrogena hageni*	-			-	0.35	2.53	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*	*Rhithrogena robusta*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			1.66			-	-	0.53	0.05	-	-	0.63

Appendix D9: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1	N. Treaty DS	Treaty US	Treaty US N. Treaty	Treaty US Todedada	Treaty DS	Bell US Treaty	Bell DS Treaty
Insects	Animalia	Arthropoda	Insecta	Diptera	Empididae	*Rhamphomyia*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Fanniidae	*Fannia*	*Fannia subpellucens*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Hybotidae	*Platypalpus*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Keroplatidae	*Macrocera*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Limoniidae	*Hexatoma*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*	*Thricops albibasalis*	-	-		-	25.08	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Muscidae	*Thricops*		-	-		-	0.03	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Mycetophilidae	*Exechia*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Pediciidae			-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Phoridae	*Megaselia*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciaridae	*Claustropyga*	*Claustropyga acanthostyla*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Sciaridae	*Claustropyga*	*Claustropyga acanthostyla*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*	*Helodon onychodactylus*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Helodon*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera	Simuliidae	*Simulium*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Diptera				-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus celer*	-	-		-	-	50.25	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus similior*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ameletidae	*Ameletus*	*Ameletus velox*	-	-		-	-	1.64	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis bicaudatus*	-	-		2.87	11.92	18.60	0.10	0.05
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis bicaudatus*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*	*Baetis tricaudatus*	-	-		-	-	-	0.90	0.40
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Baetis*		-	-		-	-	0.15	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Baetidae	*Callibaetis*	*Callibaetis ferrugineus*	-	1.89		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*	-	-		-	-	-	0.61	7.36
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella coloradensis*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella doddsi*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*	*Drunella doddsi*	-	-		-	-	-	0.04	0.20
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella*		-	-		-	-	-	-	0.09
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*	-	-		-	-	-	5.64	1.56
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*	*Ephemerella tibialis*	-	-		-	-	-	0.40	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Ephemerella*		-	-		-	-	-	1.00	0.69
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-		-	0.04	14.43	3.52	0.70
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Cinygmula*		-	-		-	-	0.14	0.11	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus deceptivus*	3.21	-		-	-	-	11.04	70.03
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*	*Epeorus grandis*	23.89	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Epeorus*		-	-		-	0.08	-	-	1.28
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*	*Rhithrogena hageni*	-	-		-	-	-	60.68	15.48
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	*Rhithrogena*	*Rhithrogena robusta*	-	-		0.04	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			2.51	-		22.76	2.33	0.76	0.62	-

Appendix D9: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay	Unuk DS Eskay	Unuk US S. Unuk	Unuk DS S. Unuk	Unuk Border	Mitchell	McTagg
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae				0.07	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae				-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae				6.53	6.20	0.94	9.33	4.42	-	0.10
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae				2.22	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera					-	-	0.23	0.10	0.05	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Acanthosomatidae	*Elasmostethus*	*Elasmostethus cruciatus*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Corixidae	*Callicorixa*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Saldidae	*Saldula*	*Saldula explanata*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Triozidae				-	-	-	-	-	-	3.48
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Cimbicidae	*Trichiosoma*	*Trichiosoma triangulum*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Cimbicidae	*Trichiosoma*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Eulophidae				-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Ichneumonidae	*Ichneumon*	*Ichneumon validicornis*		0.19	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Empria*	*Empria candidata*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	3.29
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Pachynematus*	*Pachynematus obductus*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Geometridae	*Ectropis*	*Ectropis crepuscularia*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Geometridae	*Eupithecia*	*Eupithecia cretaceata*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Gracillariidae	*Caloptilia*	*Caloptilia alnicolella*		-	-	0.07	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Acleris*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Bolshecapnia*	*Bolshecapnia milami*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia nana*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia nana*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	0.30	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Alloperla*	*Alloperla serrata*		-	-	-	-	4.07	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*	*Plumiperla diversa*		-	-	-	-	1.31	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*			-	-	-	-	2.06	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Suwallia*	*Suwallia forcipata*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	1.93	-	0.73	1.54	22.41	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae				-	-	-	-	0.13	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae				-	-	-	-	0.40	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae				-	-	-	-	0.07	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Despaxia*	*Despaxia augusta*		-	-	-	-	-	-	-

Appendix D9: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Gingras	Sulphurets Lake Outlet	Sulphurets US	Sulphurets DS	Teigen US	Teigen DS	S. Teigen US2	S. Teigen US1	S. Teigen DS	N. Treaty US2
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			-			-	0.68	0.84	7.33	1.49	1.41	2.26
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			-			-	-	3.24	-	-	0.05	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			-			-	2.11	2.57	26.57	5.84	3.24	5.13
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			3.16			-	-	0.65	-	-	0.04	0.40
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			23.16			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*		-			-	-	-	-	0.24	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera				-			-	0.36	-	0.06	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Acanthosomatidae	*Elasmostethus*	*Elasmostethus cruciatus*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Corixidae	*Callicorixa*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Saldidae	*Saldula*	*Saldula explanata*	-			-	1.29	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Triozidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Cimbicidae	*Trichiosoma*	*Trichiosoma triangulum*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Cimbicidae	*Trichiosoma*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Eulophidae			-			-	-	-	-	-	-	0.06
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Ichneumonidae	*Ichneumon*	*Ichneumon validicornis*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Empria*	*Empria candidata*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Pachynematus*	*Pachynematus obductus*	-			-	-	-	-	0.04	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera				-			-	-	-	0.12	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera				-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Geometridae	*Ectropis*	*Ectropis crepuscularia*	2.06			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Geometridae	*Eupithecia*	*Eupithecia cretaceata*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Gracillariidae	*Caloptilia*	*Caloptilia alnicolella*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Acleris*		-			40.92	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Bolshecapnia*	*Bolshecapnia milami*	-			-	-	-	-	-	0.07	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia nana*	-			-	-	-	0.13	0.51	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia nana*	-			-	-	-	-	0.11	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Alloperla*	*Alloperla serrata*	0.08			-	-	-	-	-	-	1.56
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*	*Plumiperla diversa*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*		0.16			-	-	-	-	-	0.29	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Suwallia*	*Suwallia forcipata*	-			-	1.53	0.21	-	-	0.25	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Despaxia*	*Despaxia augusta*	-			-	-	-	-	-	-	0.12

Appendix D9: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1	N. Treaty DS	Treaty US	Treaty US N. Treaty	Treaty US Todedada	Treaty DS	Bell US Treaty	Bell DS Treaty
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			-	-		-	-	1.34	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			-	-		-	-	-	10.95	0.50
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			-	-		-	-	-	0.23	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			1.56	-		32.34	9.35	2.37	0.43	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Heptageniidae			66.13	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	*Paraleptophlebia*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Ephemeroptera				-	-		-	-	0.12	0.06	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Acanthosomatidae	*Elasmostethus*	*Elasmostethus cruciatus*	-	-		-	34.33	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Corixidae	*Callicorixa*		-	9.75		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Saldidae	*Saldula*	*Saldula explanata*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hemiptera	Triozidae			-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Cimbicidae	*Trichiosoma*	*Trichiosoma triangulum*	-	-		16.07	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Cimbicidae	*Trichiosoma*		-	-		0.13	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Eulophidae			-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Ichneumonidae	*Ichneumon*	*Ichneumon validicornis*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Empria*	*Empria candidata*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera	Tenthredinidae	*Pachynematus*	*Pachynematus obductus*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera				-	0.11		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Hymenoptera				-	0.14		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Geometridae	*Ectropis*	*Ectropis crepuscularia*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Geometridae	*Eupithecia*	*Eupithecia cretaceata*	0.42	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Gracillariidae	*Caloptilia*	*Caloptilia alnicolella*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Lepidoptera	Tortricidae	*Acleris*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Bolshecapnia*	*Bolshecapnia milami*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia nana*	-	0.09		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Capnia*	*Capnia nana*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Capniidae	*Isocapnia*		-	-		-	-	-	0.08	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Alloperla*	*Alloperla serrata*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*	*Plumiperla diversa*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Plumiperla*		-	-		-	-	2.46	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae	*Suwallia*	*Suwallia forcipata*	-	-		-	-	-	0.13	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Chloroperlidae			-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Despaxia*	*Despaxia augusta*	-	-		-	-	-	-	-

Appendix D9: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay	Unuk DS Eskay	Unuk US S. Unuk	Unuk DS S. Unuk	Unuk Border	Mitchell	McTagg
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra projecta*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Lednia*	*Lednia borealis*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	3.60
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Lednia*	*Lednia borealis*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	4.40
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Visoka*	*Visoka cataractae*		1.77	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*		-	-	-	2.11	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada columbiana*		8.11	0.83	-	5.43	-	-	14.27
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*		0.99	13.63	4.71	5.23	-	-	3.95
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*			-	-	-	-	-	-	0.14
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla petersoni*		-	-	-	-	0.30	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla sordida*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Kogotus*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*		2.12	1.73	1.07	7.07	0.19	-	0.28
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys subtruncata*		-	-	-	-	-	-	0.10
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*			-	-	-	-	-	74.23	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	0.86	-	-	-	9.94
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*			-	-	-	-	-	-	0.11
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*			-	-	-	-	-	0.97	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae				-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*	*Doddsia occidentalis*		6.05	-	0.07	-	6.03	-	3.36
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae				-	-	-	-	0.18	-	-
Insects	Animalia	Arthropoda	Insecta	Thysanoptera	Thripidae	*Taeniothrips*	*Taeniothrips orionis*		-	-	-	-	-	-	0.32
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Hydropsychidae	*Parapsyche*	*Parapsyche elsis*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Ecclisomyia*	*Ecclisomyia conspersa*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Psychoglypha*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae				-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila hyalinata*		12.87	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila vaccua*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila vocala*		-	-	0.34	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila vofixa*	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0.16	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*			-	-	0.33	-	-	-	-
Insects	Animalia	Arthropoda	Insecta						-	-	-	0.36	-	0.69	4.43
Insects	Animalia	Arthropoda	Insecta						-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Ostracoda	Podocopida	Candonidae	*Candona*	*Candona candida*		-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Ostracoda	Podocopida				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Arthropoda							-	-	-	-	-	-	-
Insects	Animalia	Cnidaria	Hydrozoa	Anthoathecata	Hydridae	*Hydra*	*Hydra canadensis*		-	-	-	-	-	-	-
Insects	Animalia	Gastrotricha		Chaetonotida	Chaetonotidae				-	-	-	-	-	-	-

Appendix D9: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Gingras	Sulphurets Lake Outlet	Sulphurets US	Sulphurets DS	Teigen US	Teigen DS	S. Teigen US2	S. Teigen US1	S. Teigen DS	N. Treaty US2
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra projecta*	-			-	-	-	-	-	-	1.19
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Lednia*	*Lednia borealis*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Lednia*	*Lednia borealis*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Visoka*	*Visoka cataractae*	-			-	0.09	-	-	-	0.12	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*	-			-	-	0.08	0.87	2.65	0.03	11.82
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada columbiana*	3.27			-	-	0.24	-	3.22	7.12	0.13
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	0.87			26.19	1.28	0.37	3.03	13.62	1.93	24.21
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	27.26			-	0.49	0.11	-	0.05	1.78	4.48
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*		-			-	-	-	0.14	-	-	3.06
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*		-			-	0.04	-	-	0.24	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*		-			-	-	-	0.03	0.06	-	0.16
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla petersoni*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla sordida*	-			-	-	-	0.04	6.25	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Kogotus*		-			-	0.06	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*	14.76			-	0.17	0.11	3.24	-	-	2.64
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys subtruncata*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		1.37			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*	*Doddsia occidentalis*	0.23			-	0.80	0.38	-	-	0.39	6.31
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*		0.05			-	-	0.07	-	-	-	0.53
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*	-			-	-	-	-	-	-	0.12
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae			-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Thysanoptera	Thripidae	*Taeniothrips*	*Taeniothrips orionis*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Hydropsychidae	*Parapsyche*	*Parapsyche elsis*	-			-	1.25	0.04	0.05	-	0.32	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Ecclisomyia*	*Ecclisomyia conspersa*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Psychoglypha*		-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae			-			-	-	-	-	33.72	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila hyalinata*	-			-	1.09	1.26	-	-	0.37	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila vaccua*	0.19			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila vocala*	0.74			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila vofixa*	-			-	0.65	0.94	0.23	13.18	0.06	1.79
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*		-			-	-	-	-	-	-	8.56
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*		-			-	0.19	-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta					-			-	0.03	0.18	-	-	-	-
Insects	Animalia	Arthropoda	Insecta					0.13			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Ostracoda	Podocopida	Candonidae	*Candona*	*Candona candida*	-			-	-	-	-	-	-	-
Insects	Animalia	Arthropoda	Ostracoda	Podocopida				-			-	-	-	-	0.04	-	-
Insects	Animalia	Arthropoda						-			-	-	-	-	0.07	-	-
Insects	Animalia	Cnidaria	Hydrozoa	Anthoathecata	Hydridae	*Hydra*	*Hydra canadensis*	-			-	-	-	-	-	-	-
Insects	Animalia	Gastrotricha		Chaetonotida	Chaetonotidae			-			-	-	-	-	-	-	-

Appendix D9: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1	N. Treaty DS	Treaty US	Treaty US N. Treaty	Treaty US Todedada	Treaty DS	Bell US Treaty	Bell DS Treaty
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Leuctridae	*Paraleuctra*	*Paraleuctra projecta*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Lednia*	*Lednia borealis*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Lednia*	*Lednia borealis*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Visoka*	*Visoka cataractae*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada cinctipes*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada columbiana*	0.79	-		-	0.77	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	-	-		7.32	0.88	-	0.64	0.71
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*	*Zapada haysi*	-	-		-	-	-	0.25	0.12
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Nemouridae	*Zapada*		-	-		0.18	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla petersoni*	-	-		-	-	-	0.20	0.15
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Isoperla*	*Isoperla sordida*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Kogotus*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys signata*	0.45	-		8.78	8.97	7.74	1.89	0.62
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*	*Megarcys subtruncata*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae	*Megarcys*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Perlodidae			-	15.59		-	-	-	-	0.06
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*	*Doddsia occidentalis*	0.52	-		-	0.25	-	0.19	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Doddsia*		-	-		-	-	-	0.04	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae	*Taenionema*	*Taenionema pallidum*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Plecoptera	Taeniopterygidae			-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Thysanoptera	Thripidae	*Taeniothrips*	*Taeniothrips orionis*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Hydropsychidae	*Parapsyche*	*Parapsyche elsis*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Ecclisomyia*	*Ecclisomyia conspersa*	-	-		-	0.41	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae	*Psychoglypha*		-	1.25		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Limnephilidae			-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila hyalinata*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila vaccua*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila vocala*	-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*	*Rhyacophila vofixa*	0.36	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta	Trichoptera	Rhyacophilidae	*Rhyacophila*		-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Insecta					0.05	-		-	2.23	-	-	-
Insects	Animalia	Arthropoda	Insecta					-	-		-	-	-	-	-
Insects	Animalia	Arthropoda	Ostracoda	Podocopida	Candonidae	*Candona*	*Candona candida*	-	8.23		-	-	-	-	-
Insects	Animalia	Arthropoda	Ostracoda	Podocopida				-	0.08		-	-	-	-	-
Insects	Animalia	Arthropoda						-	-		-	-	-	-	-
Insects	Animalia	Cnidaria	Hydrozoa	Anthoathecata	Hydridae	*Hydra*	*Hydra canadensis*	-	2.93		-	-	-	-	-
Insects	Animalia	Gastrotricha		Chaetonotida	Chaetonotidae			-	0.06		-	-	-	-	-

Appendix D9: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Comments	Unuk US Eskay	Unuk DS Eskay	Unuk US S. Unuk	Unuk DS S. Unuk	Unuk Border	Mitchell	McTagg
Insects	Animalia	Platyhelminthes		Dolichomicrostomida	Microstomidae	*Microstomum*		There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia	Tardigrada						There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-
Insects	Animalia							There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-

Appendix D9: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Gingras	Sulphurets Lake Outlet	Sulphurets US	Sulphurets DS	Teigen US	Teigen DS	S. Teigen US2	S. Teigen US1	S. Teigen DS	N. Treaty US2
Insects	Animalia	Platyhelminthes		Dolichomicrostomida	Microstomidae	*Microstomum*		-			-	-	-	-	-	-	-
Insects	Animalia	Tardigrada						-			-	-	-	-	-	-	-
Insects	Animalia							-			-	-	-	-	0.75	-	-

Appendix D9: eDNA Metabarcoding Results from Bulk Benthic Invertebrate Samples, August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1	N. Treaty DS	Treaty US	Treaty US N. Treaty	Treaty US Todedada	Treaty DS	Bell US Treaty	Bell DS Treaty
Insects	Animalia	Platyhelminthes		Dolichomicrostomida	Microstomidae	*Microstomum*		-	1.27		-	-	-	-	-
Insects	Animalia	Tardigrada						-	0.06		-	-	-	-	-
Insects	Animalia							-	0.24		-	-	-	-	-

Appendix D10: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), July 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Comments	Unuk US Eskay			Unuk DS Eskay		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae					-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	Coho Salmon		-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	Chinook Salmon		-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*				50.36	53.06	47.00	38.79	27.84	42.30
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae					-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	Coastrange Sculpin		-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	Western Toad		-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae					-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*	*Anas carolinensis*	American Teal	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	0.03	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Mergus*				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae					-	-	-	4.57	22.63	23.04
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Actitis*	*Actitis macularius*	Spotted Sandpiper	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Gallinago*				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Tringa*	*Tringa solitaria*	Solitary Sandpiper	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Dendragapus*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Falcipennis*	*Falcipennis canadensis*	Spruce Grouse		-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	White-Tailed Ptarmigan	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	American Dipper	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	2.92
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	Dark-Eyed Junco		-	21.21	15.18	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus satrapa*	Golden-Crowned Kinglet	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	Eurasian Wren	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	Veery	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	Swainson's Thrush	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	Varied Thrush	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes						-	-	-	5.21	1.03	-
Vertebrates	Animalia	Chordata	Aves	Piciformes	Picidae	*Sphyrapicus*	*Sphyrapicus varius*	Yellow-Bellied Sapsucker	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	Mountain Goat	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-

Appendix D10: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), July 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US S. Unuk			Unuk DS S. Unuk			Unuk Border			Mitchell			McTagg		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae			-	-	-	-	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	2.40	0.03	-	7.15	-	2.58	10.20	-	4.64	-	-		-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	0.03	-	-	-	-	-	5.40	14.62	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		2.21	-	-	-	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		0.22	-	-	0.04	-	-	6.41	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		54.89	60.09	27.63	50.27	64.11	43.24	62.95	40.46	81.12	-	-		-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	-	-	-	-	-	-	12.40	40.85	5.06	-	-		-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	-	-	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae			-	-	-	-	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*	*Anas carolinensis*	-	-	0.04	-	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Mergus*		-	7.04	-	-	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			16.72	0.03	11.55	5.54	4.04	13.62	-	-	-	-	-		-	-	56.13
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Actitis*	*Actitis macularius*	-	-	-	-	2.83	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Gallinago*		-	-	-	-	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Tringa*	*Tringa solitaria*	-	-	-	-	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Dendragapus*		-	-	-	-	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Falcipennis*	*Falcipennis canadensis*	-	-	-	-	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	-	-	-	-	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-	-	-	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	4.12	0.20	-	-	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus satrapa*	-	-	-	-	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	-	-	-	-	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	5.54	-	-	-	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	-	-	-	-	-	5.06	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*		-	-	-	-	-	0.05	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	-	-	10.26	-	-	-	-	-	1.03	-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes				-	8.43	-	-	3.27	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Piciformes	Picidae	*Sphyrapicus*	*Sphyrapicus varius*	-	-	-	-	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	0.24	-	-	-	-	-		21.90	29.55	-

Appendix D10: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), July 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Gingras			Sulphurets Lake Outlet			Sulphurets US			Sulphurets DS			Teigen US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae			-	-	-	-			-	-	-	-	-	-	3.32	0.49	1.39
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	-	-	-	-			-	-	-	-	-	-	3.43	1.83	3.39
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	-	-	-	-			-	-	-	-	-	-	1.31	0.30	2.75
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-			-	-	-	-	-	-	23.55	70.97	23.68
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-	-			-	-	-	53.77	43.06	64.25	12.80	4.34	13.74
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-			-	-	-	-	-	-	48.30	18.80	50.76
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	-	-	-	-			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	-	-			-	-	-	-	-	-	-	-	0.04
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae			-	-	-	-			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*	*Anas carolinensis*	-	-	-	-			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Mergus*		-	-	-	-			-	-	-	-	-	-	-	-	0.17
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	-			-	-	-	-	-	-	-	-	0.58
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Actitis*	*Actitis macularius*	-	-	-	-			24.73	-	-	5.64	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Gallinago*		-	-	-	-			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Tringa*	*Tringa solitaria*	-	-	-	-			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Dendragapus*		-	-	-	-			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Falcipennis*	*Falcipennis canadensis*	-	-	-	-			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	-	-	-	-			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-	-	-			-	-	-	-	-	6.77	-	-	0.23
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	-	-	-	-			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus satrapa*	-	-	-	-			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	-	-	-	-			-	-	-	-	-	-	-	0.12	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	-	-	-	-			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	-	-	-	-			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*		-	-	-	-			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	-	-	-	-			-	-	-	-	12.76	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes				-	-	-	-			-	-	-	-	-	-	3.18	1.93	0.23
Vertebrates	Animalia	Chordata	Aves	Piciformes	Picidae	*Sphyrapicus*	*Sphyrapicus varius*	-	-	-	-			-	-	-	-	-	-	0.30	-	0.12
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-			-	-	-	-	-	-	-	-	-

Appendix D10: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), July 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Teigen DS			S. Teigen US2			S. Teigen US1			S. Teigen DS			N .Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	21.46	42.20	41.49	-	-	-	-	-	-	0.15	0.08	0.11	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	4.36	8.52	4.97	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		4.41	25.30	17.40	-	-	-	-	-	-	3.57	1.66	2.49	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		12.68	23.48	9.87	75.21	49.37	79.36	84.59	89.47	93.45	49.52	59.17	59.98	87.84	88.74	79.07
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			4.23	-	-	-	-	-	-	-	-	33.71	28.67	29.02	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*	*Anas carolinensis*	-	-	-	-	1.60	-	-	-	-	-	-	-	1.28	1.33	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Mergus*		52.82	-	26.28	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			0.04	-	-	-	0.06	-	2.59	-	2.12	1.82	2.75	1.23	0.12	0.17	-
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Actitis*	*Actitis macularius*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Gallinago*		-	-	-	-	-	-	0.17	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Tringa*	*Tringa solitaria*	-	-	-	0.21	0.86	-	-	-	0.19	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Dendragapus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.88
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Falcipennis*	*Falcipennis canadensis*	-	-	-	-	-	-	7.59	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-	-	-	-	3.45	-	1.07	-	3.22	0.71	0.78	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus satrapa*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	-	-	-	-	1.32	-	-	-	-	-	2.41	0.59	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	-	-	-	-	-	-	-	-	-	0.13	-	-	1.51	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes				-	-	-	4.53	10.51	-	4.55	6.33	-	0.80	-	2.67	4.37	5.17	11.26
Vertebrates	Animalia	Chordata	Aves	Piciformes	Picidae	*Sphyrapicus*	*Sphyrapicus varius*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D10: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), July 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae			-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	-	-	-	14.60	31.76	15.30				-	-	-	-	-	0.07
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	-	-	-	-	0.03	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	2.81	0.10	2.86				-	-	-	-	-	24.74
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		61.19	79.74	75.77	54.98	48.72	40.93				-	-	-	-	27.45	33.38
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-				-	-	-	41.60	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	0.99	0.58	1.99	13.33	13.28	14.61				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae			-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*	*Anas carolinensis*	2.63	0.85	0.25	4.83	3.36	15.65				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Mergus*		-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			0.32	0.06	-	2.63	1.74	3.77				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Actitis*	*Actitis macularius*	-	-	-	2.53	-	0.44				55.67	80.43	0.21	-	-	-
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Gallinago*		-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Tringa*	*Tringa solitaria*	-	-	-	0.12	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Dendragapus*		-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Falcipennis*	*Falcipennis canadensis*	-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	-	-	-	-	-	-				-	-	-	14.47	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	0.60	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus satrapa*	-	-	-	-	-	-				-	-	-	7.74	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	-	-	-	-	-	-				-	-	-	11.90	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	0.79	-	-	-	0.07	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*		-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes				29.33	15.05	12.77	1.56	-	3.52				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Piciformes	Picidae	*Sphyrapicus*	*Sphyrapicus varius*	-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-				-	-	-	-	-	3.64

Appendix D10: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), July 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty DS			Bell US Treaty			Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4	Blank 5	Blank 6
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae						0.38	-	-	4.76	3.08	2.30						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*				0.75	0.40	0.32	1.01	0.29	2.06						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*				-	0.26	-	3.12	3.73	3.64						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*					-	-	-	-	0.16	-						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*					0.91	-	0.17	4.86	5.58	5.00						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*					-	-	-	3.55	10.26	11.95						
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae						96.79	98.52	99.34	63.52	53.52	56.71						
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*				-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*				-	-	-	-	0.23	-						
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae						-	-	-	0.53	1.16	-						
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*	*Anas carolinensis*				-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Mergus*					-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae						0.14	-	-	0.74	-	-						
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Actitis*	*Actitis macularius*				-	0.35	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Gallinago*					-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Tringa*	*Tringa solitaria*				-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Dendragapus*					-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Falcipennis*	*Falcipennis canadensis*				-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*				-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*				-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*				-	-	-	-	0.77	-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus satrapa*				-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*				-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*				-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*				-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*					-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*				0.33	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Aves	Passeriformes							0.21	-	-	1.71	0.24	0.60						
Vertebrates	Animalia	Chordata	Aves	Piciformes	Picidae	*Sphyrapicus*	*Sphyrapicus varius*				-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*				-	-	-	-	-	-						

Appendix D10: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), July 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Comments	Unuk US Eskay			Unuk DS Eskay		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	Moose		-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	American Black Bear		-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Chiroptera	Vespertilionidae	*Myotis*	*Myotis lucifugus*	Little Brown Bat	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	North American Beaver		-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae					-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae					-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	Long-Tailed Vole	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	34.45	10.06	30.10	32.43	34.76	15.81
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	Eastern Meadow Vole	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	2.09	-	2.33	2.51	4.99	0.37
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*				-	-	5.14	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*				-	-	-	-	1.43	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Neotoma*	*Neotoma cinerea*	Bushy-Tailed Woodrat	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	Eastern Deer Mouse		-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	Western Heather Vole	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	1.89	-	-	0.05	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae					13.10	13.78	-	-	-	6.09
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae					-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae					-	-	0.25	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae					-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae					-	-	-	-	0.08	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	North American Porcupine		-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*				-	-	-	16.02	7.12	8.77
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	Cinereus Shrew	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	0.46	0.05	0.71
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	Mountain Goat		-	14.77	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	Moose		-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	American Black Bear		-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Chiroptera	Vespertilionidae	*Myotis*				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	North American Beaver		-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	Long-Tailed Vole	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	53.92	60.79	58.99	49.38	38.31	66.29
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0.08	0.10	5.17	6.30	22.08	4.67
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	2.42
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0.99	0.74	0.81	0.69	0.77	0.77
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*				-	-	7.91	2.64	3.02	4.71
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	Western Heather Vole	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	21.19	-	-	12.88	2.37	1.99

Appendix D10: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), July 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US S. Unuk			Unuk DS S. Unuk			Unuk Border			Mitchell			McTagg		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-	-	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-	-	-	-	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		-	-	1.31	-	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Chiroptera	Vespertilionidae	*Myotis*	*Myotis lucifugus*	-	-	-	-	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	-	7.05	-	2.15	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	9.78	18.50	29.72	16.58	14.58	17.73	2.64	4.07	3.26	-	100.00		78.10	67.93	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	0.79	0.04	-	0.09	0.97	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		0.81	-	-	1.52	0.19	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	0.33	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		-	-	0.29	-	-	0.19	-	-	-	35.16	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Neotoma*	*Neotoma cinerea*	-	-	-	0.91	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	-	-	-	-	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	1.21	-	3.06	-	-	-	-	-	-	-		-	-	4.55
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	13.39	-	4.49	11.82	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	0.50	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			0.80	2.23	0.10	2.53	-	1.66	-	-	4.90	-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	0.04	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	0.82	-	0.98	-	-	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	-	-	-	-	-	-	-	-	-	64.84	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*		0.35	1.38	5.15	3.20	4.27	1.32	-	-	-	-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	1.32	-	0.56	1.09	0.71	-	-	-	-	-	-		-	2.52	39.32
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	2.14	-	-	-	-		-		-	36.61	-	9.09
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-	-	-	-	-	-		-		-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-	-	-	-	-	-	-	-		-		-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		-	-	-	-	-	-	-	-		-		-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Chiroptera	Vespertilionidae	*Myotis*		-	-	-	-	-	-	-	-		-		-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	-	7.68	-	3.55	-	-		-		-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	30.55	48.74	48.55	21.28	32.15	45.83	66.26	96.61		97.83		0.19	-	55.21	62.75
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		26.94	14.54	13.16	45.81	35.87	20.39	0.09	0.86		1.02		87.60	-	0.05	27.12
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		0.60	11.09	-	-	-	-	-	-		-		-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		0.63	1.02	1.04	0.80	6.69	0.84	0.82	1.25		1.15		0.75	-	0.65	1.04
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		2.03	2.61	3.60	-	0.66	-	-	-		-		-	63.39	44.09	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-	-	2.13	-	-	-	-		-		-	-	-	-

Appendix D10: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), July 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Gingras			Sulphurets Lake Outlet			Sulphurets US			Sulphurets DS			Teigen US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-	-			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-	-	-	-			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		-	-	-	-			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Chiroptera	Vespertilionidae	*Myotis*	*Myotis lucifugus*	-	-	-	-			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	-	-			-	-	-	-	-	-	3.10	0.99	1.98
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	62.71	84.12	55.95	100.00			44.75	37.47	100.00	40.01	31.63	14.16	0.08	0.14	0.21
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	22.82	12.38	0.16	-			0.15	-	-	-	0.13	0.17	-	0.04	0.16
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-			-	-	-	-	0.31	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	3.28	-			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	0.10	-			0.07	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		-	-	-	-			-	21.31	-	-	-	-	0.05	-	0.14
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Neotoma*	*Neotoma cinerea*	-	-	-	-			-	41.08	-	-	1.39	0.16	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	-	-	-	-			-	-	-	-	-	0.05	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-	35.40	-			-	-	-	-	-	-	0.11	0.03	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-			-	-	-	-	-	-	0.47	-	0.19
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	3.87	-			7.41	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-			18.04	0.14	-	-	1.27	0.47	-	-	0.14
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-			-	-	-	-	-	0.08	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-			-	-	-	-	4.30	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	-	-	-	-			-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*		-	3.50	-	-			4.85	-	-	0.34	3.23	11.00	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	14.47	-	1.24	-			-	-	-	0.25	1.92	2.89	-	-	0.10
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-		-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-	-		-	-	-	-	-	-	-	-	4.95	1.44
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-	-	-	-		-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		-	-	-	-		-	-	-	-	-	-	-	0.38	-	-
Mammals	Animalia	Chordata	Mammalia	Chiroptera	Vespertilionidae	*Myotis*		-	-	-	-		-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	-	-		-	-	-	-	-	-	-	22.22	43.97	24.49
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	65.35	60.53	8.80	98.69		49.61	66.05	70.31	-	77.98	75.11	52.94	19.47	15.21	10.46
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		10.92	3.64	46.01	0.16		23.25	0.95	0.12	-	0.27	3.53	8.41	0.04	7.48	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		12.65	-	-	-		0.18	-	-	-	-	1.74	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		0.87	0.79	0.56	1.15		0.83	1.57	1.00	-	1.03	0.91	0.64	0.22	0.21	2.40
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		-	-	-	-		-	-	-	-	-	-	2.19	6.72	10.03	16.59
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-	37.19	-		-	-	-	-	-	-	-	13.27	8.27	1.23

Appendix D10: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), July 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Teigen DS			S. Teigen US2			S. Teigen US1			S. Teigen DS			N .Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-	-	0.60	0.11	-	0.13	-	-	-	-	0.63	0.10	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-	-	-	18.75	34.63	16.41	-	-	-	-	0.22	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		-	-	-	0.03	0.05	-	-	-	-	3.32	0.29	0.08	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Chiroptera	Vespertilionidae	*Myotis*	*Myotis lucifugus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	-	-	-	-	-	-	0.26	1.51	1.74	1.41	1.36	1.15	0.20	0.07	1.47
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	-	-	-	1.07	0.17	0.32	0.25	0.66	0.78	2.14	2.39	1.22	3.25	4.09	0.39
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-	-	-	-	-	0.06	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		-	-	-	-	-	-	-	-	-	0.19	0.13	0.57	-	-	0.24
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Neotoma*	*Neotoma cinerea*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-	-	-	-	-	-	-	1.64	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	0.20	-	-	-	0.72	-	-	-	-	-	0.34	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*		-	-	-	-	-	-	-	-	-	-	0.12	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	0.49	-	-	0.83	0.36	-	0.11	0.08	0.04	-	0.10	0.80	-	0.69
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*		-		-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*		-		14.23	7.32	26.28	70.99	20.67	7.55	-	-	-	25.63	32.08	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*		-		1.86	2.35	6.07	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*			-		-	-	-	-	-	-	0.28	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Chiroptera	Vespertilionidae	*Myotis*			-		-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*		-		-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*		-		3.28	-	-	12.07	1.50	38.40	31.17	19.29	16.36	-	-	63.17
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*			-		-	-	-	-	-	0.06	0.26	-	-	0.06	-	0.12
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*			-		-	-	-	-	-	-	-	0.57	0.05	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*			-		-	-	-	0.16	-	0.53	0.39	0.24	0.21	-	-	0.82
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*			-		-	4.74	-	0.06	-	-	-	4.00	4.85	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*		-		19.65	30.99	18.75	-	-	16.11	-	-	-	-	-	-

Appendix D10: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), July 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	0.04	-	-	-	-				20.00	-	8.88	0.87	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-	-	0.18	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Chiroptera	Vespertilionidae	*Myotis*	*Myotis lucifugus*	-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	-	0.14	-	1.95				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	1.62	0.94	3.17	-	-	-				-	-	1.70	-	2.74	5.60
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	0.91	1.24	2.63	2.46	0.94	0.97				10.53	11.60	28.40	0.87	15.10	22.85
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		0.20	0.56	1.49	-	-	-				4.71	-	20.57	-	0.13	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Neotoma*	*Neotoma cinerea*	-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-	-	-	-	-				-	-	40.25	7.29	52.34	9.73
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-				-	-	-	15.28	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			0.85	0.10	0.20	-	-	-				-	3.97	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			0.10	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*		-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	0.48	0.84	1.56	-	-	-				9.08	4.01	-	-	2.25	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	12.29	17.74	-	10.98	-				50.14	-	17.56	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-	-	-	-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		-	-	-	-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Chiroptera	Vespertilionidae	*Myotis*		-	-	-	-	0.56	6.64				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	-	-	-	20.87				-	-	16.43	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	21.27	20.70	25.46	-	0.18	-				-	16.05	-	30.95	16.79	38.89
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		0.03	-	0.05	-	18.07	-				-	-	-	-	0.06	0.09
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	10.48				-	22.53	-	-	17.42	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		0.26	0.23	0.28	-	0.18	-				-	0.18	-	0.36	0.20	0.49
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		6.18	6.54	22.90	-	-	-				-	-	27.50	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-	-	-	-	-				-	-	-	22.77	34.90	60.53

Appendix D10: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), July 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty DS			Bell US Treaty			Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4	Blank 5	Blank 6
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*				-	-	-	0.55	0.92	0.98						
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*				-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*					-	-	-	0.12	0.08	0.26						
Vertebrates	Animalia	Chordata	Mammalia	Chiroptera	Vespertilionidae	*Myotis*	*Myotis lucifugus*				-	-	-	-	0.09	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*				0.49	0.18	0.16	6.02	9.23	5.75						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae						-	-	-	-	0.22	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae						-	-	-	0.16	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*				-	-	-	1.57	0.68	2.47						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*				-	0.06	-	0.15	0.14	0.94						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*					-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*					-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*					-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*					-	-	-	0.17	0.31	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Neotoma*	*Neotoma cinerea*				-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*				-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*				-	-	-	-	0.08	0.30						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-	0.22	-	7.28	7.99	5.03						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-	-	-	0.03	-	0.57						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-	-	-	-	-	-						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-	-	-	-	-	0.13						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*				-	-	-	-	0.79	0.79						
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*					-	-	-	-	-	0.05						
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*				-	-	-	0.15	0.46	0.46						
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*				-	-	-	-	-	0.91						
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*				20.71	-	19.67	45.91	30.95	24.67						
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*				-	-	-	-	-	-						
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*					-	-	-	-	-	-						
Mammals	Animalia	Chordata	Mammalia	Chiroptera	Vespertilionidae	*Myotis*					-	-	-	-	-	-						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*				74.36	-	32.32	9.43	19.89	16.82						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*				-	-	27.14	30.96	25.51	22.93						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*					-	-	0.05	0.64	2.30	2.45						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*					-	-	-	-	-	-						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*					-	-	0.34	0.43	0.48	0.29						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*					-	-	-	0.40	2.10	0.68						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*				-	-	-	-	-	2.47						

Appendix D10: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), July 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Comments	Unuk US Eskay			Unuk DS Eskay		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae					-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	0.19	2.11	1.21	0.05
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	1.70	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	9.65	-	2.42	1.05	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	23.82	13.95	24.92	1.83	1.81	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	American Red Squirrel	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	21.75	29.38	15.19
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Urocitellus*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae					-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	Cinereus Shrew		-	-	-	-	-	3.90
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	Longnose Sucker		-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*				-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*				-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae					-	-	0.31	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*				-	-	-	-	-	-
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	Western Toad		-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	Longnose Sucker		-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	Cutthroat Trout		-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	Coho Salmon		-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	Chinook Salmon		-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*				-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*				-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*				-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae					-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*				-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	Mountain Whitefish		-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	Bull Trout	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*				100.00	99.69	100.00	100.00	98.68	84.86
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae					-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae					-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*				-	-	-	-	-	-
Fish	Animalia	Chordata	Amphibia	Caudata	Salamandridae	*Taricha*	*Taricha granulosa*	Rough-Skinned Newt	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-

Appendix D10: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), July 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US S. Unuk			Unuk DS S. Unuk			Unuk Border			Mitchell			McTagg		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-		-		-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			5.84	-	3.92	-	1.22	0.36	-	1.21		-		-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	0.73	-	-	-	-		-		-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-		-		-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	1.27	4.18	-	-	32.75	-		-		-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			8.04	2.10	10.79	-	8.38	14.21	-	-		-		-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-		-		-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	17.51	7.96	17.67	5.70	8.39	-	-	-		-		-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*		-	4.04	-	-	-	-	-	-		-		-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Urocitellus*		-	-	-	-	-	-	-	-		-		-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae			-	-	-	-	-	-	-	-		-		-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae			-	-	-	-	-	-	-	-		-		-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	7.87	7.90	-	9.55	6.65	14.82	-	-		-		11.45	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-	-	-	-	-	-		-		-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-	-	-		-		-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-	-	-		-		-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-	0.04	-		-		-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*		-	-	-	-	-	-	0.03	0.07		-		-	-	-	-
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	-	-	-	-	-	-		-		-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-	-	-	-	-	-	-						-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	17.30	-	-	14.80	-	-	-	-	-						-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	-	2.31	3.82	-	8.51	-	31.99	-	-						-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	0.04	0.22	0.75	-	0.31	18.15	6.77	5.79	-						-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		5.45	-	-	4.41	-	-	-	-	-						-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	1.80	-	-	-	-	-	-						-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-	-	-	-						-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-	-	-	-						-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		0.07	0.49	2.30	0.13	1.39	4.57	1.84	1.15	-						-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	-	-	-	-	-	-	-	-	-						-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	-	-	-	-	-	-	-	-	-						-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		75.25	96.93	91.34	80.29	79.84	77.28	50.96	23.84	73.68						-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-	-	-	-						-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-	-	-	-						-
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*		-	-	-	-	-	-	8.43	69.22	26.32						-
Fish	Animalia	Chordata	Amphibia	Caudata	Salamandridae	*Taricha*	*Taricha granulosa*	-	-	-	-	9.96	-	-	-	-						-

Appendix D10: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), July 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Gingras			Sulphurets Lake Outlet			Sulphurets US			Sulphurets DS			Teigen US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-		-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-		26.10	16.70	-	-	-	4.32	5.80	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-		-	-	-	99.36	1.65	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-		0.03	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-		-	-	-	-	-	-	-	1.07	-	3.73
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			0.08	-	-	-		-	-	-	0.64	-	-	-	13.64	-	13.40
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-		-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	-	18.27	-	-		-	-	14.65	-	18.08	10.72	9.79	13.92	0.89	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*		-	-	-	-		-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Urocitellus*		-	-	-	-		-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae			-	-	-	-		-	-	-	-	-	-	1.45	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae			-	-	-	-		-	-	-	-	-	-	5.61	-	-	-
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	10.13	16.77	7.45	-		-	14.74	13.92	-	0.99	3.66	13.18	8.26	8.18	25.52
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-	-		-	-	-	-	-	-	-	0.28	0.16	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-		-	-	-	-	-	-	-	0.04	0.55	0.07
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-		-	-	-	-	-	-	-	-	-	0.06
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-		-	-	-	-	-	-	-	0.46	0.09	0.62
Mammals	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*		-	-	-	-		-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	-	-		-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*			-							-	-	-	4.09	0.41	0.79
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*			-							-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*			-							-	-	-	5.34	0.95	2.22
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*			-							-	-	-	3.77	1.39	1.97
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*				-							-	-	-	0.42	0.61	0.50
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*				-							-	-	-	24.44	73.64	14.33
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*				-							-	-	-	0.05	-	0.07
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae					-							-	-	-	0.09	-	0.07
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*				-							-	-	-	4.85	4.67	6.35
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*			-							-	-	-	48.12	14.05	56.95
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*			-							-	-	-	2.73	0.81	8.14
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*				-							96.20	99.79	99.15	4.91	3.07	7.11
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae					-							-	-	-	0.67	0.24	0.66
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae					-							-	-	-	0.53	0.16	0.84
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*				-							-	-	-	-	-	-
Fish	Animalia	Chordata	Amphibia	Caudata	Salamandridae	*Taricha*	*Taricha granulosa*			-							-	-	-	-	-	-

Appendix D10: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), July 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Teigen DS			S. Teigen US2			S. Teigen US1			S. Teigen DS			N .Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-		-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-		-	-	-	-	-	-	2.64	-	1.57	19.23	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-		-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-		-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-		-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-		58.29	54.60	16.78	16.57	62.72	37.23	55.68	62.88	73.72	54.96	67.69	22.48
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-		-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*		-		-	-	-	-	-	-	-	0.67	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*			-		-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Urocitellus*			-		-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae				-		-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae				-		-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*		-		2.63	-	31.95	-	15.02	-	9.58	12.36	3.18	-	-	13.22
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*		-		-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*			-		-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*			100.00		-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae				-		0.06	-	0.17	0.15	0.10	0.13	-	-	0.06	0.12	0.23	0.19
Mammals	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*			-		-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*		-		-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	57.71	44.08	46.22	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	18.58	9.83	4.55	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	0.05	0.03	-	-	-	-	-	-	1.06	0.19	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		7.83	25.26	7.98	-	-	-	-	-	-	3.22	0.71	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-	-	-	-	-	0.04	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		2.36	5.17	6.00	-	-	-	-	-	-	3.39	0.61	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	-	-	-	-	-	-	-	-	-	34.85	56.72	24.69	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	9.15	8.83	25.02	-	-	-	-	-	-	12.33	6.24	5.69	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		4.37	6.79	10.19	100.00	99.95	100.00	100.00	100.00	100.00	44.54	34.26	69.27	100.00	100.00	100.00
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-	-	-	-	0.07	0.03	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-	-	-	-	0.54	0.70	0.35	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Amphibia	Caudata	Salamandridae	*Taricha*	*Taricha granulosa*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D10: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), July 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-				-	-	-	-	9.04	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			56.19	20.39	12.56	82.36	25.63	45.25				49.86	61.24	38.52	29.67	21.59	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	-	-	-	-	-	-				-	-	-	16.25	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*		-	-	-	-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Urocitellus*		-	-	-	-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae			-	-	-	-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae			-	-	-	-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	15.93	38.50	19.76	-	14.17	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-	-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	0.17	0.07				-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	0.05	0.08	0.36	-	0.13				-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*		-	-	-	-	-	-				-	-	-	-	-	-
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	0.13	1.30	1.18	17.28	30.06	16.56				-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-	-	-	-				-			-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	-	-	-	-	-	-				-			-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	-	-	-	15.23	16.31	24.57				-			-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	-	-	-	4.14	4.42	4.12				-			-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	0.25	0.53	0.82				-			-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	0.74	0.91	5.49				-			-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-				-			-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-				-			-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	0.88	1.25	2.00				-			-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	-	-	-	-	-	-				-			-	-	51.13
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	-	-	-	-	-	-				-			-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		100.00	100.00	100.00	78.76	76.58	62.99				100.00			100.00	99.84	48.83
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-				-			-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-				-			-	-	0.04
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*		-	-	-	-	-	-				-			-	-	-
Fish	Animalia	Chordata	Amphibia	Caudata	Salamandridae	*Taricha*	*Taricha granulosa*	-	-	-	-	-	-				-			-	-	-

Appendix D10: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), July 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty DS			Bell US Treaty			Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4	Blank 5	Blank 6
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-	-	-	0.27	0.76	1.06						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-	-	-	-	-	-						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-	-	-	-	-	-						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-	-	-	-	-	-						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-	-	19.18	7.41	7.26	18.73						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-	-	-	2.50	5.14	3.31						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae						-	-	-	0.29	-	-						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*				-	-	-	-	-	2.83						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*					-	-	-	-	-	-						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Urocitellus*					-	-	-	-	1.76	-						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae						-	-	-	-	-	-						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae						-	-	-	-	-	-						
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae						-	-	-	-	-	0.14						
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*				-	-	-	1.76	3.77	2.68						
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*				-	-	-	-	0.04	-						
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*					-	-	-	-	-	-						
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*					0.15	-	-	-	-	-						
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae						4.78	100.00	1.31	-	-	0.04						
Mammals	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*					-	-	-	-	-	-						
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*				-	-	-	-	0.04	-						
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-		-	-	-	-	4.19	6.55	3.41						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	-		-	-	-	-	-	-	-						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	100.00		100.00	0.36	-	0.12	0.58	0.78	1.90						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	-		-	0.19	0.08	-	6.14	4.57	4.30						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-		-	-	-	-	0.13	0.05	0.19						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-		-	-	-	0.10	3.64	4.18	3.75						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-		-	-	-	-	0.05	0.05	0.07						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-		-	-	-	-	0.11	0.10	0.11						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-		-	-	-	-	2.87	1.93	2.94						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	-		-	99.03	99.58	99.67	71.18	74.45	68.82						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	-		-	0.14	-	-	5.30	4.31	6.67						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-		-	-	0.17	-	4.01	1.84	6.30						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-		-	0.21	0.08	0.11	0.72	0.50	0.55						
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-		-	0.07	0.08	-	0.80	0.57	0.90						
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*		-		-	-	-	-	-	-	-						
Fish	Animalia	Chordata	Amphibia	Caudata	Salamandridae	*Taricha*	*Taricha granulosa*	-		-	-	-	-	-	-	-						

Appendix D10: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), July 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Comments	Unuk US Eskay			Unuk DS Eskay		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	Harlequin Duck	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	1.10	-
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	Eurasian Wren	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	Mountain Goat	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	Moose		-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	Long-Tailed Vole	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	0.31	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*				-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	Western Heather Vole	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	0.22	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	American Red Squirrel	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	15.14

Appendix D10: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), July 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US S. Unuk			Unuk DS S. Unuk			Unuk Border			Mitchell			McTagg		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	-	-	-	-	-	-	-	-	-						-
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	-	-	-	-	-	-	-	-	-						-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-	-	-	-						100.00
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-	-	-	-	-	-	-						-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-	-	-	-	-	-	-						-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	0.03	-	-	0.37	-	-	-	-	-						-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-	-	-	-						-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-	-	-	-	-	-	-	-						-
Fish	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	1.87	0.06	-	-	-	-	-	-	-						-

Appendix D10: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), July 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Gingras			Sulphurets Lake Outlet			Sulphurets US			Sulphurets DS			Teigen US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*			-							-	-	-	-	-	-
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*			0.63							-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*			-							2.92	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*			-							-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*				-							-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*			99.37							0.88	0.21	0.85	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*				-							-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*			-							-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*			-							-	-	-	-	-	-

Appendix D10: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), July 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Teigen DS			S. Teigen US2			S. Teigen US1			S. Teigen DS			N .Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	-	-	-	-	-	-	-	-	-	-	0.49	-	-	-	-
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	0.05	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D10: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), July 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	-	-	-	-	-	-				-			-	-	-
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	-	-	-	-	-	-				-			-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-				-			-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-	-	-	-				-			-	0.16	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-	-	-	-				-			-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	-	-	-	-	-	-				-			-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-				-			-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-	-	-	-	-				-			-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	-	-	-	-	-	-				-			-	-	-

Appendix D10: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), July 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty DS			Bell US Treaty			Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4	Blank 5	Blank 6
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1	Rep 1
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	-		-	-	-	-	-	-	-						
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	-		-	-	-	-	-	-	-						
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-		-	-	-	-	-	-	-						
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-		-	-	-	-	0.23	0.14	0.07						
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-		-	-	-	-	-	-	0.03						
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	-		-	-	-	-	-	-	-						
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-		-	-	-	-	0.05	-	-						
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-		-	-	-	-	-	-	-						
Fish	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	-		-	-	-	-	-	-	-						

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Comments	Unuk US Eskay			Unuk DS Eskay		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae					-	-		-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Rhinichthys*				-	-		-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	Coho Salmon		-	-		-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	Chinook Salmon		-	-		-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*				-	-		-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*				-	-		-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*				-	-		-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*				12.13	8.47		11.05	9.64	1.08
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae					-	-		-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	Coastrange Sculpin		-	-		-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	Western Toad		-	-		-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	Columbia Spotted Frog		-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Accipiter*				-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*				-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*	*Anas carolinensis*	American Teal	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae					-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae					-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae					-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Apodiformes	Trochilidae					-	-		-	-	0.82
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Actitis*	*Actitis macularius*	Spotted Sandpiper	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-	0.44	0.41
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Tringa*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Canachites*	*Canachites canadensis*	Spruce Grouse		-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Dendragapus*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	White-Tailed Ptarmigan	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*				-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Gaviiformes	Gaviidae	*Gavia*				-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*				-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	American Dipper	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	Dark-Eyed Junco		-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae					1.91	0.66		0.07	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus satrapa*	Golden-Crowned Kinglet	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	Eurasian Wren	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	Veery	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	0.03		-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	Swainson's Thrush	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	10.08		-	1.08	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	Varied Thrush	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-	-	2.27

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US S. Unuk			Unuk DS S. Unuk			Unuk Border			Mitchell			McTagg		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae			-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Rhinichthys*		-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	0.79	1.64	-	0.21	0.67	0.12	0.45	2.12	0.39	-	-	-		-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	12.84	8.26	5.71	12.64	22.46	19.30	31.38	45.84	39.22	-	-	-		-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		15.82	5.06	2.64	0.97	1.85	-	1.55	2.42	1.55	-	-	-		-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		0.37	0.09	0.07	4.88	2.68	4.32	39.94	14.09	21.30	-	-	-		-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-	0.70	0.38	0.83	-	-	-		-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		15.55	16.71	20.80	44.63	29.18	32.57	11.39	17.02	18.73	-	-	-		-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	-	-	-	-	-	-	3.60	0.94	1.52	-	-	-		-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Accipiter*		-	-	-	-	-	-	-	1.71	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*		-	-	-	1.04	-	-	2.45	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*	*Anas carolinensis*	-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	0.91	-	-	-	-	0.55	1.36	-	-	-		-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Aves	Apodiformes	Trochilidae			-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Actitis*	*Actitis macularius*	0.37	-	1.15	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Tringa*		-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Canachites*	*Canachites canadensis*	-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Dendragapus*		-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*		-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Aves	Gaviiformes	Gaviidae	*Gavia*		-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*		-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-	-	0.39	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae			-	-	-	-	-	1.73	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus satrapa*	-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	-	1.73	-	-	0.88	-	-	0.90	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	-	-	-	0.68	-	-	-	-	0.92	-	-	-		-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	-	3.16	-	5.23	-	-	-	-	-	-	-	-		-	-

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Gingras			Sulphurets Lake Outlet			Sulphurets US			Sulphurets DS			Teigen US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae			-	-	-		-	-	-	-	-	-	-	-	0.11	0.23	-
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Rhinichthys*		-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	-	-	-		-	-	-	-	-	-	-	-	0.99	0.85	0.72
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	-	-	-		-	-	-	-	-	-	-	-	64.12	67.34	66.51
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-		-	-	-	-	-	-	-	-	-	0.03	0.03
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-		-	-	-	-	-	-	-	-	11.89	10.61	12.57
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-		-	-	-	-	-	-	-	18.65	2.34	2.60	2.41
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-		-	-	-	-	-	-	-	-	15.33	14.54	13.24
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Accipiter*		-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*		-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*	*Anas carolinensis*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-		-	-	-	-	-	-	-	-	0.73	0.67	1.71
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-		-	-	-	-	-	-	-	-	0.05	0.04	0.11
Vertebrates	Animalia	Chordata	Aves	Apodiformes	Trochilidae			-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Actitis*	*Actitis macularius*	-	-	-		-	-	-	-	-	-	-	-	0.07	-	-
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Tringa*		-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Canachites*	*Canachites canadensis*	-	-	-		-	-	-	-	-	-	-	-	0.07	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Dendragapus*		-	1.15	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	-	-	-		-	-	-	-	-	-	-	-	-	0.03	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*		-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Gaviiformes	Gaviidae	*Gavia*		-	-	-		-	-	-	-	-	-	-	-	-	-	0.03
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*		-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	0.86	1.27	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae			-	-	-		-	0.28	-	-	-	0.07	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus satrapa*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	-	-	-		-	-	-	-	-	-	-	-	0.05	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	-	-	-		-	-	-	-	-	-	-	-	-	0.03	0.03
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	-	-	-		-	-	-	-	-	-	-	-	0.21	0.13	0.10

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Teigen DS			S. Teigen US2			S. Teigen US1			S. Teigen DS			N. Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae			0.08	0.06	0.21	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Rhinichthys*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	0.93	0.61	0.60	-	-	-	-	-	-	0.13	0.09	0.17	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	54.19	51.23	55.58	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		0.06	0.10	0.08	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		8.33	6.22	7.59	-	-	-	-	-	-	2.73	2.16	3.09	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		3.15	2.65	3.84	60.81	73.24	77.55	84.23	88.08	87.56	54.17	57.50	56.32	61.20	70.20	57.02
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			28.47	34.11	25.43	-	-	-	-	0.25	-	24.39	20.15	24.48	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	0.07	-	-	-	-	-	-	-	-	-	-	-	-	4.04	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Accipiter*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*	*Anas carolinensis*	-	-	-	-	-	-	-	0.37	-	-	-	-	0.82	2.17	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			0.76	0.37	0.84	-	-	-	-	0.04	-	-	-	-	1.53	0.31	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			0.05	-	0.05	-	-	-	-	-	-	-	-	-	0.04	-	-
Vertebrates	Animalia	Chordata	Aves	Apodiformes	Trochilidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Actitis*	*Actitis macularius*	-	-	-	-	-	-	-	-	-	-	-	-	1.52	-	-
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Tringa*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Canachites*	*Canachites canadensis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Dendragapus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	-	-	0.07	-	-	-	-	-	-	1.78	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Gaviiformes	Gaviidae	*Gavia*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*		-	-	-	-	-	-	-	-	-	-	0.45	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	0.03	-	0.05	-	-	-	-	-	-	0.77	3.06	1.72	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	-	-	-	-	-	-	2.01	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae			-	-	-	2.73	2.40	-	0.76	1.26	-	0.53	-	0.17	0.05	0.25	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus satrapa*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	-	-	-	-	-	-	-	-	-	0.20	0.80	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	-	-	-	-	4.37	-	-	-	-	0.48	-	-	0.05	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	0.05	-	-	3.52	-	-	0.98	-	1.95	-	0.60	-	6.27	4.72	4.86
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	0.16	0.04	0.16	-	-	2.29	1.04	-	0.60	0.91	0.36	0.38	-	-	10.71

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae			-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Rhinichthys*		-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	-	0.06	-	3.44	4.10	2.62				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	0.89	-	0.84	0.99	0.14				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		80.65	77.28	80.94	21.63	18.51	14.10				15.16	23.10	22.71	28.34	24.16	27.84
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-				-	-	-	22.42	31.87	22.86
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	-	6.93	6.69	3.47				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Accipiter*		-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*		-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*	*Anas carolinensis*	0.54	1.91	1.77	45.40	49.96	33.34				-	-	-	-	-	1.48
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			0.26	0.75	0.31	18.24	16.13	41.00				-	-	11.26	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	0.24	0.11	0.87				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	0.23	0.17	0.27				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Apodiformes	Trochilidae			-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Actitis*	*Actitis macularius*	-	-	-	0.27	0.16	0.24				-	-	32.36	-	-	-
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Tringa*		-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Canachites*	*Canachites canadensis*	-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Dendragapus*		-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*		-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Gaviiformes	Gaviidae	*Gavia*		-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*		-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae			0.33	0.33	0.86	0.26	0.16	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus satrapa*	-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	1.09	1.14	0.78	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	-	-	0.04	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	6.11	8.29	3.14	-	-	-				-	-	-	-	-	4.34
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	0.58	0.28	-	0.06	0.09	-				-	-	-	-	-	-

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty DS			Bell US Treaty			Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae			-	-	-	0.21	0.22	0.64	1.11	0.32	0.69	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Rhinichthys*		-	-	-	-	0.17	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	0.06	-	-	0.42	0.41	0.57	0.39	0.55	0.96	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	-	-	-	25.71	27.77	23.07	16.90	16.64	19.27	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	0.19	0.20	0.20	0.12	0.04	0.08	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		12.93	2.31	-	1.64	1.76	2.29	4.06	2.78	4.52	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		14.27	16.06	12.60	5.14	4.64	5.13	6.23	2.30	1.62	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	24.72	13.01	21.14	20.10	22.23	29.25	36.72	33.29	-			
Vertebrates	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	-	-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	0.72	0.30	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	-	-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Accipiter*		-	-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*		-	-	-	-	-	-	-	0.11	-	-			
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*	*Anas carolinensis*	-	-	3.58	0.18	-	0.06	0.07	0.15	-	-			
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			7.83	-	20.70	0.89	0.99	0.54	0.29	0.86	0.67	-			
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Apodiformes	Trochilidae			-	-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Actitis*	*Actitis macularius*	4.31	1.93	0.68	-	0.04	0.03	-	-	0.04	-			
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Tringa*		-	-	-	0.10	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Canachites*	*Canachites canadensis*	-	-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Dendragapus*		-	-	-	0.21	0.05	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	-	-	-	-	0.06	-	-	-	0.21	-			
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*		-	-	-	-	-	-	-	0.15	0.26	-			
Vertebrates	Animalia	Chordata	Aves	Gaviiformes	Gaviidae	*Gavia*		-	-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*		-	-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	-	-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae			-	-	-	-	-	-	-	-	0.11	-			
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus satrapa*	-	-	-	-	-	-	0.16	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	-	-	-	0.04	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	-	-	-	-	-	-	-	-	0.16	-			
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	-	-	-	-	0.34	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	-	-	-	-	-	0.24	-	-	-	-			

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Comments	Unuk US Eskay			Unuk DS Eskay		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Tyrannidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes						-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	Mountain Goat	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	Moose		-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	Wolverine		-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	American Ermine		-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	American Black Bear		-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	Brown Bear		-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*				-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*				-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Oryctolagus*	*Oryctolagus cuniculus*	European Rabbit		-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	North American Beaver		-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae					-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae					-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*				1.65	1.84		3.90	4.56	4.93
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	Long-Tailed Vole	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	4.63	5.68		29.80	23.38	32.32
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	Eastern Meadow Vole	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	1.22	1.92		0.78	1.59	3.09
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*				0.24	-		0.07	0.08	0.04
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*				0.47	-		0.09	0.38	0.31
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Neotoma*	*Neotoma cinerea*	Bushy-Tailed Woodrat	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	Muskrat		-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	Eastern Deer Mouse		-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	Western Heather Vole	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	0.18		0.87	0.32	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae					77.00	70.66		52.30	56.76	53.72
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae					0.52	0.48		-	0.93	0.14
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0.10	-		-	0.29	0.11
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae					-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae					-	-		0.54	0.24	0.45
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae					-	-		0.08	-	0.23
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae					0.14	-		0.39	0.09	0.03
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae					-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		0.06	-	0.06
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	North American Porcupine		-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	Southern Flying Squirrel		-	-		-	-	-

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US S. Unuk			Unuk DS S. Unuk			Unuk Border			Mitchell			McTagg		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Tyrannidae			-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes				2.17	6.95	-	-	-	1.47	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	0.52	-	-	-	-	-	-		28.35	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-	-	-	0.06	-	0.04	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-	-	-	0.31	-	-	0.10	-	0.30	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		-	-	-	-	-	-	-	-	0.03	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Oryctolagus*	*Oryctolagus cuniculus*	-	-	-	-	-	0.15	-	-	0.17	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	-	-	-	-	0.66	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		0.61	0.65	0.45	0.35	0.65	0.61	-	0.21	0.15	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	10.99	12.64	6.79	5.02	3.51	3.72	1.91	2.26	2.01	78.70	49.81	66.23		46.78	98.03
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	1.16	0.86	0.32	1.17	1.05	0.88	-	0.28	0.12	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		0.33	-	-	-	-	-	-	-	0.27	-	-	-		24.15	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		7.74	6.20	4.04	1.81	1.05	2.04	0.84	0.12	0.27	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Neotoma*	*Neotoma cinerea*	-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	1.17	0.29	0.53	0.76	0.48	0.50	-	0.55	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			13.52	22.27	15.76	11.40	24.89	23.14	3.74	8.55	8.53	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			1.37	0.80	0.63	1.33	2.71	1.71	-	0.41	0.36	-	12.38	8.71		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	0.12	0.06	0.11		0.72	1.97
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	0.04	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	0.29	-	-	0.34	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	0.17	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	14.47	10.36	39.03	6.31	6.67	5.27	0.81	0.95	0.60	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae			-	-	0.05	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	-	-	-	-	-	-	-	-	-	-	-	-		-	-

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Gingras			Sulphurets Lake Outlet			Sulphurets US			Sulphurets DS			Teigen US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Tyrannidae			-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes				-	1.13	1.77		-	99.72	38.70	-	-	24.25	2.92	-	0.14	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		-	-	-		-	-	-	-	-	-	-	-	0.04	0.07	0.06
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Oryctolagus*	*Oryctolagus cuniculus*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	-		-	-	-	-	-	-	-	-	0.06	0.17	0.25
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		-	-	-		-	-	-	0.47	-	-	-	0.11	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	24.93	27.61	21.23		-	-	32.99	29.11	28.45	56.03	45.73	25.05	0.08	0.07	0.10
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	2.52	2.67	3.36		-	-	24.73	30.71	11.74	-	8.00	4.78	-	0.03	0.03
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	0.43		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		17.61	12.27	17.61		-	-	-	-	-	-	2.57	1.24	0.08	0.08	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Neotoma*	*Neotoma cinerea*	0.74	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	0.40	0.41	0.32		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	49.39	51.32	52.52		-	-	-	-	-	-	-	-	0.03	0.04	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-	-	-	15.00	-	-	-	3.33	3.18	2.36	1.90
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-	-	3.30	14.38	-	-	2.54	1.49	0.42	0.07	0.12
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			0.08	-	0.05		-	-	0.28	0.10	-	0.20	0.20	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	0.10	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	0.15	0.29		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			0.04	0.31	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	0.04	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	-	-	-		-	-	-	6.49	-	-	15.03	32.06	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae			-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	-	-	-		-	-	-	-	-	-	-	-	-	-	-

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Teigen DS			S. Teigen US2			S. Teigen US1			S. Teigen DS			N. Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Tyrannidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes				0.12	0.30	-	11.02	2.08	0.84	5.77	4.29	5.24	-	2.19	0.59	10.09	3.38	3.17
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-	0.30	-	0.16	0.87	0.40	0.80	-	-	-	-	0.14	2.13
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	-	-	-	-	-	0.17	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-	-	-	-	-	1.60	-	0.34	-	-	-	-	0.59	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		0.05	-	0.03	-	-	-	-	-	-	-	0.20	0.05	-	-	0.22
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		-	-	-	-	-	0.11	-	0.03	-	-	-	-	0.05	-	-
Vertebrates	Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Oryctolagus*	*Oryctolagus cuniculus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	1.85	2.98	3.89	-	-	-	0.90	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	0.03	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		-	-	-	-	-	0.10	-	0.04	-	0.09	0.10	0.10	0.18	0.09	0.07
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	0.19	0.23	0.23	2.01	3.71	3.36	0.14	0.21	0.27	6.50	6.58	6.96	3.43	1.45	4.62
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	0.06	0.13	0.04	13.15	9.10	5.82	1.99	1.88	2.09	1.42	0.84	1.41	4.82	8.92	9.87
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		-	-	-	0.20	-	-	0.62	0.26	0.10	0.21	0.30	0.23	-	0.35	0.68
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Neotoma*	*Neotoma cinerea*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	-	-	-	-	0.54	-	-	-	-	0.18	0.04	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	0.06	0.04	1.88	0.69	0.87	0.49	-	-	0.08	-	0.03	1.85	0.83	1.80
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			0.96	0.36	0.68	-	-	2.10	-	1.31	0.65	2.53	1.18	1.61	5.40	1.95	1.86
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			0.41	0.53	0.53	1.42	0.08	0.09	-	0.76	0.20	1.97	2.49	2.22	1.79	0.72	1.16
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	0.08	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	0.03	0.18	-	-	0.35
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	0.23	0.10	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	0.08	-	-	-	0.55
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	-	-	-	-	-	-	-	-	0.16	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Tyrannidae			-	-	-	-	0.03	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes				3.65	0.94	3.68	0.37	0.32	1.87				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	0.04	-	0.12	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	0.07	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		-	-	-	-	-	-				-	-	-	8.76	5.49	1.39
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		-	-	-	-	-	-				-	-	-	0.10	0.06	-
Vertebrates	Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Oryctolagus*	*Oryctolagus cuniculus*	-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	-	0.07	-	0.09				-	-	-	21.31	26.04	7.71
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		-	0.05	0.10	-	-	-				0.49	0.12	0.19	0.09	0.08	0.19
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	1.85	2.11	1.94	0.03	0.03	-				39.76	19.93	12.50	12.00	2.34	3.16
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	1.79	1.37	1.38	1.70	2.20	1.69				-	12.23	5.92	-	1.05	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		0.67	1.07	0.49	0.08	0.07	-				0.97	-	-	-	1.13	2.14
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Neotoma*	*Neotoma cinerea*	-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	-	-	-	0.06	0.14	0.08				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	-	-	0.12	-	-	-				13.46	3.71	0.23	1.53	-	3.62
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	0.08	-	-	-	-				-	-	0.18	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			0.15	1.57	2.12	-	-	-				19.62	19.97	11.09	5.39	7.26	19.91
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			1.76	1.28	1.61	0.04	0.03	0.04				-	3.61	-	-	0.51	2.16
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-				0.61	0.09	0.13	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-				-	-	1.88	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			0.12	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	0.06	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae			-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	-	-	-	-	-	-				-	-	-	-	-	-

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty DS			Bell US Treaty			Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Tyrannidae			-	-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Aves	Passeriformes				-	-	-	0.64	-	0.52	0.22	0.11	0.14	-			
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	3.70	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	0.50	-	0.19	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	-	-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	3.10	-	-	-	-	0.03	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-	-	-	0.07	-	-	0.03	0.10	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-	-	0.04	0.10	0.04	0.16	-	0.06	-			
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		-	-	-	-	-	-	0.07	-	0.06	-			
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		-	-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Oryctolagus*	*Oryctolagus cuniculus*	-	-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	4.68	11.70	-	1.57	2.66	1.76	0.50	1.17	1.09	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	0.09	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		0.54	0.31	0.75	0.33	0.31	0.41	0.19	0.16	0.28	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-	0.11	-	-	-	0.06	0.10	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	8.62	1.77	13.51	0.75	0.78	0.99	0.55	0.46	0.60	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	10.38	2.66	1.13	0.41	0.44	0.46	0.23	0.20	0.43	100.00			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	0.35	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		1.10	-	-	0.32	0.22	0.03	0.07	0.56	0.09	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Neotoma*	*Neotoma cinerea*	-	-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	-	-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	-	-	0.22	-	-	-	-	-	0.07	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	0.24	0.81	2.23	0.04	0.06	-	0.06	0.08	0.22	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			11.98	15.11	18.52	39.48	38.04	40.34	38.98	36.30	34.44	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	1.42	0.18	0.25	0.21	0.39	0.04	0.28	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			0.06	-	0.03	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	0.04	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	0.07	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	14.72	15.14	7.41	-	0.28	-	-	-	0.09	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae			-	-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	-	0.56	-	-	-	-	-	-	-	-			

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Comments	Unuk US Eskay			Unuk DS Eskay		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*	*Marmota monax*	Groundhog	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*				-	-		-	0.15	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	Cinereus Shrew	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-		-	0.09	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	Mountain Goat		-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	Moose		-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae					-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae					-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	American Marten		-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	American Ermine		-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	American Black Bear		-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Chiroptera	Vespertilionidae	*Myotis*				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	North American Beaver		-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae					-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	Canadian Lemming	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	Long-Tailed Vole	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	29.21	23.45	24.43	61.12	64.71	61.95
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	21.81	11.67	20.56	1.91	1.56	0.59
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0.62	0.46	0.52	0.87	0.82	0.84
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*				0.94	-	-	0.50	0.97	0.97
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*				-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	Western Heather Vole	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0.84	-	-	1.83	4.62	1.85
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	0.56	1.88	1.36	2.91	1.23
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	1.79	-	-	0.08
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	3.06	0.94	0.87	1.22
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae					-	-	-	-	-	-

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US S. Unuk			Unuk DS S. Unuk			Unuk Border			Mitchell			McTagg		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*	*Marmota monax*	-	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*		0.35	0.16	0.27	0.23	0.96	0.56	0.21	0.07	0.46	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae			0.05	-	-	-	-	-	-	-	-	-	-	-		-	-
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	0.32	2.16	0.85	0.64	0.31	1.03	0.26	0.61	0.38	21.18	37.75	24.95		-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-	-	-	-	-	-	-		-	37.14
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-	-	-	0.77	6.60	1.65	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*		-	-	-	-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae			-	-	-	-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae			-	-	-	-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	-	-	-	-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	-	-	-	-	-	-	-	-	-	-	-	-		24.84	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-	-	-	-	-	-	0.06	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		-	-	-	-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Chiroptera	Vespertilionidae	*Myotis*		-	-	-	-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	-	2.62	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	-	-	-	-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-	-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	28.63	34.05	30.18	33.55	27.08	24.88	44.88	25.47	36.29	41.03	27.49	24.02		27.62	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		3.57	2.03	5.69	11.74	6.59	5.40	11.12	2.37	14.24	0.07	27.76	49.00		31.59	0.12
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		0.35	0.38	0.41	0.69	0.41	0.54	0.86	0.42	0.89	0.56	0.58	0.80		0.71	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		21.11	27.59	26.12	6.81	6.86	3.92	6.88	8.67	1.44	23.63	0.80	26.18		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*		-	-	-	-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	3.69	0.19	1.09	5.81	10.94	4.91	-	7.22	1.72	-	-	-		-	29.16
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			0.78	2.07	1.11	1.45	1.79	3.81	-	1.18	5.15	-	11.06	-		-	33.51
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	1.14	0.92	1.26	-	-	0.84	-	34.71	13.43	-		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-		-	-

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Gingras			Sulphurets Lake Outlet			Sulphurets US			Sulphurets DS			Teigen US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*	*Marmota monax*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*		-	-	0.12		100.00	-	-	3.72	-	6.55	6.12	3.13	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae			-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	3.44	1.57	2.29		-	-	-	-	59.81	12.91	16.88	10.16	0.03	-	0.09
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*		-	-	-		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae			-	-	-		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae			-	-	-		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	-	-	-		-		-	-	-	-	-	-	1.42	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	-	-	-		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-	-	-		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		-	-	-		-		-	-	-	-	-	-	0.11	0.63	2.46
Mammals	Animalia	Chordata	Mammalia	Chiroptera	Vespertilionidae	*Myotis*		-	-	-		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	-		-		-	-	-	-	-	-	1.97	4.96	14.23
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-		-		-	-	-	-	-	-	-	0.31	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	-	-	-		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	11.16	9.45	11.14		45.49		41.88	82.05	37.71	14.35	35.96	40.20	13.30	17.98	8.03
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		15.84	13.96	12.63		0.11		0.18	0.13	15.47	44.46	7.40	3.73	4.35	2.86	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		0.28	0.27	0.28		0.85		0.59	0.91	0.89	0.89	0.43	0.52	0.19	0.30	0.10
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		18.36	11.21	16.09		-		-	-	-	3.14	-	-	2.41	4.94	2.76
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*		-	-	-		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	46.20	56.43	48.93		-		19.11	-	-	-	11.28	-	-	-	2.79
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			0.56	0.83	0.57		-		0.18	0.08	5.81	0.03	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			0.44	0.94	0.62		-		10.34	16.82	-	3.92	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			0.24	0.90	0.50		-		-	-	-	-	-	-	-	-	1.37

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Teigen DS			S. Teigen US2			S. Teigen US1			S. Teigen DS			N. Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*	*Marmota monax*	-	-	-	-	-	-	-	-	-	0.26	0.55	0.13	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	0.03	-	0.05	2.96	3.78	4.97	0.19	0.48	0.38	0.34	0.16	0.17	0.33	0.48	0.91
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	0.20	-	3.30	1.88	-	16.89	51.89	27.41	-	-	1.69	3.29	2.62	15.97
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae			-	-	-	-	-	-	-	-	0.33	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae			-	-	-	-	-	-	-	-	-	0.43	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		0.21	0.05	0.21	-	-	-	-	-	-	-	0.62	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Chiroptera	Vespertilionidae	*Myotis*		-	-	-	-	-	-	-	-	1.41	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	35.54	58.79	50.50	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	25.36	15.23	29.78	3.57	11.19	10.75	2.50	0.74	7.53	51.16	51.97	47.72	34.08	9.13	15.35
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		2.55	0.08	0.95	0.03	-	0.04	-	-	-	12.25	19.42	16.49	0.05	-	3.11
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		0.35	0.22	0.40	0.06	0.11	0.14	0.05	-	0.08	0.96	0.86	0.74	0.47	0.10	0.23
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-	-	-	-	0.03	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		4.20	1.73	2.16	2.01	2.25	4.62	1.86	1.68	3.79	3.43	2.57	0.47	3.35	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*		0.62	0.27	0.69	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	3.22	0.26	0.56	7.07	4.07	-	11.19	1.70	0.55	-	1.22	2.91	-	13.22	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	0.06	0.13	0.91	-	-	-	-	-	4.07	3.74	1.99	-	-	0.09
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	0.08	-	2.00	-	-	3.08	-	0.40	0.06	1.68	-	-	1.06
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			0.65	0.70	-	-	-	-	0.18	-	1.94	-	-	0.96	8.58	-	-

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*	*Marmota monax*	-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*		-	-	-	-	-	-				-	17.24	1.55	-	-	0.62
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae			-	-	-	-	-	-				-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	0.35	0.55	0.61	0.12	0.11	0.16				9.91	-	-	0.07	-	2.58
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	6.34	2.25	10.99	-	-	0.73			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*		-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae			-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae			-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	-	-	-	-	-	1.11			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		-	-	-	-	-	-			-	-	-	-	4.80	3.25	0.93
Mammals	Animalia	Chordata	Mammalia	Chiroptera	Vespertilionidae	*Myotis*		-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	-	1.32	0.44	0.93			-	-	10.59	19.73	42.55	39.55	40.52
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	32.78	27.32	43.12	0.77	0.85	0.56			98.48	40.10	39.14	6.57	15.01	24.19	31.45
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		0.28	0.15	0.35	-	-	-			0.20	0.08	0.05	-	0.02	0.04	0.31
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		0.53	0.32	0.56	-	-	-			1.32	0.41	0.50	0.07	0.44	0.41	0.40
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		2.49	11.97	6.45	1.26	2.52	0.45			-	14.07	0.57	8.15	12.96	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*		-	-	-	15.31	13.64	10.07			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	1.12	0.77	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			2.42	1.76	2.29	-	-	0.28			-	-	-	-	-	-	0.41
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			2.32	-	-	-	0.23	1.35			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-			-	17.14	18.23	51.59	-	19.96	4.43

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty DS			Bell US Treaty			Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*	*Marmota monax*	-	0.74	1.83	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*		-	-	0.60	-	-	0.07	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae			-	-	-	-	-	-	-	-	-	-			
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	4.68	1.75	0.94	0.14	0.11	0.06	-	0.13	0.14	-			
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	7.58	-	-	-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	11.97	-	-	0.17	-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*		-	-	-	-	-	-	-	-	0.28				
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae			-	-	-	-	-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae			-	-	-	-	-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	-	-	-	0.14	-	-	-	0.54	-				
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	-	-	-	-	-	-	-	0.53	-				
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	-	-	-	0.03	-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		0.28	-	-	-	0.02	-	-	-	0.05				
Mammals	Animalia	Chordata	Mammalia	Chiroptera	Vespertilionidae	*Myotis*		-	-	-	-	-	-	-	0.35	1.20				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	9.00	5.28	-	3.66	3.59	3.07	5.17	2.47	3.33				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-	-	0.13	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	-	-	-	-	0.12	0.52	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-	-	-	0.27	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	42.91	18.28	55.14	9.58	9.88	7.38	6.83	7.70	7.99				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		0.20	3.27	0.15	1.17	0.69	0.56	1.47	3.50	3.17				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		0.45	0.52	0.71	0.12	0.11	0.19	0.14	0.11	0.15				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		8.28	7.20	6.01	0.77	0.65	1.41	1.96	0.77	3.59				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*		0.30	-	1.54	0.21	0.42	0.57	-	0.36	0.19				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	7.02	-	0.22	0.69	0.07	0.83	0.67	0.64				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			0.94	-	-	0.24	0.29	-	-	-	0.16				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			3.34	2.43	1.82	0.33	-	0.09	-	0.14	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	3.33	-	0.48	-	0.38	0.30	-	0.31				

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Comments	Unuk US Eskay			Unuk DS Eskay		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	44.70	59.00	44.36	28.13	19.10	28.05
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	0.03	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	0.37	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	1.88	4.86	3.37	2.54	3.46	3.21
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*	*Marmota monax*	Groundhog	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	American Red Squirrel	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Urocitellus*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae					-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	Cinereus Shrew		-	-	-	0.81	0.62	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	Longnose Sucker		-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha*	Pink Salmon		-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus keta*	Chum Salmon		-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*				-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*				-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	Bull Trout		-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*				-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae					-	-	-	-	-	-
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	Western Toad		-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	Longnose Sucker		-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	Cutthroat Trout		-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha*	Pink Salmon		-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus keta*	Chum Salmon		-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	Coho Salmon		-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	Sockeye Salmon		-	-	-	-	-	-

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US S. Unuk			Unuk DS S. Unuk			Unuk Border			Mitchell			McTagg		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			25.46	15.67	13.39	20.96	28.15	19.81	10.60	29.69	25.50	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	2.45	-	-	-	-	-	-	-		-	0.06
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			3.61	5.69	3.82	5.15	6.55	11.60	-	9.03	0.97	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae			-	-	1.07	-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*	*Marmota monax*	-	-	-	-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	5.63	2.12	1.88	3.22	7.00	1.07	18.53	4.49	1.76	-	-	-		15.25	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Urocitellus*		-	-	-	-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae			-	-	-	-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	7.16	10.22	14.10	7.08	0.92	23.30	-	8.90	11.60	-	18.89	-		-	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-	-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha*	-	-	-	-	-	-	-	-	0.04	-	-	-		-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus keta*	-	-	-	-	-	-	0.26	-	0.36	-	-	-		-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-	0.22	0.08	0.04	-	-	-		-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	-	-	-	-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-	-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-	-	-	-	-	-	-		-	-
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	-	-	-	-	-	-	-	-	-	-		-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-	-	-	-	-	-	-					-	
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	-	-	-	-	3.08	-	0.25	0.14	-					-	
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha*	-	-	-	-	-	-	4.50	6.50	3.32					-	
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus keta*	-	-	-	2.83	0.61	1.64	20.72	9.48	10.28					-	
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	-	3.36	-	0.35	0.12	0.25	1.81	3.55	3.12					-	
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	18.19	14.11	5.90	1.21	1.98	0.72	7.60	6.92	5.64					-	

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Gingras			Sulphurets Lake Outlet			Sulphurets US			Sulphurets DS			Teigen US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		53.55		-	-	-	0.93	1.84	-	65.51	60.59	59.72
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			2.88	3.46	0.94		-		-	-	10.99	1.67	9.49	0.07	2.42	2.69	0.81
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae			-	-	-		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*	*Marmota monax*	-	-	-		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	-	0.26	0.76		-		-	-	8.12	7.55	7.88	24.97	0.61	1.74	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Urocitellus*		-	-	-		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae			-	-	-		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	4.05	2.28	7.54		-		27.72	-	21.02	23.06	25.72	30.51	7.10	0.72	6.46
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-		-		-	-	-	-	-	-	-	0.78	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha*	-	-	-		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus keta*	-	-	-		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-		-		-	-	-	-	-	-	0.48	0.99	1.00
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-		-		-	-	-	-	-	-	0.07	0.11	0.12
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	-	-	-		-		-	-	-	-	-	-	-	0.07	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-		-		-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-		-		-	-	-	-	-	-	0.06	0.06	0.10
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	-		-		-	-	-	-	-	-	-	0.30	0.05
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-								-		0.13	0.20	0.12
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	-	-	-								-		-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha*	-	-	-								-		-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus keta*	-	-	-								-		-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	-	-	-								-		1.08	1.47	0.97
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	-	-	-								-		0.19	0.12	0.12

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Teigen DS			S. Teigen US2			S. Teigen US1			S. Teigen DS			N. Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			7.86	4.80	5.01	0.98	1.34	0.11	-	-	-	1.52	2.85	1.50	2.16	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	0.02	-	-	-	-	-	-	0.25	0.03	-	-	0.34
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	0.05	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			9.99	13.28	2.04	48.80	34.76	48.58	60.21	40.82	56.96	12.70	9.93	15.92	43.12	70.86	63.85
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	0.35	-	0.06	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*	*Marmota monax*	-	0.62	-	-	-	-	-	-	-	1.21	1.05	2.37	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	-	-	1.30	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Urocitellus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	9.01	3.21	5.66	33.24	42.40	35.76	7.13	-	-	11.46	5.47	5.44	4.80	4.06	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	0.10	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus keta*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		0.22	0.36	0.37	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-	-	-	-	-	0.09	-	0.04	-	-	0.10	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			0.20	0.13	0.04	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	0.04	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	0.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus keta*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	1.15	0.74	1.09	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	0.23	0.08	0.19	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			3.57	2.17	4.04	-	-	-			-	6.17	3.64	-	-	-	14.02
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			36.43	27.78	19.40	74.13	76.49	79.13			-	-	6.05	-	9.67	-	7.53
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae			-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*	*Marmota monax*	-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	-	-	-	0.26	-	-			-	22.02	8.62	-	14.55	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Urocitellus*		-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae			-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	11.68	25.42	12.44	1.17	0.88	2.18			-	-	12.61	13.88	-	12.59	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha*	-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus keta*	-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		0.05	0.08	0.38	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-			-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	-	5.79	4.95	3.22			-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-	-	-	-					-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	-	-	-	-	-	-					-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha*	-	-	-	-	-	-					-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus keta*	-	-	-	-	-	-					-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	-	-	-	14.72	13.93	21.86					-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	-	-	-	0.06	0.06	-					-	-	-	-	-

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty DS			Bell US Treaty			Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			4.32	9.13	15.98	76.68	79.18	79.23	76.00	76.57	72.59				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	0.08	0.03	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			14.11	23.33	13.20	3.01	3.18	3.76	2.56	3.97	3.15				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	0.06	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	0.52				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	0.10	-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae			-	-	-	-	-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*	*Marmota monax*	-	-	-	-	-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	-	12.64	5.10	-	-	-	0.35	0.97	0.66				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Urocitellus*		-	-	-	-	-	-	1.36	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae			-	-	0.36	-	-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	3.77	-	-	3.03	1.07	2.43	3.01	1.15	1.98				
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-	-	-	-	-	-	-				
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha*	-	-	-	-	-	-	-	-	-				
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus keta*	-	-	-	-	-	-	-	-	-				
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	0.05	0.03	-	-	-	0.03				
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-	-	-	-				
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	-	-	-	-	-	-	-	-	-				
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-	-	-	-	-	-	-				
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-	0.02	-	-				
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	0.14	-	-	-	-	0.02	-	-	-				
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-	-	0.40	1.35	0.61	-	0.75				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	-	-	-	-	-	-	-	-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha*	-	-	-	-	-	-	-	-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus keta*	-	-	-	-	-	-	-	-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	-	-	-	1.08	1.67	1.68	2.24	1.12	1.06				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	-	-	-	0.35	1.06	0.58	0.81	0.40	1.09				

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Comments	Unuk US Eskay			Unuk DS Eskay		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	Chinook Salmon		-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*				-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*				-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	Mountain Whitefish		-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	Bull Trout	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*				84.85	73.04	66.13	92.37	88.39	68.52
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*				-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*				-	-	-	-	-	-
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	Harlequin Duck	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Fish	Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus satrapa*	Golden-Crowned Kinglet	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	Eurasian Wren	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	Mountain Goat	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	Moose		-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	13.98	26.38	1.08	2.51	4.17	20.53
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	Long-Tailed Vole	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0.09	0.42	32.79	5.11	7.44	10.75
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*				-	0.16	-	-	-	0.21
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*				-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	Western Heather Vole	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	1.09	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	Cinereus Shrew	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk US S. Unuk			Unuk DS S. Unuk			Unuk Border			Mitchell			McTagg		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	41.82	36.60	17.59	37.93	37.83	48.97	31.70	52.45	46.15					-	
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-	-	-	-					-	
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		4.45	1.42	4.52	2.99	2.79	1.02	7.18	2.34	3.38					-	
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	-	-	-	-	-	-	-	-	-					-	
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	-	-	-	-	-	-	-	-	-					-	
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		35.54	40.09	70.82	54.55	53.48	47.06	26.24	10.36	17.48					-	
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-	-	-	-	-	-	-					-	
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*		-	-	-	-	-	-	-	8.27	10.63					-	
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	-	-	-	-	-	-	-	-	-					-	
Fish	Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus satrapa*	-	-	-	-	-	-	-	-	-					-	
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	-	-	-	-	-	-	-	-	-					-	
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-	-	-	-					-	
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-	-	-	-	-	-	-					-	
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	0.08	-	-	0.11	-	-	-	-					-	
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	-	1.47	1.17	-	-	0.34	-	-	-					100.00	
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		-	2.82	-	0.15	-	-	-	-	-					-	
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*		-	-	-	-	-	-	-	-	-					-	
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	0.06	-	-	-	-	-	-	-					-	
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	-	-	-	-	-	-	-	-					-	
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*		-	-	-	-	-	-	-	-	-					-	

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Gingras			Sulphurets Lake Outlet			Sulphurets US			Sulphurets DS			Teigen US		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	-	-	-								-		64.69	65.15	64.80
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-								-		15.53	13.55	15.83
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-								-		0.53	0.36	0.46
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	-	-	-								-		13.94	16.44	14.62
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	-	-	-								-		0.82	0.36	0.59
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-								-		3.09	2.37	2.49
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-								-		-	-	-
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*		-	-	-								-		-	-	-
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	-	-	-								-		-	-	-
Fish	Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus satrapa*	-	0.15	-								-		-	-	-
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	-	4.35	-								-		-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-								-		-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-								-		-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-								-		-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	30.66	0.42	5.42								0.44		-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		7.27	50.69	30.90								-		-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*		2.60	-	1.58								-		-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	58.62	33.01	40.58								-		-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	0.85	-	21.52								99.56		-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*		-	11.37	-								-		-	-	-

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Teigen DS			S. Teigen US2			S. Teigen US1			S. Teigen DS			N. Treaty US2		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	56.75	51.14	56.72	-	-	-	-	-	-	0.06	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		10.45	8.85	9.34	-	-	-	-	-	-	3.50	0.69	1.86	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		0.44	0.46	0.45	-	-	-	-	-	-	4.89	1.26	2.53	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	26.98	35.36	27.81	-	-	-	-	0.56	-	31.00	36.51	45.02	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	0.86	0.60	0.72	-	-	-	-	-	-	7.78	12.18	17.73	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		3.10	2.77	3.68	99.51	100.00	99.94	99.92	99.40	99.86	52.56	48.86	32.30	99.95	99.80	99.81
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-	-	-	-	-	-	-	0.20	0.33	0.47	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus satrapa*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	-	-	-	-	-	-	-	-	-	-	-	0.04	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-	-	-	0.06	0.08	0.03	0.14	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	-	-	-	0.41	-	-	-	-	-	-	0.11	0.05	-	0.20	0.13
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		-	-	-	-	-	-	-	-	-	-	-	-	0.05	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	-	-	0.08	-	-	-	-	-	-	0.06	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.06

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty US1			N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	-	-	-	0.33	0.30	0.52					-	-	-	-	0.03
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	1.87	2.50	0.33					-	-	-	-	21.29
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	7.88	7.82	6.25					-	-	-	-	4.20
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	-	-	-	-	-	-					-	-	-	52.26	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	-	-	-	-	-	-					-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		99.59	100.00	99.90	75.14	75.39	71.04					100.00	100.00	100.00	47.74	74.47
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-	-	-	-					-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*		-	-	-	-	-	-					-	-	-	-	-
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	0.28	-	-	-	-	-					-	-	-	-	-
Fish	Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus satrapa*	-	-	-	-	-	-					-	-	-	-	-
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	0.13	-	-	-	-	-					-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-					-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	0.10	-	-	-					-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-	-	-	-					-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	-	-	-	-	-	-					-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		-	-	-	-	-	-					-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*		-	-	-	-	-	-					-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-	-	-	-	-					-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	-	-	-	-	-					-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*		-	-	-	-	-	-					-	-	-	-	-

Appendix D11: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), August 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Treaty DS			Bell US Treaty			Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	-	-	-	38.29	50.84	46.22	31.11	31.85	34.00				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	19.77	5.71	8.68	6.31	6.89	8.09	7.61	6.47				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	3.22	2.68	0.69	0.38	0.49	0.75	0.51	0.41				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	34.48	54.12	41.20	43.31	31.31	32.27	49.17	53.80	52.28				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	-	-	-	2.68	2.52	3.47	2.54	1.26	0.96				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		58.34	21.69	49.86	4.85	5.10	6.89	4.57	3.45	2.76				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-	-	-	0.06	-	-	-				
Fish	Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*		-	-	-	-	-	-	-	-	-				
Fish	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	-	-	-	-	-	-	-	-	-				
Fish	Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus satrapa*	-	-	-	-	-	-	-	-	-				
Fish	Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	-	-	-	-	-	-	-	-	-				
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	1.20	-	-	-	-	-	-	-				
Fish	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-	-	-	-	-	-	-				
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-	0.07	0.42	0.10	0.11	-	0.21				
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	7.18	-	0.55	-	-	-	-	-	-				
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		-	-	-	-	-	-	-	-	-				
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*		-	-	-	-	-	-	-	-	-				
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-	-	-	-	-	-	-	-				
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	-	-	-	-	-	-	-	-				
Fish	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*		-	-	-	-	-	-	-	-	-				

Appendix D12: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae					-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	Northern Pike		-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	Coho Salmon		-	-	-	0.19	0.28	0.28	14.59	18.75	15.03
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*				-	-	-	-	-	-	0.40	0.23	0.16
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*				-	-	-	-	-	-	0.23	0.13	0.08
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*				19.09	19.81	18.99	3.59	5.35	4.99	4.65	3.74	6.17
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae					-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	Western Toad		-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	Columbia Spotted Frog		-	-	-	-	0.08	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Accipiter*				-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*				-	-	-	-	-	-	-	0.45	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*	*Anas carolinensis*	American Teal	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*				-	-	-	-	-	-	-	-	0.11
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Mergus*				-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae					-	-	-	0.03	-	0.10	-	-	0.17
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae					-	-	-	-	-	-	-	0.06	0.15
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Actitis*	*Actitis macularius*	Spotted Sandpiper	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Dendragapus*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0.33	0.12	0.33	0.12	0.16	0.55	0.08	0.06	0.27
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Falcipennis*	*Falcipennis canadensis*	Spruce Grouse		-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	White-Tailed Ptarmigan	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	American Dipper	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	Dark-Eyed Junco		-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Paridae	*Poecile*	*Poecile atricapillus*	Black-Capped Chickadee	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae					-	-	-	-	-	-	-	-	0.24
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus calendula*	Ruby-Crowned Kinglet	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Sittidae	*Sitta*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	Veery	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	0.38	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	Varied Thrush	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	0.21	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes						-	0.29	-	-	-	-	-	-	-

Appendix D12: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk DS S. Unuk			Unuk Border			Mitchell			McTagg			Gingras		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae			-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	-	-	-	-	5.56	-							-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	54.39	62.00	48.30	46.20	21.59	30.49							-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	3.77							-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		0.20	0.45	0.23	0.17	0.05	0.70							-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		45.41	37.55	51.24	53.63	61.90	64.14							-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Accipiter*		-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*		-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*	*Anas carolinensis*	-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*		-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Mergus*		-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	-	10.90	-							-	-	-
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Actitis*	*Actitis macularius*	-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Dendragapus*		-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Falcipennis*	*Falcipennis canadensis*	-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-	-	-	-	-							9.40	-	7.48
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Paridae	*Poecile*	*Poecile atricapillus*	-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae			-	-	-	-	-	0.90							-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus calendula*	-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Sittidae	*Sitta*		-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes				-	-	-	-	-	-							2.07	-	-

Appendix D12: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets Lake Outlet			Sulphurets US			Sulphurets DS			Teigen US			Teigen DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae			-	-	-	-	-	-	-	-	-	0.77	0.76	1.08	1.77	0.82	0.15
Vertebrates	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	-	-	-	-	-	-	-	-	0.07	74.17	54.60	46.69	34.83	34.75	27.66
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-	-	-	-	0.20	0.56	0.22	0.28	0.46	0.06
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		2.89	-	-	-	-	-	-	-	-	9.11	16.39	17.06	15.18	17.65	18.20
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-	-	-	-	80.70	80.56	74.41	2.13	4.67	7.72	10.21	15.22	10.80
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-	-	-	-	3.92	8.97	5.07	11.82	6.72	11.39
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Accipiter*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*		-	-	-	-	-	-	-	-	-	-	0.09	0.16	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*	*Anas carolinensis*	-	-	-	-	-	-	-	-	-	-	-	-	0.13	-	0.18
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Mergus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	-	-	-	5.64	-	-	-	-	-	-	0.17	0.08
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	41.64	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Actitis*	*Actitis macularius*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Dendragapus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Falcipennis*	*Falcipennis canadensis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-	-	-	-	-	-	-	-	0.10	0.18	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Paridae	*Poecile*	*Poecile atricapillus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus calendula*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Sittidae	*Sitta*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	-	-	-	-	-	-	-	-	-	0.07	0.17	0.09	0.38	0.16	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes				90.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D12: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US2			S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	-	-	-	-	-	-	0.24	0.25	0.32	-	-	-	0.52	0.56	0.64
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-	7.46	6.11	7.15	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		93.18	96.38	93.09	98.92	98.17	98.56	44.97	50.31	46.21	95.09	83.41	87.53	89.32	92.08	89.41
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-	-	-	1.51	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Accipiter*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*	*Anas carolinensis*	-	-	-	-	1.14	0.25	-	-	-	-	0.43	-	0.26	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*		-	-	-	-	-	-	-	0.57	0.37	-	-	-	0.33	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Mergus*		-	-	-	-	-	-	0.99	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	0.26	-	-	0.65	-	2.18	0.50	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	-	-	0.05	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Actitis*	*Actitis macularius*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Dendragapus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Falcipennis*	*Falcipennis canadensis*	-	-	-	0.22	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	-	-	0.11	-	-	-	-	-	0.09	-	-	0.55	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-	-	-	-	-	0.58	-	0.41	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	-	-	-	-	-	-	-	-	0.27	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Paridae	*Poecile*	*Poecile atricapillus*	-	-	-	-	-	-	-	-	-	-	-	-	-	0.29	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae			0.77	-	-	-	0.11	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus calendula*	-	-	-	-	-	-	-	-	-	-	-	-	-	0.36	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Sittidae	*Sitta*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	-	0.40	-	-	-	-	-	0.58	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	0.46	-	-	-	-	-	0.25	-	0.24	0.38	1.46	-	-	-	0.26
Vertebrates	Animalia	Chordata	Aves	Passeriformes				-	-	-	0.30	-	-	-	-	-	-	0.28	-	0.14	0.07	-

Appendix D12: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae			-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	20.88	24.66	20.76		-	-	-	-	-	-	-	99.34	45.73	28.70	44.57
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		4.44	6.99	3.29		-	-	-	-	-	-	-	0.34	0.16	0.10	2.49
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		64.32	54.65	61.82		-	-	31.34	0.38	5.06	-	-	0.32	5.98	9.71	19.64
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-		-	-	-	-	-	-	-	-	2.05	7.81	5.83
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	0.10	0.09	0.09		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	5.40	6.01	6.95		-	-	-	-	-	-	-	-	2.88	-	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Accipiter*		-	-	-		-	-	-	-	-	-	-	-	-	2.84	-
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*		-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*	*Anas carolinensis*	3.25	5.30	5.60		-	-	-	-	-	-	-	-	-	2.26	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*		-	-	-		-	67.00	0.03	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Mergus*		-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			0.13	0.35	0.35		-	0.16	-	-	-	-	-	-	-	-	2.95
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			0.55	1.57	0.72		-	-	-	-	-	-	-	-	3.85	0.11	-
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Actitis*	*Actitis macularius*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Dendragapus*		-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Falcipennis*	*Falcipennis canadensis*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Paridae	*Poecile*	*Poecile atricapillus*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae			-	-	-		-	-	0.08	-	0.73	-	-	-	-	0.05	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus calendula*	0.33	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Sittidae	*Sitta*		-	-	-		-	-	-	-	-	25.84	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	0.34	-	-		-	-	-	-	9.96	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	-	-	-		-	-	-	-	11.03	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Aves	Passeriformes				-	-	-		-	-	4.83	-	35.57	-	-	-	-	1.65	-

Appendix D12: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell US Treaty			Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Vertebrates	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae			-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Actinopterygii	Esociformes	Esocidae	*Esox*	*Esox lucius*	-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	0.49	2.32	0.94	-	5.81	23.57				
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		0.19	-	0.18	-	1.66	-				
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		0.54	0.56	0.90	9.27	35.22	7.14				
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		0.06	-	0.18	11.05	0.05	0.16				
Vertebrates	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			81.03	50.94	40.81	76.30	31.79	49.38				
Vertebrates	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Accipiter*		-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*		-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*	*Anas carolinensis*	-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*		-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae	*Mergus*		-	-	0.27	-	-	-				
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			-	-	0.12	-	-	-				
Vertebrates	Animalia	Chordata	Aves	Anseriformes	Anatidae			16.80	43.97	55.84	-	-	-				
Vertebrates	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Actitis*	*Actitis macularius*	0.06	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Dendragapus*		-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Falcipennis*	*Falcipennis canadensis*	-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	-	1.18	-	-	-	-				
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Paridae	*Poecile*	*Poecile atricapillus*	-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Parulidae			-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus calendula*	-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Sittidae	*Sitta*		-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Aves	Passeriformes				-	-	-	-	-	-				

Appendix D12: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	Mountain Goat	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	Moose		-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*				-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	Wolverine		-	-	0.04	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	American Marten		-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	American Ermine		-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	Brown Bear		-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*				-	-	-	-	-	-	0.04	0.12	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	North American Beaver		-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae					-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*				-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	Long-Tailed Vole	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	1.19	1.36	2.00	1.27	1.09	1.40	1.55	1.73	1.32
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	Eastern Meadow Vole	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0.81	0.86	0.76	0.70	0.46	0.52	0.49	0.42	0.49
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*				-	-	-	-	0.03	-	0.07	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*				0.10	0.12	-	-	0.06	0.06	0.25	0.10	0.15
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	Muskrat		-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	Eastern Deer Mouse		-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	Western Heather Vole	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0.05	0.25	-	0.11	0.04	0.06	0.03	0.10	0.17
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae					76.26	74.79	76.60	92.53	90.63	90.37	74.06	70.52	71.88
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae					2.05	2.30	1.25	1.27	1.68	1.46	2.95	3.46	3.48
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae					-	-	-	-	0.03	-	-	0.04	0.04
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae					-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae					-	-	-	-	-	-	0.03	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae					0.13	0.12	0.04	0.18	0.11	-	0.14	-	0.09
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	North American Porcupine		-	-	-	-	-	-	0.06	0.08	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	Southern Flying Squirrel		-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*				-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	Cinereus Shrew	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	Mountain Goat		0.12	-	-		-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	Moose		-	-	-		-	-	-	0.20	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	Wolverine		-	0.44	0.07		-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	American marten		0.14	-	-		-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	Amnerican ermine		-	-	-		-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*				-	-	-		-	-	-	0.16	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	Beaver		-	-	-		-	-	-	-	0.20
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	Canadian Lemming	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	0.07		-	-	-	-	0.53
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	Long-tailed vole	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	6.02	10.08	12.42		8.56	9.20	11.33	13.29	12.60
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0.28	0.82	1.02		1.72	1.89	2.59	1.15	1.47

Appendix D12: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk DS S. Unuk			Unuk Border			Mitchell			McTagg			Gingras		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*		-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		-	-	-	-	-	-							-	0.33	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	-	-	0.23	-	-	-							84.28	89.88	87.87
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	-	-	-	-	-	-							0.11	0.31	0.10
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-							0.06	0.11	0.60
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		-	-	-	-	-	-							0.99	0.90	2.09
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	-	-	-	-	-	-							0.09	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-	-	-	-	-							1.61	6.62	1.50
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-							-	0.05	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-							0.11	0.45	0.07
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-							0.25	0.32	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-							0.14	0.34	0.29
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	-	-	-	-	-	-							-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*		-	-	-	-	-	-							0.84	0.47	-
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	-	-	-	-	-							0.04	0.22	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*		-		-	-	-							-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*		-		-	-	-							-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*		-		-	-	-							-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*		-		-	-	-							-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*		-		-	-	-							-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*			-		-	-	-							-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*		-		-	-	-							-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*		-		-	-	-							-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*		-		-	-	8.86							23.20	21.02	15.95
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*			-		-	-	1.74							71.61	72.47	70.63

Appendix D12: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets Lake Outlet			Sulphurets US			Sulphurets DS			Teigen US			Teigen DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	2.60	-	-	-	0.03	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	0.81	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*		-	-	-	-	-	-	-	-	0.40	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	-	-	-	-	-	-	-	-	-	0.07	-	-	0.10	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		-	-	-	-	-	-	0.50	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	-	-	-	-	-	9.67	-	-	0.16	0.10	0.73	0.67	0.23
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-	-	-	-	-	-	-	-	0.31	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	-	-	-	74.59	59.44	65.27	4.16	1.98	17.69	0.30	0.50	0.43	2.86	1.64	1.75
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	-	-	-	-	0.05	-	-	0.16	3.56	-	-	0.07	0.07	0.19	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-	-	-	-	-	-	-	0.03	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		-	-	-	-	10.25	-	0.68	0.80	-	0.13	0.18	0.27	0.25	0.08	0.23
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	-	-	-	-	-	-	0.21	3.93	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	2.01	-	22.81	-	-	-	-	-	0.05	0.07	-	-	0.16	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	2.75	-	-	8.49	12.36	20.24	19.73	19.86	27.54
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	21.82	-	7.56	34.73	0.94	2.18	0.07	0.45	0.33	0.76	1.35	1.13	1.58
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	0.09	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	-	52.55	48.55	-	-	-	3.13	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*		-	-	-	-	22.69	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	6.84	3.80	28.82	-	-	-	1.30	0.69	3.81	0.04	-	0.04	0.18	-	0.15
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-	-	1.89	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	-	-	-	-	-	-	2.24	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	-	-	-	-	2.76	6.17	-	5.87	-	-	4.32	3.85	1.19
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	-	-	-	3.65	0.73	0.78	22.47	19.58	30.44	12.45	14.65	14.59	54.42	46.73	44.84
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	87.99	52.30	61.71	31.37	35.82	14.77	0.46	0.07	0.09	0.53	0.87	0.34

Appendix D12: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US2			S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	0.05	-	-	-	-	-	-	-	-	0.05	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	-	-	-	-	-	-	-	-	-	-	0.29	-	0.12	-	0.08
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	-	-	-	-	-	0.14	-	-	0.06	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	-	-	-	-	-	-	-	-	-	-	-	0.26	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-	-	-	-	-	-	-	0.16	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	-	-	-	-	-	-	-	-	0.06	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	1.03	1.09	2.27	0.04	0.12	-	32.03	26.64	26.15	0.22	0.55	0.50	0.63	0.65	0.55
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	1.61	1.14	1.02	0.18	-	0.13	0.15	0.39	0.40	0.48	1.61	1.16	0.80	0.56	0.87
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-	-	0.25	0.08	-	-	-	-	0.07	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		0.07	-	0.47	0.04	0.11	-	0.32	0.19	0.13	-	0.28	0.24	0.27	0.25	0.25
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	-	-	-	-	-	-	-	-	-	0.15	-	-	0.04	0.18	0.15
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	0.27	0.09	0.14	0.05	0.18	0.14	-	-	-	0.18	0.53	0.28	0.12	0.07	0.30
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			1.23	0.22	0.70	-	-	-	10.73	9.63	13.23	1.97	7.33	5.53	5.01	2.38	3.61
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			1.38	0.68	1.67	0.15	0.11	0.07	2.06	2.86	2.53	1.52	3.68	3.85	2.45	2.39	3.82
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	0.09	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	0.07	-	-	-	-	-	0.06	-	-	0.04	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	-	-	-	0.10	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.08
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*		-	-	0.16	-	-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	-	-	-	-	0.06	0.22	0.04	0.06	-	0.09	-	-	0.10	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-	1.67	-	6.02	-	-	-	-	-	-	-	-	2.02
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	-	-	-	-	-	-	-	-	-	1.34	4.51	-	-	-	1.02
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	-	-	-	-	-	-	-	0.24	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		-	-	-	-	-	-	-	-	0.07	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	39.37	38.39	57.20	2.18	14.03	2.49	88.19	88.93	89.17	8.76	15.20	19.49	42.20	22.98	31.20
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		1.45	0.23	0.57	16.89	0.07	-	2.08	1.26	0.79	0.16	-	0.32	0.30	0.93	3.21

Appendix D12: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-		-	-	-	-	-	-	-	-	0.16	-	-
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*		-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		-	-	-		-	-	-	-	-	16.34	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	-		-	-	3.69	0.06	3.24	-	-	-	4.61	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	-	-	-		100.00	-	4.95	28.17	6.79	34.21	-	-	1.14	0.59	2.43
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	0.06	0.20	0.31		-	-	-	21.05	-	-	-	-	0.56	1.14	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		0.03	-	-		-	-	-	6.30	-	-	-	-	-	-	0.09
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	0.04	0.05	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	-	-	-		-	-	-	-	-	-	9.92	-	-	0.33	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	0.12	0.11		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-	32.83	47.47	35.03	17.32	23.61	77.36	-	28.32	37.93	16.71
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-	-	6.08	9.00	10.31	-	-	-	2.85	2.43	5.29
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-	-	-	-	-	-	-	-	0.25	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-	-	1.53	-	-	-	-	-	-	0.07	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-	-	-	-	-	-	-	-	-	2.37	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	-	-	-		-	-	-	-	-	-	-	-	1.45	1.91	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*		-	-	-		-	-	-	-	-	-	-	-	-	-	-
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	0.14	-	-		-	-	-	-	-	-	12.72	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-		-		-	-	-	-			-	-	-
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-		-		-	-	-	-			-	-	3.72
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	-	-	-		-		-	-	-	-			-	4.93	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	-	-	-		-		-	-	-	-			-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	-	-	-		-		-	-	-	-			-	-	-
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		-	-	-		-		-	-	-	-			-	-	0.20
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	19.03	-	-		-		-	-	7.12	-			-	0.27	1.69
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	-	-	-		-		-	-	-	-			-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	-	-	-		-		54.38	11.70	36.19	89.45			16.29	19.71	19.45
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-		-		3.94	3.73	7.93	0.46			0.11	0.13	0.24

Appendix D12: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell US Treaty			Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*		-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*		-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	-	-	0.21	-	-	-				
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Castoridae			-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		-	-	-	-	-	4.06				
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			0.83	1.03	0.55	3.38	25.47	15.69				
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*		-	-	-	-	-	-				
Vertebrates	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	-	-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*		-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*		-	6.93	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*		-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*		-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*		-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*			-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*		-	5.79	-	-	8.77				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*		-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*		-	2.05	-	-	22.10				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*			-	-	-	-	0.08				

Appendix D12: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0.31	-	0.15		0.03	0.05	-	-	0.28
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*				0.38	-	0.31		0.12	0.52	0.35	0.39	0.16
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*				-	-	-		-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	Western heather vole	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	1.21	0.17	0.94		0.35	0.11	0.81	0.77	0.45
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-		-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0.09	0.36	0.11		0.19	0.24	0.28	0.27	0.28
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-		0.04	-	-	-	0.13
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae					-	-	-		-	-	0.74	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	85.38	82.53	76.80		85.26	84.27	82.20	80.27	81.04
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	0.07		-	0.04	-	-	0.15
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0.11	0.13	0.14		0.17	0.12	0.16	0.16	0.30
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-		-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-		-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	5.97	5.33	7.76		3.26	3.26	1.34	2.85	2.15
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-		-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	0.07	0.03		0.04	-	-	-	-

Appendix D12: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk DS S. Unuk			Unuk Border			Mitchell			McTagg			Gingras		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*			-		-	-	-							0.06	-	0.06
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*			99.94		-	-	0.11							0.30	0.81	1.03
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*			-		-	-	-							-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*		-		-	-	0.54							2.19	2.45	10.90
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-		-	-	-							-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-		-	-	0.21							1.53	1.57	0.67
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-		-	-	-							-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-		-	-	-							0.26	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-		-	-	85.49							-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-		-	-	-							-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-		-	-	0.05							0.83	0.28	0.70
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-		-	-	-							0.03	0.03	0.06
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-		-	-	-							-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-		-	-	2.67							-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-		-	-	-							-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-		-	-	0.09							-	-	-

Appendix D12: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets Lake Outlet			Sulphurets US			Sulphurets DS			Teigen US			Teigen DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		-	-	-	-	-	37.51	16.15	-	28.39	1.16	4.37	3.60	0.96	1.79	2.39
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*		-	-	-	-	-	-	-	-	-	1.79	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-	-	8.06	-	-	-	-	-	0.44	0.47	-	-	-	1.85
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	0.13	3.60	7.14	0.23	-	0.22	0.80	0.84	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	0.88	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	5.60	21.77	-	-	1.03	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	0.30	-	-	2.85	-	-	67.50	69.51	72.56	32.95	43.40	44.58
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	5.16	-	9.77	2.14	1.40	4.96	2.33	1.07	1.92
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D12: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US2			S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		0.93	0.03	-	-	-	-	0.04	0.56	0.06	0.67	0.07	1.37	0.12	2.95	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		2.60	3.29	3.66	4.73	5.14	-	1.00	1.17	0.41	3.93	2.37	5.18	2.49	10.08	6.46
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	1.97	-	2.06	9.27	51.55	17.41	0.29	-	0.29	12.88	3.63	2.95	0.93	3.29	5.31
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			2.11	0.14	3.32	-	-	-	2.17	1.43	1.63	2.59	-	2.83	1.49	0.61	1.31
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	0.46	-	-	3.55	-	-	-	0.91
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	6.26	14.65	3.95
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			1.13	8.56	3.41	3.79	1.48	8.51	4.92	4.19	3.88	16.64	29.71	20.87	14.31	11.13	18.91
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	0.14	0.31	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			1.68	0.56	-	-	-	-	0.60	0.06	0.19	-	-	-	1.19	-	0.62
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	0.13	0.15	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			45.03	48.70	27.27	60.45	26.82	56.02	0.56	0.47	0.51	48.76	40.96	36.06	20.56	20.99	21.86
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D12: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*		-	-	-		-		-	0.06	-	-			0.06	0.09	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*		1.35	-	19.79		-		8.07	30.38	16.75	-			8.94	6.84	4.13
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*		3.80	-	13.28		-		-	-	-	-			1.44	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	-	-	-		-		-	-	-	-			-	4.53	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-		-	-	-	-			0.36	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-		-	-	6.51	-			2.49	-	3.17
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-		-	-	-	-			7.08	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-		-	-	-	-			-	3.67	4.49
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		0.11		21.45	27.93	16.04	10.09			32.53	34.08	34.00
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-		-	-	-	-			-	-	0.07
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-		-	5.38	-	-			-	1.90	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-		-	-	-	-			-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-		-	-	-	-			-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			71.44	81.12	65.03		-		2.61	20.82	9.47	-			7.13	7.43	28.77
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-		-	-	-	-			0.09	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		99.89		-	-	-	-			-	-	-

Appendix D12: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell US Treaty			Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*			-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*			-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*			-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*		30.80	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				66.18	69.67	93.24	100.00	68.31				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-	15.19	6.76	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-	-	-	-	-				

Appendix D12: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Comments	Unuk US Eskay			Unuk DS Eskay			Unuk US S. Unuk		
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-		0.03	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys sabrinus*	Northern flying squirrel	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-		-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	American red squirrel	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-		-	-	0.21	-	0.07
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	Cinereus Shrew		-	0.07	0.09		0.24	0.32	-	0.50	0.20
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	Longnose sucker		-	-	-		-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Rhinichthys*	*Rhinichthys cataractae*	Longnose dace	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-		-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*				-	-	-		-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*				-	-	-		-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae					-	-	-		-	-	-	-	-
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	Western toad		-	-	-		-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Anguilliformes	Anguillidae	*Anguilla*	*Anguilla rostrata*	American Eel	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	Longnose Sucker		-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Rhinichthys*	*Rhinichthys cataractae*	Longnose Dace		-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	Coho Salmon		-	-	-	4.94	1.14	4.20	64.10	70.63	72.02
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	Chinook Salmon		-	-	-	0.10	-	0.07	1.20	1.22	1.92
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*				-	-	-	-	-	-	1.65	2.64	0.77
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*				-	-	-	5.52	2.00	3.87	7.21	6.39	3.67
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*				-	-	-	-	-	-	0.09	0.08	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*				-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	Mountain Whitefish		-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	Bull Trout	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*				99.59	98.69	99.30	84.17	94.42	87.26	25.58	18.77	20.70
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae					-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae					-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae					-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	0.41	1.31	0.50	4.76	2.25	3.66	0.17	0.28	0.86
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	Long-Tailed Vole	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	0.19	0.50	0.06	0.93	-	-	0.07
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	Northern Red-Backed Vole	There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	0.13	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*			There is lower support for this taxonomic identification as it is based on fewer than three matches to sequences in the reference database, and/or limited geographic occurrence records for the taxon.	-	-	-	-	-	-	-	-	-

Appendix D12: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Unuk DS S. Unuk			Unuk Border			Mitchell			McTagg			Gingras		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-		-	-	-							-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys sabrinus*		-		-	-	-							-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*		-		-	-	-							-	-	-
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*		-		-	-	0.25							-	1.37	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*		-		-	-	-							-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Rhinichthys*	*Rhinichthys cataractae*		-		-	-	-							-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*			-		91.47	-	-							-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*			0.06		8.53	100.00	-							-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae				-		-	-	-							-	-	-
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*		-		-	-	-							-	-	-
Fish	Animalia	Chordata	Actinopterygii	Anguilliformes	Anguillidae	*Anguilla*	*Anguilla rostrata*	-	-	-	-	-	-							-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-	-	-	-							-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Rhinichthys*	*Rhinichthys cataractae*	-	-	-	-	-	-							-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	70.16	58.39	24.70	21.93	-	20.93							-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	0.44	0.78	0.32	0.24	-	0.28							-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	8.15	-	5.14							-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		0.88	1.45	0.58	2.26	-	1.26							-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-							-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-							-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	-	-	-	-	-	-							-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	-	-	-	-	-	-							-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		28.52	39.37	74.40	67.42	100.00	72.39							-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-							-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-							-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-							-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-	-	-	-							-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	-	-	-	-	-	-							99.36	98.99	96.19
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	-	-	-	-	-	-							-	-	3.03
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*		-	-	-	-	-	-							0.64	1.01	0.79

Appendix D12: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Sulphurets Lake Outlet			Sulphurets US			Sulphurets DS			Teigen US			Teigen DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys sabrinus*	-	-	-	-	-	-	-	-	-	-	-	-	0.38	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	-	-	-	-	-	-	5.12	11.18	-	1.79	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	100.00	100.00	100.00	-	46.97	-	5.24	-	9.49	6.07	8.16	3.93	3.22	1.41	2.88
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-	-	-	-	-	-	-	-	0.28	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Rhinichthys*	*Rhinichthys cataractae*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-	-	-	-	0.09	0.05	0.04	0.08	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-	-	-	-	0.04	-	-	-	-	-	-	0.03	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Anguilliformes	Anguillidae	*Anguilla*	*Anguilla rostrata*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*							-	-	-	0.53	1.09	0.95	0.66	3.59	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Rhinichthys*	*Rhinichthys cataractae*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*							-	-	-	75.19	64.06	51.36	43.41	40.29	34.95
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*							-	-	-	0.96	1.12	1.71	1.53	3.59	1.05
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*								-	-	-	10.86	15.15	19.23	16.23	20.55	18.85
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*								-	-	-	1.67	2.39	4.25	4.60	3.12	4.60
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*								-	-	-	2.04	2.40	2.01	2.47	2.23	2.45
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*								-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*							-	-	-	4.39	6.89	6.64	11.41	9.47	16.05
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*							-	-	-	0.45	0.79	1.28	2.85	3.59	3.07
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*								100.00	100.00	100.00	3.77	5.81	12.24	16.23	13.12	18.17
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae									-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae									-	-	-	0.07	0.11	0.14	0.24	0.17	0.32
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae									-	-	-	0.07	0.14	0.19	0.24	0.28	0.44
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*								-	-	-	-	0.03	-	0.07	-	0.05
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*							-	-	-	-	-	-	0.06	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*							-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*								-	-	-	-	-	-	-	-	-

Appendix D12: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	S. Teigen US2			S. Teigen US1			S. Teigen DS			N. Treaty US2			N. Treaty US1		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys sabrinus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	-	-	2.46	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	3.34	-	-	-	-	9.22	-	0.77	2.84	4.07	-	10.79	10.02	12.31	3.20
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Rhinichthys*	*Rhinichthys cataractae*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		0.39	0.08	0.04	1.01	0.90	0.33	-	-	-	0.21	-	0.13	0.13	0.09	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Anguilliformes	Anguillidae	*Anguilla*	*Anguilla rostrata*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.03
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Rhinichthys*	*Rhinichthys cataractae*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	-	-	-	-	-	-	-	-	-	-	-	-	0.59	0.05	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	-	-	-	-	-	-	-	-	0.03	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-	7.52	8.28	6.68	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-	-	-	-	-	-	-	1.46	0.18	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-	0.05	-	0.06	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	-	-	-	-	-	-	1.45	-	1.54	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	-	-	-	-	-	-	3.81	2.06	10.66	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		100.00	100.00	100.00	100.00	100.00	100.00	86.93	89.23	80.38	100.00	100.00	100.00	97.95	99.70	99.97
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-	0.05	-	0.10	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-	0.05	-	0.04	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	-	-	-	-	-	-	0.13	0.42	0.51	-	-	-	-	0.07	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D12: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	N. Treaty DS			Treaty US			Treaty US N. Treaty			Treaty US Todedada			Treaty DS		
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae			-	-	-		-		-	-	-	-			-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys sabrinus*	-	-	-		-		-	-	-	-			-	-	-
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	-	-	-		-		9.55	-	-	-			6.91	-	-
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	3.10	14.57	-		-		-	-	-	-			16.55	14.57	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-		-		-	-	-	-			-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Rhinichthys*	*Rhinichthys cataractae*	-	-	-		-		-	-	-	-			-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		0.35	0.22	0.17		-		-	-	-	-			-	0.23	0.07
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		0.93	0.38	0.46		-		-	-	-	-			-	-	-
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-		-		-	-	-	-			-	-	-
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	-	3.70	1.27		-		-	-	-	-			-	1.62	-
Fish	Animalia	Chordata	Actinopterygii	Anguilliformes	Anguillidae	*Anguilla*	*Anguilla rostrata*	-	-	-					-	-				-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-					-	-				-	-	-
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Rhinichthys*	*Rhinichthys cataractae*	-	-	-					-	-				-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	13.51	17.96	18.12					-	-				82.75	33.47	54.34
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	0.65	0.83	0.70					-	-				0.25	0.31	0.63
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		2.61	2.69	2.68					-	-				-	-	1.73
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		12.42	13.73	11.41					-	-				3.23	8.58	8.44
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		0.03	0.04	0.03					-	-				0.34	-	0.90
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-					-	-				-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	-	-	-					-	-				1.82	-	6.00
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	1.17	1.11	4.26					-	-				-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		69.60	63.64	62.81					99.90	99.92				8.89	56.42	27.83
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-					-	-				-	-	-
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-					-	-				-	-	0.05
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-					-	-				-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-					0.10	0.08				2.72	1.22	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	-	-	-					-	-				-	-	0.08
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	-	-	-					-	-				-	-	-
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*		-	-	-					-	-				-	-	-

Appendix D12: eDNA Metabarcoding Results for Samples Run against Three Primers (Mammals, Vertebrates and Fish), September 2023

Primer	Kingdom	Phylum	Class	Order	Family	Genus	Species	Bell US Treaty			Bell DS Treaty			Blank 1	Blank 2	Blank 3	Blank 4
								Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 1	Rep 1	Rep 1
Mammals	Animalia	Chordata	Mammalia	Rodentia	Cricetidae				-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys sabrinus*		-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*		-	-	-	-	-				
Mammals	Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*		-	-	-	-	-				
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*		-	-	-	-	-				
Mammals	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Rhinichthys*	*Rhinichthys cataractae*		-	0.25	-	-	-				
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*			0.20	-	-	-	-				
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*			-	-	-	-	-				
Mammals	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae				2.82	0.12	-	-	0.73				
Mammals	Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*		-	-	-	-	-				
Fish	Animalia	Chordata	Actinopterygii	Anguilliformes	Anguillidae	*Anguilla*	*Anguilla rostrata*	-	-	-	-	-	-				
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	-	-	-	-	-	-				
Fish	Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Rhinichthys*	*Rhinichthys cataractae*	-	0.04	-	-	-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	0.21	1.40	0.96	-	-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	-	0.23	0.39	-	-	5.98				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		0.22	0.17	2.75	64.13	100.00	74.63				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	-	-	-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		0.15	0.50	0.79	0.90	-	0.99				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*		-	-	0.04	-	-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	99.02	97.24	93.72	25.39	-	17.94				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	-	-	-	-	-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*		-	-	-	8.85	-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			-	-	-	-	-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			0.23	0.34	0.53	0.04	-	-				
Fish	Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae			0.16	0.08	0.81	0.69	-	0.47				
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		-	-	-	-	-	-				
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	-	-	-	-	-	-				
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	-	-	-	-	-	-				
Fish	Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*		-	-	-	-	-	-				

APPENDIX E SPECIES DETECTIONS THROUGH METABARCODING ANALYSIS

Appendix E1 2022 Results

Appendix E2 2023 Results

Appendix E1: Species Detection through Metabardcoding Analysis, 2022

Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Unuk US Eskay				Unuk DS Eskay				Unuk US of S. Unuk			
								Jun-22	Sep-22	Oct-22	Nov-22	Jun-22	Sep-22	Oct-22	Nov-22	Jun-22	Sep-22	Oct-22	Nov-22
Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	Longnose Sucker	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus macrocheilus*	Largescale Sucker	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Gasterosteiformes	Gasterosteidae	*Gasterosteus*	*Gasterosteus aculeatus*	Three-Spined Stickleback	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/Prosopium*	*Prosopium williamsoni*	Mountain Whitefish	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	Cutthroat Trout	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/Oncorhynchus nerka*	Pink Salmon/Sockeye Salmon	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	Coho Salmon	NO	YES	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*	Rainbow Trout	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	Sockeye Salmon	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	Chinook Salmon	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	Bull Trout	YES	NO	YES	NO	YES	YES	YES	NO	YES	YES	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*	Dolly Varden	YES	YES	YES	YES	YES	YES	NO	YES	NO	NO	YES	YES
Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	Coastrange Sculpin	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Siluriformes	Ictaluridae	*Ameiurus*	*Ameiurus nebulosus*	Brown Bullhead	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	Western Toad	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	Columbia Spotted Frog	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Caudata	Ambystomatidae	*Ambystoma*	*Ambystoma macrodactylum/Ambystoma gracile*	Long-toed salamander/Northwestern Salamander	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*	*Haliaeetus leucocephalus*	Bald Eagle	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Clangula*	*Clangula hyemalis*	Long-Tailed Duck	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	Harlequin Duck	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Mergus*	*Mergus merganser/Mergus serrator*	Red-breasted merganser	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	White-Tailed Ptarmigan	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*	*Bombycilla cedrorum/Bombycilla garrulus*	Cedar Waxwing	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	American Dipper	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	Dark-Eyed Junco	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	Eurasion Wren	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	Veery	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	Swainson's Thrush	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	Varied Thrush	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Turdus*	*Turdus migratorius*	American Robin	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	Mountain Goat	NO	NO	NO	NO	YES	NO	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Ovis*	*Ovis aries/Ovis canadensis*	Bighorn Sheep	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	Moose	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Odocoileus*	*Odocoileus virginianus*	White-tailed deer	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	Wolverine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Lontra*		North American River Otter	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	American Marten	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	American Ermine	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela vison*	American Mink	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	American Black Bear	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	Grizzly Bear	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Lepus*	*Lepus americanus*	Snowshoe Hare	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	American Beaver	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		Nearctic brown Lemming	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	Long-Tailed Vole	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	Eastern Meadow Vole	NO	NO	NO	NO	YES	YES	NO	NO	NO	YES	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	Northern Red-Backed Vole	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	Common Muskrat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	Muskrat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus keeni/Peromyscus maniculatus*	North American Deermouse/Keen's Mouse	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	Deer Mouse	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	Western Heather Vole	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatum*	Porcupine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	North American Porcupine	NO	NO	NO	NO	YES	NO	NO	NO	YES	NO	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	Southern Flying Squirrel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		Hoary Marmot	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	Douglas Squirrel/American Red Squirrel	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*		American Red Squirrel	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	Common Shrew	YES	NO	NO	NO	YES	YES	YES	YES	NO	YES	NO	NO

Appendix E1: Species Detection through Metabardcoding Analysis, 2022

Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Unuk DS of S. Unuk				Unuk Border				Mitchell			
								Jun-22	Sep-22	Oct-22	Nov-22	Jun-22	Sep-22	Oct-22	Nov-22	Jun-22	Sep-22	Oct-22	Nov-22
Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	Longnose Sucker	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus macrocheilus*	Largescale Sucker	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Gasterosteiformes	Gasterosteidae	*Gasterosteus*	*Gasterosteus aculeatus*	Three-Spined Stickleback	YES	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/Prosopium*	*Prosopium williamsoni*	Mountain Whitefish	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	Cutthroat Trout	NO	NO	NO	NO	NO	YES	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/Oncorhynchus nerka*	Pink Salmon/Sockeye Salmon	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	Coho Salmon	NO	YES	YES	YES	NO	YES	YES	YES	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*	Rainbow Trout	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	Sockeye Salmon	NO	YES	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	Chinook Salmon	NO	YES	YES	YES	NO	YES	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	Bull Trout	NO	YES	YES	NO	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*	Dolly Varden	NO	YES	YES	YES	NO	YES	YES	YES	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	Coastrange Sculpin	NO	NO	NO	NO	NO	YES	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Siluriformes	Ictaluridae	*Ameiurus*	*Ameiurus nebulosus*	Brown Bullhead	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	Western Toad	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	Columbia Spotted Frog	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Caudata	Ambystomatidae	*Ambystoma*	*Ambystoma macrodactylum/Ambystoma gracile*	Long-toed salamander/Northwestern Salamander	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*	*Haliaeetus leucocephalus*	Bald Eagle	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Clangula*	*Clangula hyemalis*	Long-Tailed Duck	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	Harlequin Duck	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Mergus*	*Mergus merganser/Mergus serrator*	Red-breasted merganser	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	White-Tailed Ptarmigan	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*	*Bombycilla cedrorum/Bombycilla garrulus*	Cedar Waxwing	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	American Dipper	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	Dark-Eyed Junco	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	Eurasion Wren	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	Veery	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	Swainson's Thrush	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	Varied Thrush	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Turdus*	*Turdus migratorius*	American Robin	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	Mountain Goat	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Ovis*	*Ovis aries/Ovis canadensis*	Bighorn Sheep	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	Moose	NO	NO	NO	YES	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Odocoileus*	*Odocoileus virginianus*	White-tailed deer	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	Wolverine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Lontra*		North American River Otter	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	American Marten	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	American Ermine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela vison*	American Mink	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	American Black Bear	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	Grizzly Bear	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Lepus*	*Lepus americanus*	Snowshoe Hare	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	American Beaver	NO	YES	NO	YES	NO	YES	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		Nearctic brown Lemming	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	Long-Tailed Vole	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	Eastern Meadow Vole	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	Northern Red-Backed Vole	NO	NO	NO	YES	NO	YES	YES	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	Common Muskrat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	Muskrat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus keeni/Peromyscus maniculatus*	North American Deermouse/Keen's Mouse	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	Deer Mouse	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	Western Heather Vole	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatum*	Porcupine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	North American Porcupine	NO	YES	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	Southern Flying Squirrel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		Hoary Marmot	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	Douglas Squirrel/American Red Squirrel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*		American Red Squirrel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	Common Shrew	NO	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO

Appendix E1: Species Detection through Metabardcoding Analysis, 2022

Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Sulphurets Lake Outlet				Sulphurets US				Sulpurets DS			
								Jun-22	Sep-22	Oct-22	Nov-22	Jun-22	Sep-22	Oct-22	Nov-22	Jun-22	Sep-22	Oct-22	Nov-22
Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	Longnose Sucker	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus macrocheilus*	Largescale Sucker	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Gasterosteiformes	Gasterosteidae	*Gasterosteus*	*Gasterosteus aculeatus*	Three-Spined Stickleback	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/Prosopium*	*Prosopium williamsoni*	Mountain Whitefish	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	Cutthroat Trout	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/Oncorhynchus nerka*	Pink Salmon/Sockeye Salmon	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	Coho Salmon	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*	Rainbow Trout	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	Sockeye Salmon	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	Chinook Salmon	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	Bull Trout	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*	Dolly Varden	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	Coastrange Sculpin	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Siluriformes	Ictaluridae	*Ameiurus*	*Ameiurus nebulosus*	Brown Bullhead	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	Western Toad	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	Columbia Spotted Frog	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Caudata	Ambystomatidae	*Ambystoma*	*Ambystoma macrodactylum/Ambystoma gracile*	Long-toed salamander/Northwestern Salamander	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*	*Haliaeetus leucocephalus*	Bald Eagle	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Clangula*	*Clangula hyemalis*	Long-Tailed Duck	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	Harlequin Duck	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Mergus*	*Mergus merganser/Mergus serrator*	Red-breasted merganser	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	White-Tailed Ptarmigan	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*	*Bombycilla cedrorum/Bombycilla garrulus*	Cedar Waxwing	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	American Dipper	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	Dark-Eyed Junco	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	Eurasion Wren	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	Veery	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	Swainson's Thrush	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	Varied Thrush	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Turdus*	*Turdus migratorius*	American Robin	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	Mountain Goat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Ovis*	*Ovis aries/Ovis canadensis*	Bighorn Sheep	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	Moose	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Odocoileus*	*Odocoileus virginianus*	White-tailed deer	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	Wolverine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Lontra*		North American River Otter	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	American Marten	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	American Ermine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela vison*	American Mink	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	American Black Bear	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	Grizzly Bear	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Lepus*	*Lepus americanus*	Snowshoe Hare	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	American Beaver	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		Nearctic brown Lemming	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	Long-Tailed Vole	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	Eastern Meadow Vole	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	Northern Red-Backed Vole	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	Common Muskrat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	Muskrat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus keeni/Peromyscus maniculatus*	North American Deermouse/Keen's Mouse	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	Deer Mouse	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	Western Heather Vole	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatum*	Porcupine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	North American Porcupine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	Southern Flying Squirrel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		Hoary Marmot	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	Douglas Squirrel/American Red Squirrel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*		American Red Squirrel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	Common Shrew	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	NO

Appendix E1: Species Detection through Metabardcoding Analysis, 2022

Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Tiegen US				Tiegen DS				S. Teigen US2			
								Jun-22	Sep-22	Oct-22	Nov-22	Jun-22	Sep-22	Oct-22	Nov-22	Jun-22	Sep-22	Oct-22	Nov-22
Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	Longnose Sucker	YES	YES	YES	NO	NO	NO	YES	YES	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus macrocheilus*	Largescale Sucker	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Gasterosteiformes	Gasterosteidae	*Gasterosteus*	*Gasterosteus aculeatus*	Three-Spined Stickleback	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/Prosopium*	*Prosopium williamsoni*	Mountain Whitefish	YES	YES	YES	NO	YES	YES	YES	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	Cutthroat Trout	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/Oncorhynchus nerka*	Pink Salmon/Sockeye Salmon	NO	YES	YES	NO	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	Coho Salmon	YES	YES	YES	NO	YES	YES	YES	YES	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*	Rainbow Trout	YES	YES	YES	NO	YES	YES	YES	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	Sockeye Salmon	YES	YES	YES	NO	YES	YES	YES	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	Chinook Salmon	YES	YES	YES	NO	YES	YES	YES	YES	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	Bull Trout	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES	YES	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*	Dolly Varden	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES
Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	Coastrange Sculpin	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Siluriformes	Ictaluridae	*Ameiurus*	*Ameiurus nebulosus*	Brown Bullhead	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	Western Toad	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	Columbia Spotted Frog	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Caudata	Ambystomatidae	*Ambystoma*	*Ambystoma macrodactylum/Ambystoma gracile*	Long-toed salamander/Northwestern Salamander	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*	*Haliaeetus leucocephalus*	Bald Eagle	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Clangula*	*Clangula hyemalis*	Long-Tailed Duck	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	Harlequin Duck	NO	YES	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Mergus*	*Mergus merganser/Mergus serrator*	Red-breasted merganser	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	White-Tailed Ptarmigan	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*	*Bombycilla cedrorum/Bombycilla garrulus*	Cedar Waxwing	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	American Dipper	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	Dark-Eyed Junco	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	Eurasion Wren	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	Veery	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	Swainson's Thrush	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	Varied Thrush	NO	YES	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Turdus*	*Turdus migratorius*	American Robin	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	Mountain Goat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Ovis*	*Ovis aries/Ovis canadensis*	Bighorn Sheep	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	Moose	YES	NO	NO	NO	YES	NO	NO	NO	YES	YES	YES	NO
Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Odocoileus*	*Odocoileus virginianus*	White-tailed deer	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	Wolverine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Lontra*		North American River Otter	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	American Marten	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	American Ermine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela vison*	American Mink	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	American Black Bear	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	Grizzly Bear	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Lepus*	*Lepus americanus*	Snowshoe Hare	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	American Beaver	NO	YES	YES	NO	YES	YES	YES	YES	NO	NO	NO	YES
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		Nearctic brown Lemming	NO	NO	YES	NO	YES	YES	YES	YES	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	Long-Tailed Vole	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	Eastern Meadow Vole	NO	NO	YES	NO	YES	YES	YES	YES	YES	NO	YES	YES
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	Northern Red-Backed Vole	NO	YES	YES	NO	YES	YES	YES	YES	YES	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	Common Muskrat	NO	NO	YES	NO	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	Muskrat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus keeni/Peromyscus maniculatus*	North American Deermouse/Keen's Mouse	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	Deer Mouse	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	Western Heather Vole	NO	YES	YES	NO	YES	NO	NO	NO	NO	YES	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatum*	Porcupine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	North American Porcupine	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	Southern Flying Squirrel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		Hoary Marmot	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	Douglas Squirrel/American Red Squirrel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*		American Red Squirrel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	Common Shrew	NO	YES	YES	NO	YES	YES	YES	NO	NO	YES	YES	NO

Appendix E1: Species Detection through Metabardcoding Analysis, 2022

Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	S. Teigen US1				S. Teigen DS			N. Treaty US2			
								Jun-22	Sep-22	Oct-22	Nov-22	Sep-22	Oct-22	Nov-22	Jun-22	Sep-22	Oct-22	Nov-22
Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	Longnose Sucker	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus macrocheilus*	Largescale Sucker	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Gasterosteiformes	Gasterosteidae	*Gasterosteus*	*Gasterosteus aculeatus*	Three-Spined Stickleback	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/Prosopium*	*Prosopium williamsoni*	Mountain Whitefish	NO	NO	NO	NO	YES	YES	YES	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	Cutthroat Trout	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/Oncorhynchus nerka*	Pink Salmon/Sockeye Salmon	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	Coho Salmon	NO	NO	YES	NO	YES	YES	NO	NO	NO	YES	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*	Rainbow Trout	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	Sockeye Salmon	NO	NO	YES	NO	YES	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	Chinook Salmon	NO	NO	YES	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	Bull Trout	YES	YES	YES	NO	YES	YES	NO	NO	YES	YES	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*	Dolly Varden	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES
Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	Coastrange Sculpin	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Siluriformes	Ictaluridae	*Ameiurus*	*Ameiurus nebulosus*	Brown Bullhead	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	Western Toad	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	Columbia Spotted Frog	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Caudata	Ambystomatidae	*Ambystoma*	*Ambystoma macrodactylum/Ambystoma gracile*	Long-toed salamander/Northwestern Salamander	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*	*Haliaeetus leucocephalus*	Bald Eagle	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Clangula*	*Clangula hyemalis*	Long-Tailed Duck	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	Harlequin Duck	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Mergus*	*Mergus merganser/Mergus serrator*	Red-breasted merganser	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	White-Tailed Ptarmigan	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*	*Bombycilla cedrorum/Bombycilla garrulus*	Cedar Waxwing	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	American Dipper	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	Dark-Eyed Junco	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	Eurasion Wren	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	Veery	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	Swainson's Thrush	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	Varied Thrush	NO	YES	NO	NO	NO	YES	NO	NO	YES	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Turdus*	*Turdus migratorius*	American Robin	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	Mountain Goat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Ovis*	*Ovis aries/Ovis canadensis*	Bighorn Sheep	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	Moose	YES	YES	NO	YES	NO	NO	NO	YES	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Odocoileus*	*Odocoileus virginianus*	White-tailed deer	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	Wolverine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Lontra*		North American River Otter	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	American Marten	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	American Ermine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela vison*	American Mink	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	American Black Bear	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	Grizzly Bear	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Lepus*	*Lepus americanus*	Snowshoe Hare	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	American Beaver	NO	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		Nearctic brown Lemming	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	Long-Tailed Vole	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	YES
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	Eastern Meadow Vole	YES	YES	YES	YES	YES	YES	NO	NO	YES	YES	YES
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	Northern Red-Backed Vole	NO	YES	YES	NO	YES	NO	NO	NO	NO	YES	YES
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	Common Muskrat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	Muskrat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus keeni/Peromyscus maniculatus*	North American Deermouse/Keen's Mouse	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	Deer Mouse	NO	NO	NO	NO	NO	YES	NO	NO	YES	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	Western Heather Vole	YES	YES	NO	NO	YES	YES	NO	YES	YES	NO	YES
Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatum*	Porcupine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	North American Porcupine	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	Southern Flying Squirrel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		Hoary Marmot	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	Douglas Squirrel/American Red Squirrel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*		American Red Squirrel	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	Common Shrew	NO	YES	NO	NO	YES	YES	NO	NO	YES	NO	NO

Appendix E1: Species Detection through Metabardcoding Analysis, 2022

Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	N. Treaty US1				N. Treaty DS				Treaty US			
								Jun-22	Sep-22	Oct-22	Nov-22	Jun-22	Sep-22	Oct-22	Nov-22	Jun-22	Sep-22	Oct-22	Nov-22
Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	Longnose Sucker	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus macrocheilus*	Largescale Sucker	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Gasterosteiformes	Gasterosteidae	*Gasterosteus*	*Gasterosteus aculeatus*	Three-Spined Stickleback	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/Prosopium*	*Prosopium williamsoni*	Mountain Whitefish	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	Cutthroat Trout	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/Oncorhynchus nerka*	Pink Salmon/Sockeye Salmon	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	Coho Salmon	NO	NO	NO	NO	YES	YES	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*	Rainbow Trout	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	Sockeye Salmon	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	Chinook Salmon	NO	NO	NO	NO	NO	YES	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	Bull Trout	YES	YES	YES	NO	YES	YES	YES	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*	Dolly Varden	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	Coastrange Sculpin	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Siluriformes	Ictaluridae	*Ameiurus*	*Ameiurus nebulosus*	Brown Bullhead	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	Western Toad	NO	NO	NO	NO	YES	YES	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	Columbia Spotted Frog	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Caudata	Ambystomatidae	*Ambystoma*	*Ambystoma macrodactylum/Ambystoma gracile*	Long-toed salamander/Northwestern Salamander	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*	*Haliaeetus leucocephalus*	Bald Eagle	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Clangula*	*Clangula hyemalis*	Long-Tailed Duck	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	Harlequin Duck	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Mergus*	*Mergus merganser/Mergus serrator*	Red-breasted merganser	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	White-Tailed Ptarmigan	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*	*Bombycilla cedrorum/Bombycilla garrulus*	Cedar Waxwing	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	American Dipper	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	Dark-Eyed Junco	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	Eurasion Wren	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	Veery	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	Swainson's Thrush	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	Varied Thrush	NO	YES	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Turdus*	*Turdus migratorius*	American Robin	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	Mountain Goat	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Ovis*	*Ovis aries/Ovis canadensis*	Bighorn Sheep	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	Moose	YES	NO	NO	YES	YES	NO	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Odocoileus*	*Odocoileus virginianus*	White-tailed deer	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	Wolverine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Lontra*		North American River Otter	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	American Marten	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	American Ermine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela vison*	American Mink	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	American Black Bear	NO	NO	YES	NO	YES	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	Grizzly Bear	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Lepus*	*Lepus americanus*	Snowshoe Hare	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	American Beaver	YES	NO	NO	NO	YES	YES	YES	YES	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		Nearctic brown Lemming	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	Long-Tailed Vole	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	Eastern Meadow Vole	YES	YES	YES	YES	YES	NO	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	Northern Red-Backed Vole	NO	YES	YES	YES	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	Common Muskrat	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	Muskrat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus keeni/Peromyscus maniculatus*	North American Deermouse/Keen's Mouse	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	Deer Mouse	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	Western Heather Vole	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatum*	Porcupine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	North American Porcupine	NO	YES	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	Southern Flying Squirrel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		Hoary Marmot	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	Douglas Squirrel/American Red Squirrel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*		American Red Squirrel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	Common Shrew	YES	YES	YES	YES	YES	YES	NO	NO	NO	YES	NO	NO

Appendix E1: Species Detection through Metabardcoding Analysis, 2022

Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Treaty US N. Treaty				Treaty US Todedada				Treaty DS			
								Jun-22	Sep-22	Oct-22	Nov-22	Jun-22	Sep-22	Oct-22	Nov-22	Jun-22	Sep-22	Oct-22	Nov-22
Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	Longnose Sucker	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus macrocheilus*	Largescale Sucker	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Gasterosteiformes	Gasterosteidae	*Gasterosteus*	*Gasterosteus aculeatus*	Three-Spined Stickleback	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/Prosopium*	*Prosopium williamsoni*	Mountain Whitefish	NO	NO	NO	YES	NO	YES	YES	YES	YES	YES	NO	YES
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	Cutthroat Trout	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/Oncorhynchus nerka*	Pink Salmon/Sockeye Salmon	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	Coho Salmon	NO	NO	NO	NO	NO	YES	YES	YES	NO	YES	YES	YES
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*	Rainbow Trout	YES	NO	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	Sockeye Salmon	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	Chinook Salmon	NO	NO	NO	YES	NO	NO	YES	YES	NO	YES	YES	YES
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	Bull Trout	YES	YES	YES	NO	YES	YES	YES	NO	NO	YES	YES	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*	Dolly Varden	YES	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES
Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	Coastrange Sculpin	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Siluriformes	Ictaluridae	*Ameiurus*	*Ameiurus nebulosus*	Brown Bullhead	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	Western Toad	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO
Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	Columbia Spotted Frog	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	NO
Animalia	Chordata	Amphibia	Caudata	Ambystomatidae	*Ambystoma*	*Ambystoma macrodactylum/Ambystoma gracile*	Long-toed salamander/Northwestern Salamander	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO
Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*	*Haliaeetus leucocephalus*	Bald Eagle	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Clangula*	*Clangula hyemalis*	Long-Tailed Duck	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	Harlequin Duck	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Mergus*	*Mergus merganser/Mergus serrator*	Red-breasted merganser	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	White-Tailed Ptarmigan	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*	*Bombycilla cedrorum/Bombycilla garrulus*	Cedar Waxwing	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	American Dipper	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	Dark-Eyed Junco	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	Eurasion Wren	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	Veery	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	Swainson's Thrush	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	Varied Thrush	NO	YES	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Turdus*	*Turdus migratorius*	American Robin	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	Mountain Goat	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Ovis*	*Ovis aries/Ovis canadensis*	Bighorn Sheep	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	Moose	YES	NO	NO	NO	YES	YES	NO	NO	NO	YES	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Odocoileus*	*Odocoileus virginianus*	White-tailed deer	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	Wolverine	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Lontra*		North American River Otter	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	American Marten	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	American Ermine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela vison*	American Mink	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	American Black Bear	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	Grizzly Bear	NO	YES	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Lepus*	*Lepus americanus*	Snowshoe Hare	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	American Beaver	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		Nearctic brown Lemming	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	Long-Tailed Vole	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	Eastern Meadow Vole	YES	YES	YES	NO	NO	YES	YES	NO	YES	YES	YES	YES
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	Northern Red-Backed Vole	NO	NO	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	Common Muskrat	NO	NO	YES	NO	NO	YES	NO	YES	NO	YES	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	Muskrat	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	YES
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus keeni/Peromyscus maniculatus*	North American Deermouse/Keen's Mouse	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	Deer Mouse	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	Western Heather Vole	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatum*	Porcupine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	North American Porcupine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	Southern Flying Squirrel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		Hoary Marmot	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	Douglas Squirrel/American Red Squirrel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*		American Red Squirrel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	Common Shrew	NO	NO	YES	NO	NO	YES	NO	NO	NO	YES	NO	NO

Appendix E1: Species Detection through Metabardcoding Analysis, 2022

Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Bell DS Treaty			Bell US Treaty		
								Jun-22	Sep-22	Nov-22	Jun-22	Sep-22	Nov-22
Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	Longnose Sucker	YES	YES	YES	YES	YES	YES
Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus macrocheilus*	Largescale Sucker	NO	NO	NO	NO	NO	YES
Animalia	Chordata	Actinopterygii	Gasterosteiformes	Gasterosteidae	*Gasterosteus*	*Gasterosteus aculeatus*	Three-Spined Stickleback	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Coregonus/Prosopium*	*Prosopium williamsoni*	Mountain Whitefish	YES	YES	YES	YES	YES	YES
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	Cutthroat Trout	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha/Oncorhynchus nerka*	Pink Salmon/Sockeye Salmon	YES	YES	NO	NO	YES	YES
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	Coho Salmon	YES	YES	YES	YES	YES	YES
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus mykiss*	Rainbow Trout	YES	YES	NO	YES	YES	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	Sockeye Salmon	NO	YES	NO	NO	YES	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	Chinook Salmon	YES	YES	YES	YES	YES	YES
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	Bull Trout	NO	YES	YES	YES	YES	YES
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*	Dolly Varden	YES	YES	YES	YES	YES	YES
Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	Coastrange Sculpin	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Siluriformes	Ictaluridae	*Ameiurus*	*Ameiurus nebulosus*	Brown Bullhead	NO	NO	NO	YES	NO	NO
Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	Western Toad	YES	YES	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	Columbia Spotted Frog	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Caudata	Ambystomatidae	*Ambystoma*	*Ambystoma macrodactylum/Ambystoma gracile*	Long-toed salamander/Northwestern Salamander	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*	*Haliaeetus leucocephalus*	Bald Eagle	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Clangula*	*Clangula hyemalis*	Long-Tailed Duck	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	Harlequin Duck	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Mergus*	*Mergus merganser/Mergus serrator*	Red-breasted merganser	NO	NO	YES	NO	NO	NO
Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	White-Tailed Ptarmigan	NO	NO	NO	YES	NO	NO
Animalia	Chordata	Aves	Passeriformes	Bombycillidae	*Bombycilla*	*Bombycilla cedrorum/Bombycilla garrulus*	Cedar Waxwing	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	American Dipper	NO	NO	NO	NO	NO	YES
Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	Dark-Eyed Junco	YES	NO	NO	NO	YES	NO
Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes troglodytes*	Eurasion Wren	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	Veery	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	Swainson's Thrush	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	Varied Thrush	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Turdus*	*Turdus migratorius*	American Robin	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	Mountain Goat	YES	NO	NO	YES	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Ovis*	*Ovis aries/Ovis canadensis*	Bighorn Sheep	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	Moose	YES	YES	YES	YES	YES	YES
Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Odocoileus*	*Odocoileus virginianus*	White-tailed deer	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	Wolverine	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Lontra*		North American River Otter	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	American Marten	NO	NO	NO	YES	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	American Ermine	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela vison*	American Mink	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	American Black Bear	YES	YES	NO	YES	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	Grizzly Bear	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Lepus*	*Lepus americanus*	Snowshoe Hare	NO	NO	NO	YES	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	American Beaver	YES	YES	YES	YES	YES	YES
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*		Nearctic brown Lemming	YES	YES	YES	YES	YES	YES
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	Long-Tailed Vole	NO	NO	YES	NO	NO	YES
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	Eastern Meadow Vole	YES	YES	NO	NO	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	Northern Red-Backed Vole	YES	YES	NO	NO	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	Common Muskrat	YES	YES	YES	NO	YES	YES
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	Muskrat	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus keeni/Peromyscus maniculatus*	North American Deermouse/Keen's Mouse	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	Deer Mouse	NO	YES	NO	NO	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	Western Heather Vole	YES	YES	NO	YES	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatum*	Porcupine	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	North American Porcupine	NO	YES	NO	NO	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys volans*	Southern Flying Squirrel	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*		Hoary Marmot	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	Douglas Squirrel/American Red Squirrel	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*		American Red Squirrel	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	Common Shrew	NO	YES	YES	YES	YES	YES

Appendix E2: Species Detection through Metabardcoding Analysis, 2023

Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Unuk US Eskay			Unuk DS Eskay			Unuk US of S. Unuk			Unuk DS of S. Unuk		
								Jul-23	Aug-23	Sep-23	Jul-23	Aug-23	Sep-23	Jul-23	Aug-23	Sep-23	Jul-23	Aug-23	Sep-23
Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	Longnose Sucker	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	Coastrange Sculpin	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	Cutthroat Trout	NO	NO	NO	NO	NO	NO	YES	NO	NO	YES	YES	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha*	Pink Salmon	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus keta*	Chum Salmon	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	Coho Salmon	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	Sockeye Salmon	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	YES	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	Chinook Salmon	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	Mountain Whitefish	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Rhinichthys*	*Rhinichthys cataractae*	Longnose Dace	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	Bull Trout	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*	Dolly Varden	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	Western Toad	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	Columbia Spotted Frog	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Caudata	Salamandridae	*Taricha*	*Taricha granulosa*	Rough-Skinned Newt	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Actitis*	*Actitis macularius*	Spotted Sandpiper	NO	NO	NO	NO	YES	NO	NO	YES	NO	YES	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*	*Anas carolinensis*	Green-winged teal	NO	NO	NO	YES	NO	NO	YES	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	Veery	NO	YES	NO	NO	NO	NO	YES	YES	YES	NO	YES	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	Swainson's Thrush	NO	YES	NO	NO	YES	NO	NO	NO	NO	YES	YES	NO
Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	American Dipper	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Aves	Galliformes	Phasianidae	*Canachites*	*Falcipennis canadensis*	Spruce Grouse	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Gallinago*	*Gallinago delicata*	Wilson's snipe	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*	*Haliaeetus leucocephalus*	Bald Eagle	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	YES	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	Harlequin Duck	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	Varied Thrush	NO	NO	NO	NO	YES	YES	YES	YES	NO	NO	YES	NO
Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	Dark-Eyed Junco	YES	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	White-Tailed Ptarmigan	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Paridae	*Poecile*	*Poecile atricapillus*	Black-Capped Chickadee	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus calendula*	Ruby-Crowned Kinglet	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus satrapa*	Golden-Crowned Kinglet	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Sittidae	*Sitta*	*Sitta canadensis*	Red-breasted nuthatch	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Piciformes	Picidae	*Sphyrapicus*	*Sphyrapicus varius*	Yellow-Bellied Sapsucker	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Tringa*	*Tringa solitaria*	Solitary Sandpiper	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes pacificus*	Pacific Wren	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	Moose	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	North American Beaver	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	North American Porcupine	NO	NO	NO	NO	NO	NO	NO	YES	YES	NO	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys sabrinus*	Northern flying squirrel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	Wolverine	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	Canadian Lemming/Nearctic brown lemming	NO	YES	YES	NO	YES	YES	NO	YES	YES	NO	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		Collared Lemming	NO	YES	NO	NO	YES	NO	NO	YES	NO	NO	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*	*Marmota monax*	Groundhog	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	American Marten	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	Long-Tailed Vole	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	Eastern Meadow Vole	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	American Ermine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	Northern Red-Backed Vole	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Chiroptera	Vespertilionidae	*Myotis*	*Myotis lucifugus*	Little Brown Bat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Neotoma*	*Neotoma cinerea*	Bushy-Tailed Woodrat	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	Muskrat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	Mountain Goat	YES	NO	YES	NO	NO	NO	NO	NO	NO	YES	YES	NO
Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Oryctolagus*	*Oryctolagus cuniculus*	European Rabbit	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	Eastern Deer Mouse	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	Western Heather Vole	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO
Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	Cinereus Shrew	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	American Red Squirrel	NO	NO	NO	YES	YES	NO	YES	YES	YES	YES	YES	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	American Black Bear	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	Brown Bear	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

Appendix E2: Species Detection through Metabardcoding Analysis, 2023

Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Unuk Border			Mitchell			Mctagg			Gingras		
								Jul-23	Aug-23	Sep-23	Jul-23	Aug-23	Sep-23	Jul-23	Aug-23	Sep-23	Jul-23	Aug-23	Sep-23
Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	Longnose Sucker	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	Coastrange Sculpin	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	Cutthroat Trout	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha*	Pink Salmon	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus keta*	Chum Salmon	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	Coho Salmon	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	Sockeye Salmon	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	Chinook Salmon	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	Mountain Whitefish	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Rhinichthys*	*Rhinichthys cataractae*	Longnose Dace	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	Bull Trout	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*	Dolly Varden	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	Western Toad	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	Columbia Spotted Frog	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Caudata	Salamandridae	*Taricha*	*Taricha granulosa*	Rough-Skinned Newt	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Actitis*	*Actitis macularius*	Spotted Sandpiper	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*	*Anas carolinensis*	Green-winged teal	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	Veery	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	Swainson's Thrush	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	American Dipper	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES
Animalia	Chordata	Aves	Galliformes	Phasianidae	*Canachites*	*Falcipennis canadensis*	Spruce Grouse	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Gallinago*	*Gallinago delicata*	Wilson's snipe	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*	*Haliaeetus leucocephalus*	Bald Eagle	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	Harlequin Duck	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	Varied Thrush	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	Dark-Eyed Junco	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	White-Tailed Ptarmigan	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Paridae	*Poecile*	*Poecile atricapillus*	Black-Capped Chickadee	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus calendula*	Ruby-Crowned Kinglet	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus satrapa*	Golden-Crowned Kinglet	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Aves	Passeriformes	Sittidae	*Sitta*	*Sitta canadensis*	Red-breasted nuthatch	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Piciformes	Picidae	*Sphyrapicus*	*Sphyrapicus varius*	Yellow-Bellied Sapsucker	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Tringa*	*Tringa solitaria*	Solitary Sandpiper	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes pacificus*	Pacific Wren	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	NO
Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	Moose	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	North American Beaver	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	North American Porcupine	NO	YES	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys sabrinus*	Northern flying squirrel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	Wolverine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	Canadian Lemming/Nearctic brown lemming	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		Collared Lemming	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*	*Marmota monax*	Groundhog	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	American Marten	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	Long-Tailed Vole	YES	YES	NO	YES	YES	NO	YES	YES	NO	YES	YES	YES
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	Eastern Meadow Vole	NO	YES	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	American Ermine	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	Northern Red-Backed Vole	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES
Animalia	Chordata	Mammalia	Chiroptera	Vespertilionidae	*Myotis*	*Myotis lucifugus*	Little Brown Bat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Neotoma*	*Neotoma cinerea*	Bushy-Tailed Woodrat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	Muskrat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	Mountain Goat	NO	NO	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Oryctolagus*	*Oryctolagus cuniculus*	European Rabbit	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	Eastern Deer Mouse	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	Western Heather Vole	NO	YES	NO	NO	NO	NO	YES	YES	NO	YES	YES	YES
Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	Cinereus Shrew	NO	YES	NO	YES	YES	NO	YES	NO	NO	YES	YES	YES
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	American Red Squirrel	NO	YES	NO	NO	NO	NO	NO	YES	NO	YES	YES	YES
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	American Black Bear	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	Brown Bear	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

Appendix E2: Species Detection through Metabardcoding Analysis, 2023

Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Sulphurets Lake Outlet			Sulphurets US			Sulphurets DS			Tiegen US		
								Jul-23	Aug-23	Sep-23	Jul-23	Aug-23	Sep-23	Jul-23	Aug-23	Sep-23	Jul-23	Aug-23	Sep-23
Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	Longnose Sucker	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES
Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	Coastrange Sculpin	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	Cutthroat Trout	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha*	Pink Salmon	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus keta*	Chum Salmon	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	Coho Salmon	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	Sockeye Salmon	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	Chinook Salmon	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	Mountain Whitefish	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES
Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Rhinichthys*	*Rhinichthys cataractae*	Longnose Dace	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	Bull Trout	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*	Dolly Varden	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES
Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	Western Toad	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	NO
Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	Columbia Spotted Frog	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Caudata	Salamandridae	*Taricha*	*Taricha granulosa*	Rough-Skinned Newt	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Actitis*	*Actitis macularius*	Spotted Sandpiper	NO	NO	NO	YES	NO	NO	YES	NO	NO	NO	YES	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*	*Anas carolinensis*	Green-winged teal	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	Veery	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	Swainson's Thrush	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	American Dipper	NO	NO	NO	NO	NO	NO	YES	NO	NO	YES	NO	YES
Animalia	Chordata	Aves	Galliformes	Phasianidae	*Canachites*	*Falcipennis canadensis*	Spruce Grouse	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Gallinago*	*Gallinago delicata*	Wilson's snipe	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*	*Haliaeetus leucocephalus*	Bald Eagle	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	Harlequin Duck	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	Varied Thrush	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	YES	YES
Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	Dark-Eyed Junco	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	White-Tailed Ptarmigan	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Aves	Passeriformes	Paridae	*Poecile*	*Poecile atricapillus*	Black-Capped Chickadee	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus calendula*	Ruby-Crowned Kinglet	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus satrapa*	Golden-Crowned Kinglet	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Sittidae	*Sitta*	*Sitta canadensis*	Red-breasted nuthatch	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Piciformes	Picidae	*Sphyrapicus*	*Sphyrapicus varius*	Yellow-Bellied Sapsucker	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Tringa*	*Tringa solitaria*	Solitary Sandpiper	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes pacificus*	Pacific Wren	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	NO
Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	Moose	NO	NO	YES	NO	NO	NO	NO	NO	YES	YES	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	North American Beaver	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES
Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	North American Porcupine	NO	NO	YES	NO	YES	NO	NO	YES	YES	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys sabrinus*	Northern flying squirrel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	Wolverine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	Canadian Lemming/Nearctic brown lemming	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		Collared Lemming	NO	NO	NO	NO	YES	NO	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*	*Marmota monax*	Groundhog	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	American Marten	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	YES	YES
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	Long-Tailed Vole	YES	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	Eastern Meadow Vole	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	American Ermine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	Northern Red-Backed Vole	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Chiroptera	Vespertilionidae	*Myotis*	*Myotis lucifugus*	Little Brown Bat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Neotoma*	*Neotoma cinerea*	Bushy-Tailed Woodrat	NO	NO	NO	YES	NO	NO	YES	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	Muskrat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES
Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	Mountain Goat	NO	NO	NO	NO	NO	YES	YES	NO	YES	NO	NO	NO
Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Oryctolagus*	*Oryctolagus cuniculus*	European Rabbit	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	Eastern Deer Mouse	NO	NO	NO	NO	NO	NO	YES	NO	YES	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	Western Heather Vole	NO	NO	YES	NO	YES	YES	NO	YES	NO	YES	YES	YES
Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	Cinereus Shrew	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	American Red Squirrel	NO	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	American Black Bear	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	Brown Bear	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

Appendix E2: Species Detection through Metabardcoding Analysis, 2023

Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Tiegen DS			S. Teigen US2			S. Teigen US1			S. Teigen DS		
								Jul-23	Aug-23	Sep-23	Jul-23	Aug-23	Sep-23	Jul-23	Aug-23	Sep-23	Jul-23	Aug-23	Sep-23
Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	Longnose Sucker	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	Coastrange Sculpin	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	Cutthroat Trout	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha*	Pink Salmon	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus keta*	Chum Salmon	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	Coho Salmon	YES	YES	YES	NO	NO	NO	NO	NO	NO	YES	YES	YES
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	Sockeye Salmon	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	Chinook Salmon	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	YES	YES
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	Mountain Whitefish	NO	YES	YES	NO	NO	NO	NO	YES	NO	YES	YES	YES
Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Rhinichthys*	*Rhinichthys cataractae*	Longnose Dace	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	Bull Trout	YES	YES	YES	NO	NO	NO	NO	NO	NO	YES	YES	YES
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*	Dolly Varden	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	Western Toad	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	Columbia Spotted Frog	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Amphibia	Caudata	Salamandridae	*Taricha*	*Taricha granulosa*	Rough-Skinned Newt	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Actitis*	*Actitis macularius*	Spotted Sandpiper	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*	*Anas carolinensis*	Green-winged teal	NO	NO	YES	YES	NO	NO	NO	YES	YES	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	Veery	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	YES	YES
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	Swainson's Thrush	NO	YES	NO	YES	YES	NO	NO	YES	NO	YES	YES	NO
Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	American Dipper	NO	YES	NO	YES	NO	NO	YES	NO	NO	YES	YES	YES
Animalia	Chordata	Aves	Galliformes	Phasianidae	*Canachites*	*Falcipennis canadensis*	Spruce Grouse	NO	NO	NO	NO	NO	NO	YES	NO	YES	NO	NO	NO
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Gallinago*	*Gallinago delicata*	Wilson's snipe	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*	*Haliaeetus leucocephalus*	Bald Eagle	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	Harlequin Duck	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	Varied Thrush	NO	YES	YES	NO	YES	YES	NO	YES	NO	YES	YES	YES
Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	Dark-Eyed Junco	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	YES
Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	White-Tailed Ptarmigan	NO	YES	NO	NO	NO	YES	NO	NO	NO	NO	YES	YES
Animalia	Chordata	Aves	Passeriformes	Paridae	*Poecile*	*Poecile atricapillus*	Black-Capped Chickadee	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus calendula*	Ruby-Crowned Kinglet	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus satrapa*	Golden-Crowned Kinglet	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Sittidae	*Sitta*	*Sitta canadensis*	Red-breasted nuthatch	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Piciformes	Picidae	*Sphyrapicus*	*Sphyrapicus varius*	Yellow-Bellied Sapsucker	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Tringa*	*Tringa solitaria*	Solitary Sandpiper	NO	NO	NO	YES	NO	NO	YES	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes pacificus*	Pacific Wren	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	Moose	NO	YES	NO	YES	YES	YES	YES	YES	YES	NO	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	North American Beaver	NO	YES	YES	NO	NO	NO	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	North American Porcupine	NO	NO	NO	NO	NO	NO	NO	YES	YES	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys sabrinus*	Northern flying squirrel	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	Wolverine	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	Canadian Lemming/Nearctic brown lemming	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		Collared Lemming	NO	NO	NO	NO	YES	NO	NO	YES	NO	NO	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*	*Marmota monax*	Groundhog	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	American Marten	NO	NO	YES	NO	NO	NO	NO	NO	YES	NO	NO	YES
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	Long-Tailed Vole	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	Eastern Meadow Vole	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	American Ermine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	Northern Red-Backed Vole	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Chiroptera	Vespertilionidae	*Myotis*	*Myotis lucifugus*	Little Brown Bat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Neotoma*	*Neotoma cinerea*	Bushy-Tailed Woodrat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	Muskrat	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	Mountain Goat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Oryctolagus*	*Oryctolagus cuniculus*	European Rabbit	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	Eastern Deer Mouse	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	Western Heather Vole	NO	YES	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES
Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	Cinereus Shrew	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	American Red Squirrel	NO	YES	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	American Black Bear	NO	NO	NO	YES	YES	NO	NO	YES	NO	YES	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	Brown Bear	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES

Appendix E2: Species Detection through Metabardcoding Analysis, 2023

Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	N. Treaty US2			N. Treaty US1			N. Treaty DS			Treaty US		
								Jul-23	Aug-23	Sep-23	Jul-23	Aug-23	Sep-23	Jul-23	Aug-23	Sep-23	Jul-23	Aug-23	Sep-23
Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	Longnose Sucker	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	Coastrange Sculpin	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	Cutthroat Trout	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha*	Pink Salmon	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus keta*	Chum Salmon	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	Coho Salmon	NO	NO	NO	NO	YES	YES	YES	YES	YES	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	Sockeye Salmon	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	Chinook Salmon	NO	NO	NO	NO	NO	NO	YES	YES	YES	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	Mountain Whitefish	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Rhinichthys*	*Rhinichthys cataractae*	Longnose Dace	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	Bull Trout	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*	Dolly Varden	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO
Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	Western Toad	NO	NO	NO	YES	NO	NO	YES	YES	YES	NO	NO	NO
Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	Columbia Spotted Frog	NO	YES	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO
Animalia	Chordata	Amphibia	Caudata	Salamandridae	*Taricha*	*Taricha granulosa*	Rough-Skinned Newt	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Actitis*	*Actitis macularius*	Spotted Sandpiper	NO	YES	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*	*Anas carolinensis*	Green-winged teal	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	Veery	NO	YES	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	Swainson's Thrush	NO	YES	NO	YES	YES	NO	YES	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	American Dipper	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Galliformes	Phasianidae	*Canachites*	*Falcipennis canadensis*	Spruce Grouse	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Gallinago*	*Gallinago delicata*	Wilson's snipe	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*	*Haliaeetus leucocephalus*	Bald Eagle	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	Harlequin Duck	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	Varied Thrush	YES	YES	YES	NO	YES	YES	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	Dark-Eyed Junco	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	White-Tailed Ptarmigan	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Paridae	*Poecile*	*Poecile atricapillus*	Black-Capped Chickadee	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus calendula*	Ruby-Crowned Kinglet	NO	NO	NO	NO	NO	YES	NO	NO	YES	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus satrapa*	Golden-Crowned Kinglet	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Sittidae	*Sitta*	*Sitta canadensis*	Red-breasted nuthatch	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Piciformes	Picidae	*Sphyrapicus*	*Sphyrapicus varius*	Yellow-Bellied Sapsucker	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Tringa*	*Tringa solitaria*	Solitary Sandpiper	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes pacificus*	Pacific Wren	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	Moose	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	North American Beaver	NO	NO	YES	NO	NO	NO	YES	YES	YES	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	North American Porcupine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys sabrinus*	Northern flying squirrel	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	Wolverine	NO	NO	YES	NO	YES	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	Canadian Lemming/Nearctic brown lemming	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		Collared Lemming	NO	YES	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*	*Marmota monax*	Groundhog	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	American Marten	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	Long-Tailed Vole	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	YES	YES
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	Eastern Meadow Vole	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	American Ermine	NO	NO	YES	NO	NO	NO	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	Northern Red-Backed Vole	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Chiroptera	Vespertilionidae	*Myotis*	*Myotis lucifugus*	Little Brown Bat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Neotoma*	*Neotoma cinerea*	Bushy-Tailed Woodrat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	Muskrat	NO	NO	NO	NO	NO	NO	NO	YES	YES	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	Mountain Goat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Oryctolagus*	*Oryctolagus cuniculus*	European Rabbit	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	Eastern Deer Mouse	NO	NO	YES	NO	YES	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	Western Heather Vole	NO	YES	YES	NO	YES	YES	NO	NO	YES	NO	NO	NO
Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	Cinereus Shrew	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	American Red Squirrel	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	American Black Bear	NO	YES	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	Brown Bear	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

Appendix E2: Species Detection through Metabardcoding Analysis, 2023

Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Treaty US N. Treaty			Treaty US Todedada			Treaty DS			Bell US Treaty		
								Jul-23	Aug-23	Sep-23	Jul-23	Aug-23	Sep-23	Jul-23	Aug-23	Sep-23	Jul-23	Aug-23	Sep-23
Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	Longnose Sucker	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	Coastrange Sculpin	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	Cutthroat Trout	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha*	Pink Salmon	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus keta*	Chum Salmon	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	Coho Salmon	NO	NO	NO	YES	NO	YES	YES	YES	YES	YES	YES	YES
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	Sockeye Salmon	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	Chinook Salmon	NO	NO	NO	NO	YES	NO	NO	NO	YES	YES	YES	YES
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	Mountain Whitefish	NO	NO	NO	YES	YES	NO	NO	YES	YES	YES	YES	YES
Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Rhinichthys*	*Rhinichthys cataractae*	Longnose Dace	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	Bull Trout	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*	Dolly Varden	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES	YES
Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	Western Toad	NO	NO	NO	NO	NO	NO	NO	YES	YES	NO	YES	NO
Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	Columbia Spotted Frog	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO
Animalia	Chordata	Amphibia	Caudata	Salamandridae	*Taricha*	*Taricha granulosa*	Rough-Skinned Newt	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Actitis*	*Actitis macularius*	Spotted Sandpiper	YES	YES	NO	NO	NO	NO	NO	YES	NO	YES	YES	YES
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*	*Anas carolinensis*	Green-winged teal	NO	NO	NO	NO	YES	NO	NO	YES	YES	NO	YES	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	Veery	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	Swainson's Thrush	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	American Dipper	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Galliformes	Phasianidae	*Canachites*	*Falcipennis canadensis*	Spruce Grouse	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Gallinago*	*Gallinago delicata*	Wilson's snipe	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*	*Haliaeetus leucocephalus*	Bald Eagle	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	Harlequin Duck	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	Varied Thrush	NO	NO	YES	NO	NO	NO	NO	NO	NO	YES	YES	NO
Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	Dark-Eyed Junco	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	White-Tailed Ptarmigan	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	YES	YES
Animalia	Chordata	Aves	Passeriformes	Paridae	*Poecile*	*Poecile atricapillus*	Black-Capped Chickadee	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus calendula*	Ruby-Crowned Kinglet	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus satrapa*	Golden-Crowned Kinglet	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Sittidae	*Sitta*	*Sitta canadensis*	Red-breasted nuthatch	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Piciformes	Picidae	*Sphyrapicus*	*Sphyrapicus varius*	Yellow-Bellied Sapsucker	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Tringa*	*Tringa solitaria*	Solitary Sandpiper	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes pacificus*	Pacific Wren	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	Moose	YES	NO	NO	YES	NO	NO	NO	YES	YES	YES	YES	YES
Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	North American Beaver	YES	YES	YES	NO	YES	NO	NO	YES	YES	YES	YES	YES
Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	North American Porcupine	NO	NO	NO	NO	NO	NO	NO	YES	YES	NO	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys sabrinus*	Northern flying squirrel	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	Wolverine	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	Canadian Lemming/Nearctic brown lemming	NO	NO	YES	NO	NO	NO	NO	NO	YES	NO	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		Collared Lemming	NO	YES	NO	NO	YES	NO	NO	YES	NO	NO	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*	*Marmota monax*	Groundhog	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	American Marten	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	Long-Tailed Vole	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES	YES
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	Eastern Meadow Vole	YES	YES	YES	YES	YES	NO	NO	YES	YES	YES	YES	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	American Ermine	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	Northern Red-Backed Vole	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Chiroptera	Vespertilionidae	*Myotis*	*Myotis lucifugus*	Little Brown Bat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Neotoma*	*Neotoma cinerea*	Bushy-Tailed Woodrat	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	Muskrat	NO	NO	NO	NO	NO	NO	NO	YES	YES	NO	YES	NO
Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	Mountain Goat	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Oryctolagus*	*Oryctolagus cuniculus*	European Rabbit	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	Eastern Deer Mouse	NO	YES	NO	NO	YES	YES	NO	YES	YES	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	Western Heather Vole	YES	YES	NO	YES	NO	NO	NO	YES	YES	NO	YES	NO
Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	Cinereus Shrew	YES	YES	NO	YES	YES	YES	NO	YES	YES	NO	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	American Red Squirrel	NO	YES	YES	YES	YES	NO	NO	YES	YES	NO	YES	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	American Black Bear	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	Brown Bear	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO

Appendix E2: Species Detection through Metabardcoding Analysis, 2023

Kingdom	Phylum	Class	Order	Family	Genus	Species	Common Name	Bell DS Treaty		
								Jul-23	Aug-23	Sep-23
Animalia	Chordata	Actinopterygii	Cypriniformes	Catostomidae	*Catostomus*	*Catostomus catostomus*	Longnose Sucker	YES	YES	NO
Animalia	Chordata	Actinopterygii	Scorpaeniformes	Cottidae	*Cottus*	*Cottus aleuticus*	Coastrange Sculpin	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus clarkii*	Cutthroat Trout	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus gorbuscha*	Pink Salmon	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus keta*	Chum Salmon	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus kisutch*	Coho Salmon	YES	YES	YES
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus nerka*	Sockeye Salmon	NO	YES	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Oncorhynchus*	*Oncorhynchus tshawytscha*	Chinook Salmon	YES	YES	YES
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Prosopium*	*Prosopium williamsoni*	Mountain Whitefish	YES	YES	YES
Animalia	Chordata	Actinopterygii	Cypriniformes	Cyprinidae	*Rhinichthys*	*Rhinichthys cataractae*	Longnose Dace	NO	NO	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus confluentus*	Bull Trout	YES	YES	NO
Animalia	Chordata	Actinopterygii	Salmoniformes	Salmonidae	*Salvelinus*	*Salvelinus malma*	Dolly Varden	YES	YES	YES
Animalia	Chordata	Amphibia	Anura	Bufonidae	*Anaxyrus*	*Anaxyrus boreas*	Western Toad	YES	NO	NO
Animalia	Chordata	Amphibia	Anura	Ranidae	*Rana*	*Rana luteiventris*	Columbia Spotted Frog	NO	NO	NO
Animalia	Chordata	Amphibia	Caudata	Salamandridae	*Taricha*	*Taricha granulosa*	Rough-Skinned Newt	NO	NO	NO
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Actitis*	*Actitis macularius*	Spotted Sandpiper	NO	YES	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Anas*	*Anas carolinensis*	Green-winged teal	NO	YES	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus fuscescens*	Veery	NO	YES	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Catharus*	*Catharus ustulatus*	Swainson's Thrush	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Cinclidae	*Cinclus*	*Cinclus mexicanus*	American Dipper	NO	NO	NO
Animalia	Chordata	Aves	Galliformes	Phasianidae	*Canachites*	*Falcipennis canadensis*	Spruce Grouse	NO	NO	NO
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Gallinago*	*Gallinago delicata*	Wilson's snipe	NO	NO	NO
Animalia	Chordata	Aves	Accipitriformes	Accipitridae	*Haliaeetus*	*Haliaeetus leucocephalus*	Bald Eagle	NO	YES	NO
Animalia	Chordata	Aves	Anseriformes	Anatidae	*Histrionicus*	*Histrionicus histrionicus*	Harlequin Duck	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Turdidae	*Ixoreus*	*Ixoreus naevius*	Varied Thrush	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Emberizidae	*Junco*	*Junco hyemalis*	Dark-Eyed Junco	YES	NO	NO
Animalia	Chordata	Aves	Galliformes	Phasianidae	*Lagopus*	*Lagopus leucura*	White-Tailed Ptarmigan	NO	YES	NO
Animalia	Chordata	Aves	Passeriformes	Paridae	*Poecile*	*Poecile atricapillus*	Black-Capped Chickadee	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus calendula*	Ruby-Crowned Kinglet	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Regulidae	*Regulus*	*Regulus satrapa*	Golden-Crowned Kinglet	NO	YES	NO
Animalia	Chordata	Aves	Passeriformes	Sittidae	*Sitta*	*Sitta canadensis*	Red-breasted nuthatch	NO	NO	NO
Animalia	Chordata	Aves	Piciformes	Picidae	*Sphyrapicus*	*Sphyrapicus varius*	Yellow-Bellied Sapsucker	NO	NO	NO
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	*Tringa*	*Tringa solitaria*	Solitary Sandpiper	NO	NO	NO
Animalia	Chordata	Aves	Passeriformes	Troglodytidae	*Troglodytes*	*Troglodytes pacificus*	Pacific Wren	NO	NO	NO
Animalia	Chordata	Mammalia	Artiodactyla	Cervidae	*Alces*	*Alces alces*	Moose	YES	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Castoridae	*Castor*	*Castor canadensis*	North American Beaver	YES	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Erethizontidae	*Erethizon*	*Erethizon dorsatus*	North American Porcupine	YES	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Glaucomys*	*Glaucomys sabrinus*	Northern flying squirrel	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Gulo*	*Gulo gulo*	Wolverine	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Lemmus*	*Lemmus trimucronatus*	Canadian Lemming/Nearctic brown lemming	YES	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Dicrostonyx*		Collared Lemming	NO	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Marmota*	*Marmota monax*	Groundhog	NO	NO	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Martes*	*Martes americana*	American Marten	NO	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus longicaudus*	Long-Tailed Vole	YES	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Microtus*	*Microtus pennsylvanicus*	Eastern Meadow Vole	YES	YES	NO
Animalia	Chordata	Mammalia	Carnivora	Mustelidae	*Mustela*	*Mustela richardsonii*	American Ermine	NO	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Myodes*	*Myodes rutilus*	Northern Red-Backed Vole	NO	NO	NO
Animalia	Chordata	Mammalia	Chiroptera	Vespertilionidae	*Myotis*	*Myotis lucifugus*	Little Brown Bat	YES	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Neotoma*	*Neotoma cinerea*	Bushy-Tailed Woodrat	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Ondatra*	*Ondatra zibethicus*	Muskrat	NO	YES	NO
Animalia	Chordata	Mammalia	Artiodactyla	Bovidae	*Oreamnos*	*Oreamnos americanus*	Mountain Goat	YES	NO	NO
Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	*Oryctolagus*	*Oryctolagus cuniculus*	European Rabbit	NO	NO	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Peromyscus*	*Peromyscus maniculatus*	Eastern Deer Mouse	NO	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Cricetidae	*Phenacomys*	*Phenacomys intermedius*	Western Heather Vole	YES	YES	NO
Animalia	Chordata	Mammalia	Soricomorpha	Soricidae	*Sorex*	*Sorex cinereus*	Cinereus Shrew	YES	YES	NO
Animalia	Chordata	Mammalia	Rodentia	Sciuridae	*Tamiasciurus*	*Tamiasciurus hudsonicus*	American Red Squirrel	YES	YES	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus americanus*	American Black Bear	NO	YES	NO
Animalia	Chordata	Mammalia	Carnivora	Ursidae	*Ursus*	*Ursus arctos*	Brown Bear	NO	YES	NO

APPENDIX F BUREAU VERITAS: ENVIRONMENTAL DNA – CERTIFICATE OF ANALYSIS

Attention: Alexandra Crichton
ERM Canada Consultants Ltd.
3790 Alfred Ave
Smithers, BC
Canada, V0J 2N0

Client Project #: 0676645-0016 KSM Biodiversity
Site Location: NW BC
C.O.C. #: 20230913-2
Quote #: N/A
PO#: N/A

Report Date: 2023/09/20
Report #: ER20230920-2
Version: 1

ENVIRONMENTAL DNA - CERTIFICATE OF ANALYSIS

BV JOB #: E20230913-2
Received: 2023/09/13, 9:11 A.M.

Sample Type: Cellulose Nitrate (CN) filter, preserved in silica
Samples Received: 18

Analyses (eDNA Isolation - Species)	Test Requested	Test Performed	Date eDNA Extracted	Date Analyzed IntegritE-DNA™	Date Analyzed Target Species	Laboratory Method	Analytical Method (qPCR Primer/Probe set)
eDNA Isolation and IntegritE-DNA™	18	18	2023-09-18	2023-09-18 2023-09-19	N/A	GUE SOP-00056	ePlant5
Bull Trout (*Salvelinus confluentus*)	18	18	N/A	N/A	2023-09-19 2023-09-20	GUE SOP-00056	eSACO3

Remarks:

Bureau Veritas Laboratories (Animal DNA Department, DNA Services) is accredited to ISO17025:2017 for eDNA testing.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by industry professionals using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas Laboratories in writing). All data has met quality control and method performance criteria unless otherwise noted.

Bureau Veritas Laboratories' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas Laboratories has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas Laboratories unless otherwise agreed in writing. Bureau Veritas Laboratories is not responsible for the accuracy or any data impacts that result from the information provided by the customer or their agent.

Results relate to supplied samples tested. This Certificate should not be reproduced except in full, without the written approval of the laboratory.

eDNA tests are used to confirm presence of eDNA in samples for the targeted species / species groups.

Collected eDNA samples will contain eDNA at various stages of degradation, being subject to environmental forces that breakdown DNA, including microbial activity, ultraviolet radiation, heat, hydrolysis, and enzymatic activity. eDNA is first evaluated for eDNA quality and presence of qPCR assay inhibitors using the IntegritE-DNA™ assay before testing for target species or genera to confirm that the eDNA is of sufficient quality for testing and to identify and address qPCR inhibition (if present) to avoid false negatives.

SAMPLE RETENTION: Samples and DNA extracts generated from the samples will be retained by Bureau Veritas Laboratories for a period of 90 days after which time they will be discarded unless prearrangement has been made by client with Bureau Veritas Laboratories for longer storage.

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Attention: Alexandra Crichton
ERM Canada Consultants Ltd.
3790 Alfred Ave
Smithers, BC
Canada, V0J 2N0

Client Project #: 0676645-0016 KSM Biodiversity
Site Location: NW BC
C.O.C. #: 20230913-2
Quote #: N/A
PO#: N/A

Report Date: 2023/09/20
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Version: 1

ENVIRONMENTAL DNA - CERTIFICATE OF ANALYSIS

BV JOB #: E20230913-2
Received: 2023/09/13, 9:11 A.M.

Methodology for Sample Analysis

Samples received to the laboratory are entered into the Laboratory Information Management System (LIMS) upon receipt. Samples were inspected and assessed for amount of silica beads, silica bead saturation level, coin envelope condition and number of coin envelopes in each bag. Samples were stored in freezer until processing in the laboratory. Sample analysis is completed within 10 or 15 business days (as indicated by the client on the COC) following receipt of samples by the testing laboratory.

eDNA isolation is completed using the DNeasy Blood & Tissue Kit™ (QIAGEN). A negative control is included as a blank filter sample with each batch of eDNA isolation to monitor for potential laboratory contamination during the eDNA isolation process.

Following eDNA isolation (150µL) from a quarter of filter, the IntegritE-DNA™ assay[1] is used to avoid the potential of a false negative (Type II error) during target species or genera testing. The IntegritE-DNA™ assay evaluates the integrity of eDNA for suitability for qPCR and for presence of qPCR inhibitors which may reduce the effectiveness of the qPCR assay for target species or genera. This assay evaluates the quality of eDNA to assess whether it is amplifiable using a qPCR assay that targets the chloroplast genome derived from plants/algae that are ubiquitously found in fresh water systems. Four technical replicates per eDNA sample, four technical replicates of negative control (Ultrapure water), and two technical replicates of positive control are used for the IntegritE-DNA™ assay. The cut-off Ct (qPCR cycle threshold) value for the IntegritE-DNA™ assay is 27 due to inhibition. If the IntegritE-DNA™ assay produces a positive detection frequency of ≥ 2 of the 4 technical replicates, this indicates that the eDNA for the target taxa is likely to be of sufficient quality to be detected (if present) with the target assay. If the IntegritE-DNA™ assay produces a positive detection frequency < 2 of the 4 technical replicates (eDNA is degraded or qPCR inhibitors are present), then sample cleanup is completed using the OneStep PCR Inhibitor Removal Kit™ (ZYMO Research) to remove potential qPCR assay inhibitors from the isolated eDNA. Subsequent to inhibitor removal, the IntegritE-DNA™ assay is repeated to re-assess whether the eDNA is of sufficient quality for qPCR. If a sample fails at the IntegritE-DNA™ assay (Ct Value over 30) for the second time the client will be informed that the quality of the sample is insufficient for the qPCR assay. eDNA indicator (IntegritE-DNA™) in the sample suggests that degradation has taken place and therefore the target species assay may be ineffective. Once a sample passes the IntegritE-DNA™ assay, then the target species or genera assay is performed. Eight technical replicates per eDNA sample, eight technical replicates of the negative control (Ultrapure water), and two technical replicates of positive control (total DNA or synthetic DNA) are used for the target species or genera assay to assess the detection or non-detection of DNA of the target species or genera. The cut-off Ct value for target species assay is 50.

[1] Hobbs J, Round JM, Allison MJ, Helbing CC (2019) Expansion of the known distribution of the coastal tailed frog, *Ascaphus truei*, in British Columbia, Canada, using robust eDNA detection methods. PLOS ONE 14(3): e0213849.

BECKY HENDERSON
Senior Customer Service Representative, Bureau Veritas Laboratories, DNA Services
Email: becky-a.henderson@bureauveritas.com
Phone #: (519) 836 2400 Ext. 7067714

Please direct all questions regarding this Certificate of Analysis to your Customer Service Representative above.
==========
For Service Group specific validation please refer to the Validation Signature Page.

Total Cover Pages: 2

BV JOB #: E20230913-2
Report Date: 2023/09/20
Report #: ER20230920-2
Version #: 1

Client Name: ERM Canada Consultants Ltd.
Client Project #: 0676645-0016 KSM Biodiversity
Site Location: NW BC
Sampler Initials: LT

RESULTS - Bull Trout (*Salvelinus confluentus*)

Client Sample ID	BV Case ID	Sampling Date	IntegritE-DNA™ Positive detection (Ct≤27)[1]	QC Batch	Cleanup required	IntegritE-DNA™ Positive detection (Ct≤30)[1] after cleanup	QC Batch	Analytical Method (qPCR Primer/Probe set)	Target Species eDNA Positive detection (Ct≤50)[2]	QC Batch
S Teigen DS - 1	ER20230135	2023-08-14	4/4	230918Q3	No	N/A	N/A	eSACO3[3]	8/8	230919Q6
S Teigen DS - 2	ER20230136	2023-08-14	4/4	230918Q3	No	N/A	N/A	eSACO3	4/8	230919Q6
S Teigen DS - 3	ER20230137	2023-08-14	4/4	230918Q3	No	N/A	N/A	eSACO3	4/8	230919Q6
S Teigen US2 - 1	ER20230138	2023-08-16	4/4	230918Q3	No	N/A	N/A	eSACO3	0/8	230919Q6
S Teigen US2 - 2	ER20230139	2023-08-16	4/4	230918Q3	No	N/A	N/A	eSACO3	0/8	230919Q6
S Teigen US2 - 3	ER20230140	2023-08-16	4/4	230918Q3	No	N/A	N/A	eSACO3	0/8	230919Q6
S Teigen US1 - 1	ER20230141	2023-08-16	4/4	230918Q3	No	N/A	N/A	eSACO3	1/8	230919Q6
S Teigen US1 - 2	ER20230142	2023-08-16	4/4	230918Q3	No	N/A	N/A	eSACO3	0/8	230919Q6
S Teigen US1 - 3	ER20230143	2023-08-16	4/4	230918Q3	No	N/A	N/A	eSACO3	0/8	230919Q6
N Treaty US1 - 1	ER20230144	2023-08-14	4/4	230918Q3	No	N/A	N/A	eSACO3	0/8	230919Q6
N Treaty US1 - 2	ER20230145	2023-08-14	4/4	230918Q3	No	N/A	N/A	eSACO3	0/8	230920Q1
N Treaty US1 - 3	ER20230146	2023-08-14	4/4	230918Q3	No	N/A	N/A	eSACO3	0/8	230920Q1
N Treaty DS - 1	ER20230147	2023-08-13	4/4	230919Q1	No	N/A	N/A	eSACO3	0/8	230920Q1
N Treaty DS - 2	ER20230148	2023-08-13	4/4	230918Q3	No	N/A	N/A	eSACO3	0/8	230920Q1
N Treaty DS - 3	ER20230149	2023-08-13	4/4	230918Q3	No	N/A	N/A	eSACO3	0/8	230920Q1
N Treaty US2 - 1	ER20230150	2023-08-15	4/4	230918Q3	No	N/A	N/A	eSACO3	0/8	230920Q1
N Treaty US2 - 2	ER20230151	2023-08-15	4/4	230918Q3	No	N/A	N/A	eSACO3	0/8	230920Q1
N Treaty US2 - 3	ER20230152	2023-08-15	4/4	230918Q3	No	N/A	N/A	eSACO3	0/8	230920Q1

[1] **IntegritE-DNA™ Assay:** Four technical replicates were assayed for each eDNA sample. **Field samples:** The cut-off Ct value for IntegritE-DNA assay is 27 based on previous observation and due to presence of inhibitors. **Post clean-up and field blank samples:** The cut-off Ct value for IntegritE-DNA assay is 30. Results are reported as the number of positive detections (n) out of a total of 4 technical replicates, n/4.
[2] **Target Species Assay:** Eight technical replicates were assayed per eDNA sample. The cut-off Ct value for target species assay was 50. Results are reported as the number of positive detections (n) out of a total of 8 technical replicates, n/8.
[3] eSACO3: qPCR primer/probe assay to assess the presence of Bull Trout (*Salvelinus confluentus*) eDNA.

GENERAL COMMENTS

eDNA is extracted (150 µL) from a quarter of filter, and 2 µL is used as a template for each technical replicate.

Results relate only to the items tested.

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BV JOB #: E20230913-2
Report Date: 2023/09/20
Report #: ER20230920-2
Version #: 1

Client Name: ERM Canada Consultants Ltd.
Client Project #: 0676645-0016 KSM Biodiversity
Site Location: NW BC
Sampler Initials: LT

QUALITY ASSURANCE REPORT

			eDNA Isolation Negative Control[1]		qPCR Positive Controls[2]		qPCR Negative Controls[3]	
QC Batch	Parameter	Date	Detection at: Ct 27 (IntegritE-DNA™) Ct 50 (other assays)	Pass / Fail	Detection at: Ct 27 (IntegritE-DNA™) Ct 50 (other assays)	Pass / Fail	Detection at: Ct 27 (IntegritE-DNA™) Ct 50 (other assays)	Pass / Fail
230918Q3	IntegritE-DNA	2023-09-18	0 of 4 technical replicates	Pass	2 of 2 technical replicates	Pass	0 of 4 technical replicates	Pass
230919Q1	IntegritE-DNA	2023-09-19	eDNA Isolation Negative Control is assessed using IntegritE-DNA only once for each extraction batch.	N/A	2 of 2 technical replicates	Pass	0 of 4 technical replicates	Pass
230919Q6	eSACO3	2023-09-19			2 of 2 technical replicates	Pass	0 of 8 technical replicates	Pass
230920Q1	eSACO3	2023-09-20			2 of 2 technical replicates	Pass	0 of 8 technical replicates	Pass

[1] **eDNA Isolation Negative Control:** Blank filters were included for each batch of eDNA extraction to monitor for laboratory contamination during eDNA isolation. eDNA Isolation Negative Control is assessed using IntegritE-DNA™ only. QC results show no eDNA was isolated from the negative control, therefore there was no indication of sample contamination during handling. Acceptance criteria: 0 of 4 technical replicates

[2] **qPCR Positive Controls:** Two technical replicates of isolated eDNA from freshwater sample were used as positive controls for IntegritE-DNA™. Two technical replicates of total DNA or synthetic DNA from the target species were used as positive controls for eDNA assays. Results show that 100% of the technical replicates amplified the positive control eDNA as expected, therefore an observation of negative result in eDNA samples is not related to the qPCR performance. Acceptance criteria: 2 of 2 technical replicates

[3] **qPCR Negative Controls (Ultrapure water):** Four technical replicates for IntegritE-DNA™ and eight technical replicates for target species or genera were used to monitor for laboratory contamination. Results show that 0% of the technical replicates in the negative controls had amplified eDNA, indicating no contamination was detected. Acceptance criteria: 0 of 4 technical replicates for IntegritE-DNA™, and 0 of 8 technical replicates for other assays.

LABORATORY RESULTS VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Reporter: ALI MIRABZADEH, M.Sc.
Scientific Specialist, Bureau Veritas Laboratories, DNA Services

==========

Reviewer: HEATHER ALLEN, M.Sc.
Supervisor, Bureau Veritas Laboratories, DNA Services

==========

BV JOB #: E20230913-2
Report Date: 2023/09/20
Report #: ER20230920-2
Version #: 1

Client Name: ERM Canada Consultants Ltd.
Client Project #: 0676645-0016 KSM Biodiversity
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Bull Trout (*Salvelinus confluentus*) eDNA Assay Validation Information

eDNA assay Validation

All eDNA assays are validated through a rigorous multi-step evaluation protocol that includes tests of DNA target specificity and amplification sensitivity. All eDNA tests available at Bureau Veritas Laboratories have been validated for performance using interlaboratory verification.

General eDNA Assay Information

Target Species:	Bull Trout (*Salvelinus confluentus*)	eDNA qPCR Tool:	eSACO3	Gene Target:	NC-ITS1
Species Code:	te-SACO	eDNA qPCR Format:	TaqMan	Published in:	N/A

eDNA Assay Sensitivity Test using gBlocks™ synthetic DNA (Bureau Veritas)

LOD	**0.32**	95% CI	**0.22-0.57**	Copies	LOQ	**1.19**	95% CI **0.82-2.17** Copies
LOB	**0** hits/8						

Binomial-Poisson model for 8 technical replicates
Determined using eLowQuant R code[4].

eDNA Assay Specificity Test Information (University of Victoria, Dr. Caren Helbing Laboratory)

Each qPCR reaction in the specificity assay contained 10 picograms of voucher target gDNA (n=25 technical replicates)

Species	Common Name (Species)	Detection	# Voucher Specimens	Sample Sources/Locations
ma-HOSA	Human (Homo sapiens)	No	1	Netherlands
te-COCO	Slimy Sculpin (Cottus cognatus)	No	1	Yukon
te-ESLU	Northern Pike (Esox lucius)	No*	1	British Columbia
te-MIDO	Smallmouth Bass (Micropterus dolomieu)	No	1	British Columbia
te-MISA	Largemouth Bass (Micropterus salmoides)	No	1	British Columbia
te-ONCL	Cutthroat Trout (Oncorhynchus clarkii)	No	1	British Columbia
te-ONGO	Pink Salmon (Oncorhynchus gorbuscha)	No	1	British Columbia
te-ONKE	Chum Salmon (Oncorhynchus keta)	No	1	British Columbia
te-ONKI	Coho Salmon (Oncorhynchus kisutch)	No	1	British Columbia
te-ONMY	Rainbow Trout (Oncorhynchus mykiss)	No	1	Alberta and British Columbia
te-ONNE	Sockeye Salmon (Oncorhynchus nerka)	No	1	British Columbia
te-ONTS	Chinook Salmon (Oncorhynchus tschawytscha)	No	1	British Columbia
te-PRCY	Round Whitefish (Prosopium cylindraceum)	No	1	Yukon
te-SACO	Bull Trout (Salvelinus confluentus)	Yes	1	Alberta
te-SAMA	Dolly Varden (Salvelinus malma)	No	1	British Columbia
te-SASA	Atlantic Salmon (Salmo Salar)	No	1	Nova Scotia
te-THAR	Arctic Grayling (Thymallus arcticus)	No	1	Alberta
te-THPA	Eulachon (Thaleichthys pacificus)	No	1	British Columbia

*This tool weakly detects Esox lucius DNA (1/25 replicates). Unlikely to contribute to field-relevant positive results.

Field Sample Validation

Sample Type	Known presence	# Samples	Detected	Location
N/A	N/A	N/A	N/A	N/A

Abbreviations

95% CI	95% Confidence interval	LOQ	Limit of quantification
eDNA	Environmental DNA	NC-ITS1	Nuclear internal transcribed spacer 1 gene
gDNA	Total genomic DNA extracted from voucher specimen	NTC	qPCR no template control
LOB	Limit of blank	qPCR	Quantitative real-time polymerase chain reaction
LOD	Limit of detection	SE	Standard error

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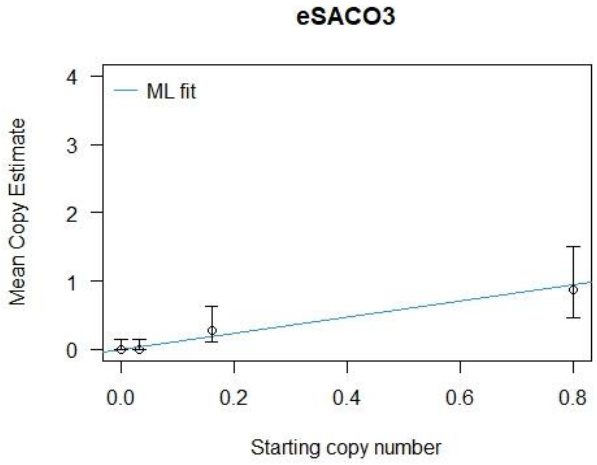
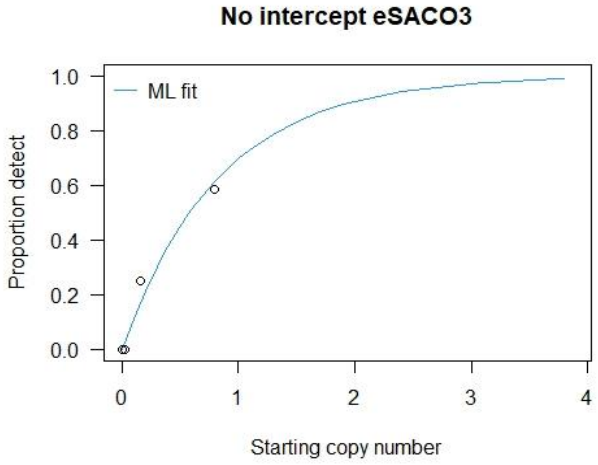
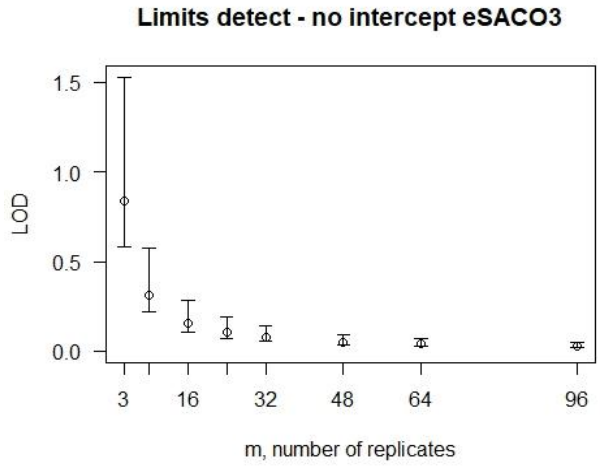
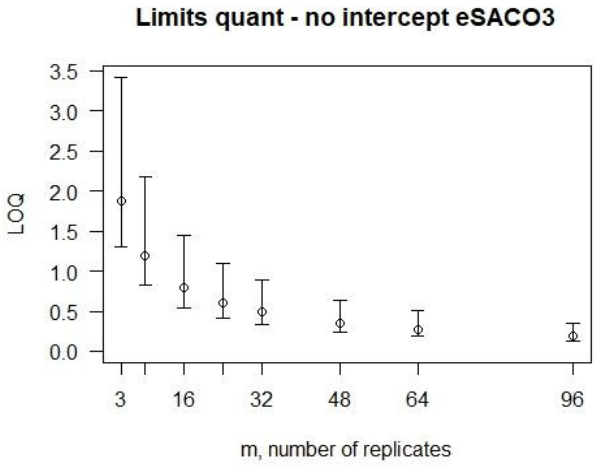
Report #:	ER20230920-2	Site Location:	NW BC
Version #:	1	Sampler Initials:	LT

eDNA Assay Sensitivity Test Details using gBlocks™ synthetic DNA (Bureau Veritas)



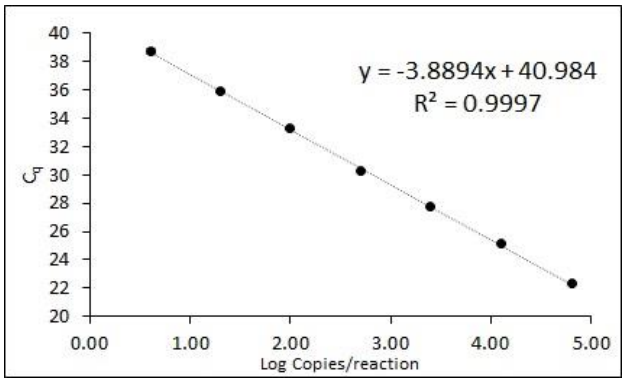






Binomial-Poisson model:	**No intercept**

Determined using eLowQuant R code[4].
Based on a 2 µL DNA input in a total 15 µL reaction



Efficiency	**81%**

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BV JOB #:	E20230913-2	Client Name:	ERM Canada Consultants Ltd.
Report Date:	2023/09/20	Client Project #:	0676645-0016 KSM Biodiversity
Report #:	ER20230920-2	Site Location:	NW BC
Version #:	1	Sampler Initials:	LT

eDNA Assay Sensitivity Test Details using gBlocks™ synthetic DNA (Bureau Veritas)

# Detects	Number of Technical Replicates							
	n=8		n=16		n=24		n=32	
	# Copies	SE	# Copies	SE	# Copies	SE	# Copies	SE
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1	0.112	0.115	0.054	0.056	0.036	0.037	0.027	0.027
2	0.242	0.181	0.113	0.084	0.073	0.054	0.054	0.040
3	0.396	0.248	0.175	0.109	0.112	0.070	0.083	0.052
4	0.584	0.326	0.242	0.134	0.154	0.085	0.112	0.062
5	0.826	0.429	0.316	0.159	0.197	0.099	0.143	0.072
6	1.167	0.581	0.396	0.187	0.242	0.114	0.175	0.082
7	1.751	0.884	0.484	0.216	0.290	0.129	0.208	0.092
8			0.584	0.250	0.341	0.145	0.242	0.102
9			0.696	0.287	0.396	0.161	0.278	0.113
10			0.826	0.331	0.454	0.179	0.316	0.124
11			0.979	0.385	0.516	0.198	0.355	0.135
12			1.167	0.453	0.584	0.218	0.396	0.147
13			1.409	0.545	0.657	0.240	0.439	0.159
14			1.751	0.687	0.737	0.265	0.484	0.172
15			2.335	0.976	0.826	0.292	0.533	0.186
16					0.925	0.323	0.584	0.200
17					1.037	0.358	0.638	0.216
18					1.167	0.401	0.696	0.232
19					1.321	0.452	0.758	0.250
20					1.509	0.517	0.826	0.270
21					1.751	0.607	0.899	0.291
22					2.092	0.745	0.979	0.315
23					2.676	1.028	1.068	0.342
24							1.167	0.372
25							1.280	0.407
26							1.409	0.448
27							1.563	0.498
28							1.751	0.563
29							1.993	0.651
30							2.335	0.787
31							2.918	1.066

Binomial-Poisson model, determined using eLowQuant R code[4].

LOD and LOQ with confidence intervals, by number of replicates, no intercept model

	3	8	16	24	32	48	64	96
LOD	0.84	0.32	0.16	0.11	0.08	0.05	0.04	0.03
LOD_lower	0.58	0.22	0.11	0.07	0.05	0.04	0.03	0.02
LOD_upper	1.53	0.57	0.29	0.19	0.14	0.10	0.07	0.05
LOQ	1.88	1.19	0.79	0.60	0.49	0.35	0.28	0.19
LOQ_lower	1.30	0.82	0.55	0.41	0.34	0.24	0.19	0.13
LOQ_upper	3.42	2.17	1.44	1.09	0.88	0.64	0.50	0.35

References

1. Hobbs, J, Adams, IT, Round, JM, Goldberg, CS, Allison, MJ, Bergman, LC, Mirabzadeh, A, Allen, H, Helbing, CC (2020) Revising the range of Rocky Mountain tailed frog, *Ascaphus montanus* , in British Columbia, Canada, using environmental DNA methods. Environmental DNA. 2020; 2: 350-361. https://doi.org/10.1002/edn3.82
2. Hobbs, J, Round, JM, Allison, MJ, Helbing, CC (2019) Expansion of the known distribution of the coastal tailed frog, *Ascaphus truei* , in British Columbia, Canada, using robust eDNA detection methods. PLOS ONE 14(3): e0213849. https://doi.org/10.1371/journal.pone.0213849
3. Langlois, VS, Allison, MJ, Bergman, LC, To, TA, and Helbing, CC (2020) The need for robust qPCR-based eDNA detection assays in environmental monitoring and risk assessments. Environmental DNA, 3: 519-527. doi: 10.1002/edn3.164
4. Lesperance, M, Allison, MJ, Bergman, LC, Hocking, MD, and Helbing, CC (2021) A statistical model for calibration and computation of detection and quantification limits for low copy number environmental DNA samples. Environmental DNA, 00: 1-12. doi: 10.1002/edn3.220

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Report Date: 2023/09/20
Report #: ER20230920-2
Version #: 1

Client Name: ERM Canada Consultants Ltd.
Client Project #: 0676645-0016 KSM Biodiversity
Site Location: NW BC
Sampler Initials: LT

Bureau Veritas Laboratories
GUE FCD-00441/4
CHAIN OF CUSTODY RECORD

From Canada, send to:
BV Labs, DNA Services
335 Laird Rd #2
Guelph, ON N1G 4P7
eDNA@bvlabs.com

From USA, send to:
BV Labs
240 Portage Rd
Po Box 670, PMB 19
Lewiston NY 149092-1604

ENVIRONMENTAL DNA (eDNA) CHAIN OF CUSTODY RECORD

COC20230913-2

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Company Name:	ERM Canada Consultants Ltd.	Company Name:	ERM Canada Consultants Ltd.	Quotation #:		Regular TAT (Most analyses)
Contact Name:	Gillian Matthews	Contact Name:	Alexandra Crichton	P.O. #:		☑ 10 business days (Sample # ≤ 50) ☐ 15 business days (Sample # > 50) From date received
Address:	1100 Melville St. #1000 Vancouver, BC V6E 4A6	Address:	3790 Alfred Ave Smithers, BC V0J 2N0	Project #:	0676645-0016 KSM Biodiversity	PLEASE REQUEST RUSH FROM CUSTOMER SERVICE
				Site Location:	NW BC	
				Sampled By:	Lora Tryon	Rush TAT (Surcharges will be applied)
Phone:	Fax:	Phone:	519-998-9129 Fax:	Note: All samples to be assessed using the Bull Trout primer (eSACO3)		☐ 5 business days (Sample # ≤ 50) ☐ 10 business days (Sample # > 50) From date received
Email:	gillian.matthews@erm.com; ERM.CanadaPayables@erm.com	Email:	alexandra.crichton@erm.com			

eDNA ANALYSIS

5 IMPORTANT INFORMATION

- Water samples should be kept cool and filtered as soon as possible (within 24 hours of collection).
- Cellulose Nitrate (CN) filter is recommended to use for eDNA test because of higher eDNA recovery.
- Preserve filter in self-indicating silica beads (2-4 mm diameter) or molecular grade ethanol (95 to 100%) immediately following sample filtration.

6 SPECIAL INSTRUCTIONS

Number	7 Sample identification	8 Date Sampled (YYYY/MM/DD)	9 Date Filtered and Preserved (YYYY/MM/DD)	10 Filter Material	11 Filter Size (Diameter)	12 Filter Pore Size (µm)	13 Preservation Method (Ethanol / Silica)	14 Assays Requested[1]	15 Comments
1	S Teigen DS - 1	8/14/2023	8/15/2023	cellulose membrane	45mm	0.45	Silica	eSACO3	
2	S Teigen DS - 2	8/14/2023	8/15/2023	cellulose membrane	45mm	0.45	Silica	eSACO3	
3	S Teigen DS - 3	8/14/2023	8/15/2023	cellulose membrane	45mm	0.45	Silica	eSACO3	
4	S Teigen US2 - 1	8/16/2023	8/17/2023	cellulose membrane	45mm	0.45	Silica	eSACO3	
5	S Teigen US2 - 2	8/16/2023	8/17/2023	cellulose membrane	45mm	0.45	Silica	eSACO3	
6	S Teigen US2 - 3	8/16/2023	8/17/2023	cellulose membrane	45mm	0.45	Silica	eSACO3	
7	S Teigen US1 - 1	8/16/2023	8/17/2023	cellulose membrane	45mm	0.45	Silica	eSACO3	
8	S Teigen US1 - 2	8/16/2023	8/17/2023	cellulose membrane	45mm	0.45	Silica	eSACO3	
9	S Teigen US1 - 3	8/16/2023	8/17/2023	cellulose membrane	45mm	0.45	Silica	eSACO3	
10	N Treaty US1 - 1	8/14/2023	8/15/2023	cellulose membrane	45mm	0.45	Silica	eSACO3	
11	N Treaty US1 - 2	8/14/2023	8/15/2023	cellulose membrane	45mm	0.45	Silica	eSACO3	
12	N Treaty US1 - 3	8/14/2023	8/15/2023	cellulose membrane	45mm	0.45	Silica	eSACO3	
13	N Treaty DS - 1	8/13/2023	8/4/2023	cellulose membrane	45mm	0.45	Silica	eSACO3	
14	N Treaty DS - 2	8/13/2023	8/4/2023	cellulose membrane	45mm	0.45	Silica	eSACO3	
15	N Treaty DS - 3	8/13/2023	8/4/2023	cellulose membrane	45mm	0.45	Silica	eSACO3	

16 RELINQUISHED BY: (Signature/Print)	17 DATE: (YYYY/MM/DD)	18 TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	CASE RANGE
			JL AM M. Mirabzadeh	For Lab Use Only SEP 13 2023	9:11 am	

[1] **Available Assays at Bureau Veritas Laboratories: AMMV**[2] (Western tiger salamander), **ANBO** (Western toad), **ASMO** (Rocky mountain tailed frog), **eFish**[3] (General fish assay), **LICA** (North American bullfrog), **ONCL** (Cutthroat trout), **ONKI** (Coho salmon), **ONMY** (Rainbow trout - Steelhead trout), **ONNE** (Sockeye Salmon), **ONTS** (Chinook salmon), **RAAU** (Northern red-legged frog), **RAPR** (Oregon spotted frog), **SOBE** (Pacific water shrew), **THAR** (Arctic grayling), **ASTR** (Pacific (Coastal) tailed frog)

[2] **AMMV** assay also detects *Ambystoma tigrinum* (AMTI) Tiger Salamander.

[3] **eFish** assay can detect DNA from 12 fish species (Sockeye salmon, Pink salmon, Chum salmon, Arctic grayling, Cutthroat trout, Rainbow trout, Chinook salmon, Coho salmon, Atlantic Salmon, Dolly Varden, Round Whitefish and Slimy Sculpin). This assay is designed to be non-specific. It may detect eDNA from other fish species in addition or instead of the specific species listed here, which the assay has been validated for.

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BV JOB #: E20230913-2
Report Date: 2023/09/20
Report #: ER20230920-2
Version #: 1

Client Name: ERM Canada Consultants Ltd.
Client Project #: 0676645-0016 KSM Biodiversity
Site Location: NW BC
Sampler Initials: LT

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GUE FCD-00441/4
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eDNA@bvlabs.com

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BV Labs
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Po Box 670, PMB 19
Lewiston NY 149092-1604

ENVIRONMENTAL DNA (eDNA) CHAIN OF CUSTODY RECORD

Page 2 of 2

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Phone:	Fax:	Phone:	519-998-9129 Fax:	Site Location:	NW BC	
Email:	gillian.matthews@erm.com; ERM.CanadaPayables@erm.com	Email:	alexandra.crichton@erm.com	Sampled By:	Lora Tryon	Rush TAT (Surcharges will be applied)
				Note: All samples to be assessed using the Bull Trout primer (eSACO3)		☐ 5 business days (Sample # ≤ 50) ☐ 10 business days (Sample # > 50) From date received

eDNA ANALYSIS

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2	N Treaty US2 - 2	8/15/2023	8/16/2023	cellulose membrane	45mm	0.45	Silica	eSACO3	
3	N Treaty US2 - 3	8/15/2023	8/16/2023	cellulose membrane	45mm	0.45	Silica	eSACO3	
4									
5									
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9									
10									
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14									
15									

16 RELINQUISHED BY: (Signature/Print)	17 DATE: (YYYY/MM/DD)	18 TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	CASE RANGE
			For Lab Use Only			

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APPENDIX G CRAMER FISH SCIENCES: GENETIC ANALYSIS REPORT

Genetic Analysis Report

Prepared for:

Alexandra Crichton, ERM

Prepared by:

Hilary Starks and Dan Bingham

December 7, 2023

Executive Summary

Genetic analysis was performed to validate species identification of 51 *Salvelinus* spp. tissue samples collected from the Bell-Irving River basin, BC, Canada. Genotypes were generated using a 264 standardized panel of single nucleotide polymorphisms (SNP) described in Bohling et al. (2021). This SNP panel was designed to discern genetic differentiation within Bull Trout (*Salvelinus confluentus*) populations, however it also includes 28 diagnostic SNPs with the potential for identifying *Salvelinus* species, including Dolly Varden (*S. malma*). The genotypes generated in this report were compared to a genetic baseline comprising genotypes from three *Salvelinus* species (Bull Trout, Brook Trout (*S. fontinalis*) and Dolly Varden) sampled by Cramer Fish Sciences (CFS) in 2021 from the upper Skagit River basin, Washington USA and visualized in a Principal Components Analysis (PCA). Details of the genetic baseline can be found here (CFS 2023). Forty-seven of the 51 samples showed genotypes consistent with confirmed Dolly Varden reference samples. The remaining 4 samples failed to produce sufficient genotype data for species identification, likely as a result of sample degradation prior to DNA extraction.

Methods

Genomic DNA was extracted from fin tissue using Qiagen DNeasy 96 Kits on the Qiagen Qiacube following manufacturer's recommendations and eluted in 200 ul PCR-grade water. Extractions were then concentrated via desiccation and re-elution into 20 ul buffer AE. One well of the 96 well plate remained empty to be processed as a no template control. All *Salvelinus* samples were genotyped at a panel of 264 SNPs developed by Bohling et al. (2021) using the Genotyping-in-Thousands by Sequencing method (GTseq; Campbell et al. 2014). The panel consists of 235 presumably neutral loci, 20 species-diagnostic loci to differentiate *S. confluentus*, *S. fontinalis* and their hybrids, eight species-diagnostic loci to differentiate Salvelinus species (*S. alpinus*, *S. fontinalis*, *S. confluentus*, *S. malma*, *S. namaycush*, and *S. leucomaenis*), and one sex identification locus. We followed the library preparation methods described in Campbell et al. (2014). Once size-selected, the library was Qubit quantified using the Qubit 1x dsDNA HS Assay Kit, normalized to 4 nM, diluted to 12pM and

sequenced on the Illumina MiSeq (MiSeq® Reagent Kit v3 150 cycle). Individuals were genotyped with a custom perl script (GTseq_Genotyper.pl; Campbell et al. 2014), and samples were removed if missing data at more than 50% of loci. Fifty-six of the neutral loci in this panel fail in Dolly Varden, so the percentage of missing genotype data was relaxed from 65% so as not to unnecessarily screen out samples. Genotypes were compared to a genetic baseline and visualized via Principal Components Analysis.

Results

Of the 51 samples analyzed, 47 had genotypes consistent with Dolly Varden at all 28 diagnostic loci. These samples were homozygous for Dolly Varden alleles in the diagnostic markers and grouped within the Dolly Varden cluster in the principal components analysis (Fig. 1). Figure 1. depicts a scatterplot of the first two PCs for the baseline of Salvelinus genotypes estimated from all 263 GTseq SNP markers and shows clear distinction among Bull Trout, Dolly Varden, and Brook Trout. The aqua triangles correspond to the Dolly Varden samples analyzed in this study. The 4 remaining samples did not produce enough genotype data to determine species. This is likely due to sample degradation prior to DNA extraction.

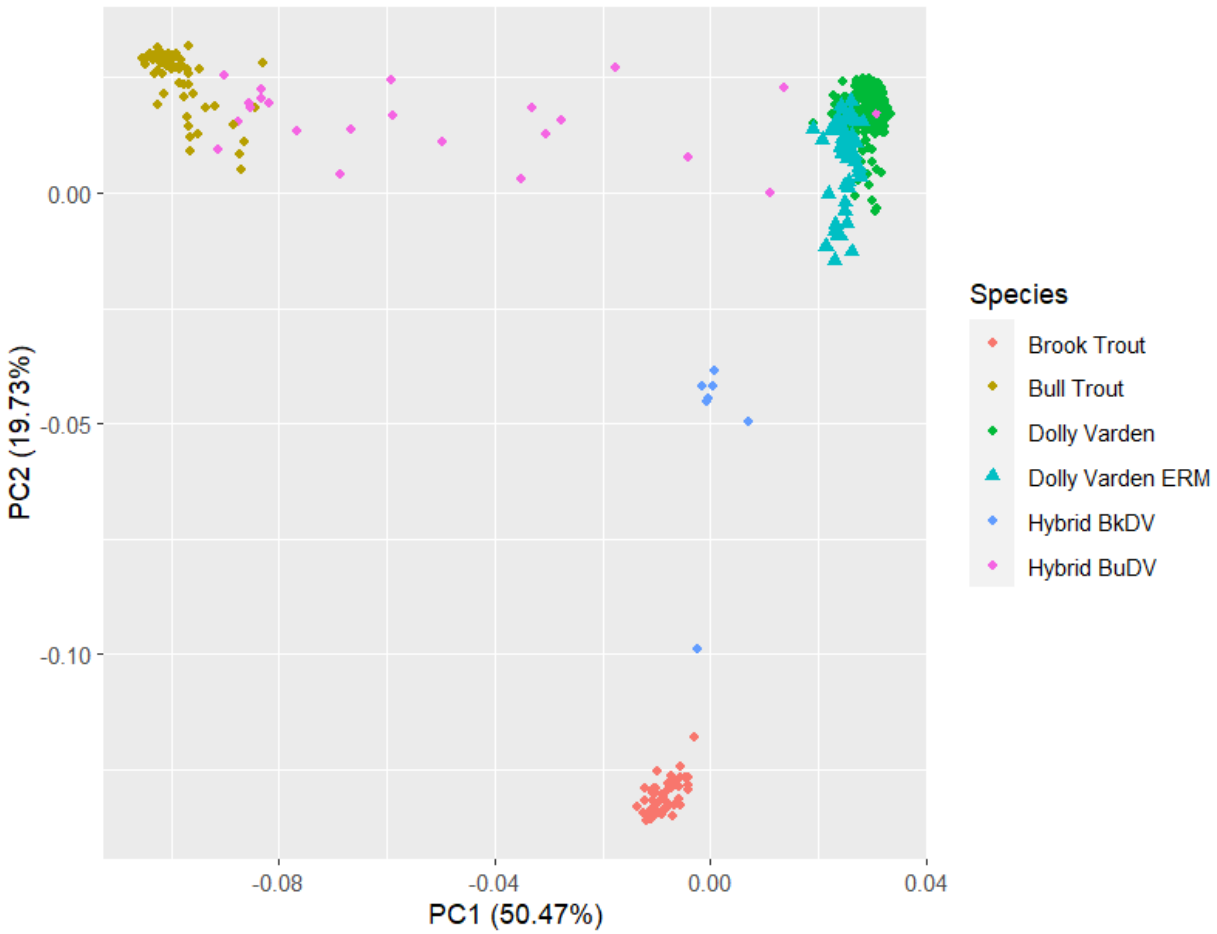

Figure 1. Scatterplot of first 2 PCs based on genotypes at 263 GTseq SNPs within *Salvelinus* collected from the upper Skagit River basin, WA. Aqua triangles represent ERM sample

Literature Cited:

Bohling, J., J. Von Bargen, M. Piteo, A. Louden, M. Small, T. A. Delomas, and R. Kovach. 2021. Developing a Standardized Single Nucleotide Polymorphism Panel for Rangewide Genetic Monitoring of Bull Trout. North American Journal of Fisheries Management 41(6):1920–1931.

Campbell, N. R., S. A. Harmon, and S. R. Narum. 2014. Genotyping-in-Thousands by sequencing (GTseq): A cost effective SNP genotyping method based on custom amplicon sequencing. Molecular Ecology Resources 15(4):855–867.

Cramer Fish Sciences. 2023. FA-06 Reservoir Native Fish Genetics Baseline Study Report, Skagit River Hydroelectric Project, FERC No. 553. Seattle City Light. Updated Study Report. March.