Appendix 53

Whale Tail 2021 Mercury Monitoring Program Report

2021 Mercury Monitoring Program

Whale Tail Pit Project

Prepared for:

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FINAL

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PLAIN LANGUAGE SUMMARY

The 2021 Mercury Monitoring Program (MMP) was completed according to the study design outlined in the *Mercury Monitoring Plan* (Agnico Eagle, 2019). The purpose of the MMP is to assess changes in concentrations of mercury in the Whale Tail Lake south basin and sub-watershed lakes (i.e., Lake A20 and Lake A65) as a result of Project-related flooding. The scope of the 2021 program included water and sediment sampling and fish collections (small-bodied species) at various locations within the Impoundment, downstream of the Mine, and local reference lakes. This report also includes the 2020 fish tissue chemistry data, which were not available in time for reporting due to COVID-related delays (see below).

Key findings from the 2021 MMP are provided below.

Water

Mercury concentrations in Whale Tail Lake were below predicted concentrations in the Final Environmental Impact Statement (FEIS) and well below water quality guidelines for the protection of aquatic life. As expected, mercury concentrations were still elevated in the Impoundment in 2021 compared to pre-flooding conditions (2016–2018) but may have peaked in 2020.

Sediment

In 2021, the laboratory discarded a batch of sediment samples collected for the MMP prior to analysis. This included most of the CREMP samples and all of the inundation zone samples collected from Whale Tail Lake; the discarded samples will be re-collected in 2022. For the results received, sediment mercury concentrations in 2021 were similar to baseline conditions at areas sampled within the Impoundment and downstream from the Mine. Total mercury concentrations were below the CCME sediment quality guidelines at both Whale Tail (South Basin) and mid-field area Lake A76.

Fish

COVID-19 health restrictions in the fall and winter 2020 resulted in delays in fish tissue sample processing and analysis. Therefore, 2020 fish mercury concentrations for Lake Trout and small-bodied fish are included in this year’s report. The 2021 small-bodied fish mercury results were subject to similar delays and will be included in the 2022 report.

Lake Trout – average total mercury concentration (0.59 mg/kg ww) in a 550-mm Lake Trout from Whale Tail Lake in 2020 was similar to concentrations reported in Lake Trout from the baseline period (2015) and fishout (2018). This result is not surprising considering the slow growth rates of Arctic fish. While methylmercury has increased in small-bodied fish within the Impoundment, it will take a number of years to cascade up the food chain to measurable changes in Lake Trout tissue. Lake Trout tissue concentrations were predicted to eventually peak at 1.55 mg/kg ww (Azimuth, 2019) before returning to a new baseline. The next large-bodied fish sampling event is planned for 2023, coinciding with the next Environmental Effects Monitoring (EEM) program.

Small-bodied fish – mercury concentrations were higher in Slimy Sculpin and Ninespine Stickleback from the Impoundment in 2020 compared to 2018 (baseline) and 2019 (flood year) and compared to areas downstream of the Mine and local reference lakes. The increase in mercury concentrations in the Impoundment were expected. Small-bodied fish sampled in 2021 will help confirm whether mercury concentrations in fish have reached their peak or are still increasing. Stable isotope analysis demonstrated how slight changes in feeding strategies from benthic to more pelagic feeding and feeding higher up on the food chain occurred in the Impoundment in 2020 compared to earlier years and areas downstream of the Mine and reference areas. The changes in feeding strategies may affect the rate of mercury bioaccumulation in small-bodied fish in the Impoundment.

Recommendations

The 2022 monitoring program will continue monitoring changes in mercury concentrations in water, as well as sediment sampling within the flood zone to allow spatial comparison between flooded and original substrates within the Impoundment. The 2022 MMP will be completed as per the scope and schedule outlined in the latest version of the *Mercury Monitoring Plan* (Azimuth, 2022 [in prep]).

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ACKNOWLEDGEMENTS

The following people were involved in the Mercury Monitoring Program:

- Marianna DiMauro. Jared Ellenor, and Eric Franz (Azimuth) were lead authors of the 2021 Mercury Monitoring Program report. Jared Ellenor was involved in the 2018-2019 field programs as a researcher with the University of Waterloo.
- Gary Mann (Azimuth) – Gary was technical advisor on this project and was the primary reviewer.
- Morgan Finley (Azimuth) and Rowan Woodall collected water and sediment samples for mercury analysis in August 2021. Additional support was provided by other members of the Whale Tail Environment Team.
- Bronte McPhedran and Noel Soogrim in Dr. Heidi Swanson's research group at the University of Waterloo collected small-bodied fish for tissue mercury analysis in August 2021.
- Cam Portt is a senior fisheries biologist who led the 2020 Environmental Effects Monitoring program and assisted Jared Ellenor with fish sampling for the MMP.
- North/South Consultants collected the fish samples during the 2018 fish-out.
- Wen Xu ad Erin Mann at the University of Western Ontario for analysis of water and fish tissue samples for total and methylmercury. Data were reported to Dr. Heidi Swanson's research group at the University of Waterloo.

USE & LIMITATIONS OF THIS REPORT

This report has been prepared by Azimuth Consulting Group Incorporated (Azimuth), for the use of Agnico Eagle Mines Ltd., who has been party to the development of the scope of work for this project and understands its limitations. The extent to which previous investigations were relied on is detailed in the report.

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ACRONYMS

CCME	Canadian Council of Ministers of the Environment
CFIRMS	Continuous flow isotope ratio mass spectrometer
CREMP	Core Receiving Environment Monitoring Program
CRM	Certified Reference Material
DQO(s)	Data Quality Objective(s)
dw	dry weight
EEM	Environmental Effects Monitoring
EIL	Environmental Isotope Laboratory
FEIS	Final Environmental Impact Statement
ISQG	Interim sediment quality guidelines (CCME sediment quality guidelines)
MAM	Mammoth Lake
masl	Metres above sea level
MB	Method blank
MDL	Method detection limit
MMP	Mercury Monitoring Program
MMT	Mammoth Lake
MRL	Method Reporting limit
MS	Matrix spike
NEM	Nemo Lake
NIRB	Nunavut Impact Review Board
NSSB	Ninespine Stickleback
NWB	Nunavut Water Board
PEL	Probable effect level (CCME sediment quality guidelines)
QA/QC	Quality Assurance / Quality Control
RPD	Relative percent difference
SIA	Stable isotope analysis
SLSC	Slimy Sculpin
SOP	Standard Operating Procedure
SWTC	South Whale Tail Channel
US EPA	United States Environmental Protection Agency
WOE	Weight-of-evidence
WTL	Whale Tail Lake
WTS	Whale Tail Lake south basin

wwt	wet weight

REPORT ORGANIZATION

The 2021 Mercury Monitoring Program (MMP) report is organized in a main document and four appendices. Below is an overview of the various sections of the report to help the reader navigate the document.

The plain language summary provides a high-level summary of the monitoring results from 2020 for large-bodied and small-bodied fish and 2021 for water and sediment. The monitoring results are discussed by media (i.e., water, sediment, fish tissue).

Section 1 introduces the MMP and provides an overview of the environmental setting for the project. The scope of mining development at the Whale Tail Pit study area is outlined to report how the MMP has been implemented to monitor changes in mercury concentrations in the aquatic receiving environment.

The following sections summarize the methods, results and recommendations of the spatial and temporal trends in water quality, sediment chemistry, large-bodied and small-bodied fish in some of the Whale Tail Pit area lakes.

- **Section 2** (Water)
- **Section 3** (Sediment)
- **Section 4** (Large-bodied Fish)
- **Section 5** (Small-bodied Fish)

Figures and Tables are included within the text.

1 INTRODUCTION

1.1 Project Background

The Amaruq Property is a 408-square kilometer area located on Inuit Owned Land, approximately 150 kilometers north of Baker Lake and approximately 50 kilometers northwest of the Meadowbank mine. Approval for development of the Whale Tail gold deposit was issued in 2018 (NIRB Project Certificate No. 008). The Project, located on the Amaruq site, is operated as an extension to the operational Meadowbank mine, now referred to as the Meadowbank Complex (**Figure 1-1**).

The Whale Tail deposit was initially developed as an open pit mine. To access the deposit, a dike was constructed across Whale Tail Lake to isolate the north basin of Whale Tail Lake prior to dewatering (**Figure 1-2**). Dike construction was completed in September 2018 and dewatering of the north basin occurred between March 2019 and May 2020 (Agnico Eagle, 2021). The Whale Tail Dike altered the local hydrology and created a small reservoir connecting Whale Tail Lake, Lake A65, Lake A63, Lake A20, and other small ponds (referred to as the Impoundment). Prior to flooding, the water level in Whale Tail Lake was approximately 152.5 metres above sea level (masl). Peak flood occurred in 2019 (155.8 masl), coinciding with an abnormally high amount of precipitation in July and August. A diversion channel – the South Whale Tail Channel (SWTC) – was constructed between Lake A20 and Mammoth Lake prior to 2020 spring freshet to passively manage the water level in the Impoundment below 156 masl (**Figure 1-2**). The inlet of the SWTC at Lake A20 is approximately 0.5 m below the maximum water level of 156 masl. Water levels peaked at 155.6 to 155.7 masl during freshet in 2020 and 2021.

Approximately 157 ha of tundra were predicted to be flooded at peak water elevation, but higher resolution LiDAR imagery collected in 2018 as part of the Whale Tail Expansion Project showed that water levels at 156 masl would result in flooding of 148.5 ha of terrestrial habitat (Agnico Eagle, 2021).

Mercury monitoring is conducted according to the *Mercury Monitoring Plan* (the Plan; Agnico Eagle, 2019) to satisfy requirements under Condition 63 NIRB Project Certificate No. 008 and NWB Water License 2AM-WTP1830. The primary objective of the Mercury Monitoring Program (MMP) is to verify that mercury concentrations in Lake Trout (*Salvelinus namaycush*) are within or below the predictions[1] for the Whale Tail Pit Expansion Project. Risk-based analyses will be implemented if monitoring results exceed model predictions.

[1] Predictions in the FEIS (Agnico Eagle, 2018) were originally presented in Azimuth 2017 and were updated in Azimuth 2019 to reflect changes to the proposed flooding duration of Whale Tail Lake (South Basin) as part of the proposed expansion activities for the Whale Tail Pit Project.

Figure 1-1. Whale Tail Pit Study Areas included in the Mercury Monitoring Program.

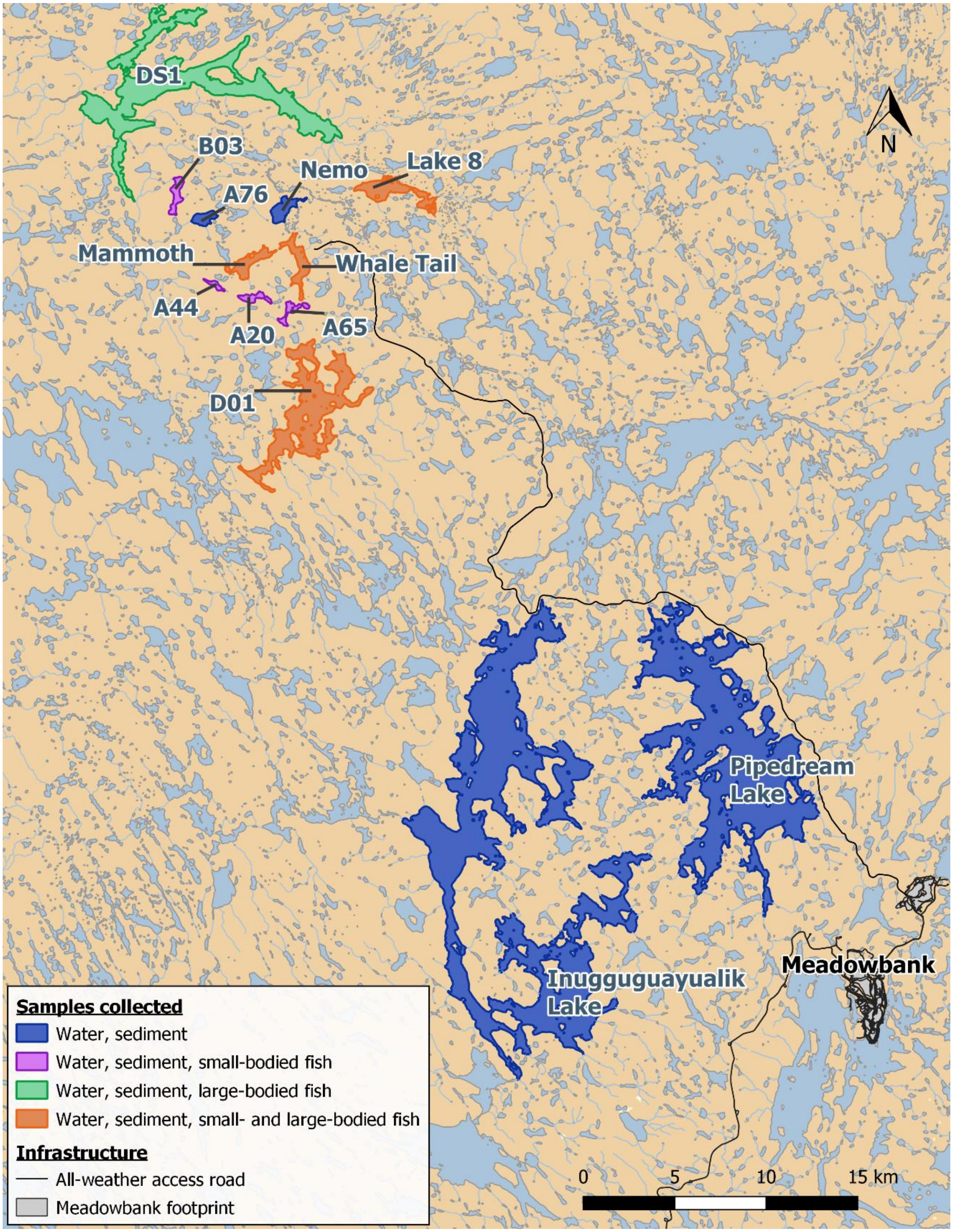
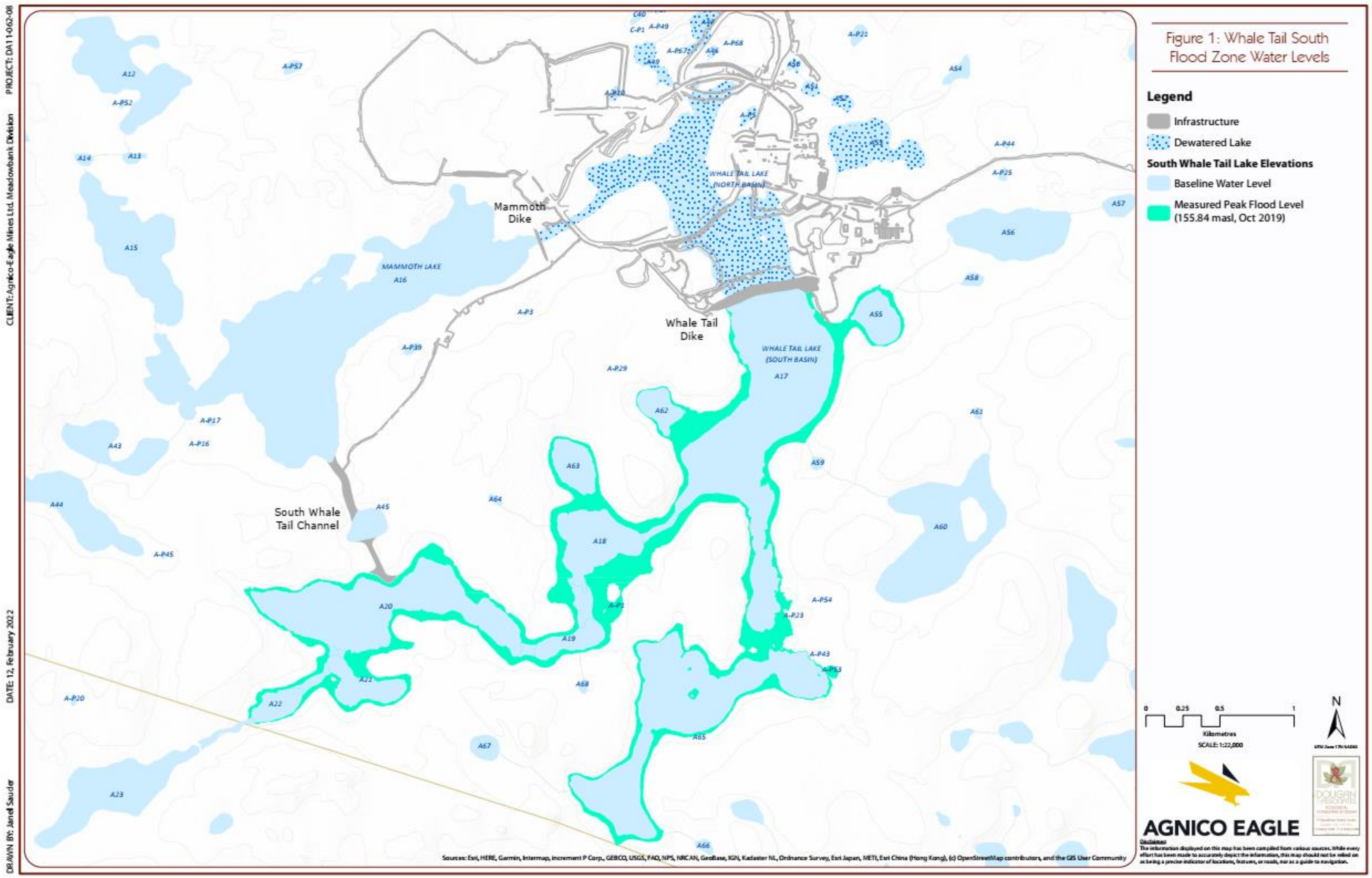


Figure 1-2. Whale Tail South Flood Zone Water Levels.



1.2 Mercury in the Aquatic Environment

Mercury is a naturally occurring element that is found in low levels everywhere- in air, water, soil, plants, animals, and humans. In aquatic environments, bacteria turn naturally occurring inorganic mercury into methylmercury, a highly bioavailable form of mercury. Methylmercury is readily bioaccumulated and biomagnified through the food chain, meaning it is found in the highest concentrations in long-lived animals near the top of the food chain. The flooding of terrestrial habitat, such is the case for the Whale Tail Lake south basin and sub-watershed lakes, can lead to elevated production of methylmercury associated with the decomposition of organic matter within the flood zone. The elevated production of methylmercury results in increases in methylmercury in all components of the ecosystem. Concentrations are highest in the tissue of long-lived, predatory fish species, such as Lake Trout, and peak anywhere from four to 11 years after flooding. The increase is temporary, however, and as flooded carbon sources for bacterial decomposition are exhausted, methylmercury concentrations gradually decline throughout the ecosystem.

Additional information on mercury in the environment, including the physical, chemical and ecological factors that drive mercury methylation dynamics in aquatic environments following flooding and soil inundation, are described in Azimuth (2017).

1.3 Mercury Monitoring Program

1.3.1 Overview

The MMP was developed by Agnico Eagle (2019) to assess changes in concentrations of mercury in the Whale Tail Lake south basin and sub-watershed lakes (i.e., A20 and A65) as a result of Project-related flooding[2]. The core elements of the MMP are water chemistry, sediment chemistry, and fish tissue chemistry. The 2021 report compares water chemistry, sediment chemistry, and fish tissue data collected prior to (i.e., baseline) with data collected after flooding of the tundra around the south basin of Whale Tail Lake.

Data presented in the MMP have been collected under various research and monitoring programs:

- Ultra-trace mercury sampling in water led by Dr. Heidi Swanson (University of Waterloo) until 2020. In 2021, Azimuth completed the ultra-trace mercury water sampling.
- Sediment sampling has been completed by Azimuth as part of the Core Receiving Environment Monitoring Program (CREMP).

[2] In accordance with Condition 63 of NIRB Project Certificate No. 008 and NWB Water License 2AM WTP1826 Part I, Condition 5.

- Small-bodied fish sampling has been led by Dr. Swanson's research group, with assistance from C. Portt and Associates in 2020 as part of the harmonized collection of fish for the Environmental Effects Monitoring (EEM) and MMP.
- Large-bodied fish samples have been collected by North-South Consultants (Whale Tail North basin fish-out) and C. Portt and Associates (index sampling and EEM). Supplemental fish sampling was led by Azimuth.

Data analysis and reporting were completed by Azimuth.

1.3.2 Mercury Monitoring Locations

Sampling areas include locations within the Impoundment, downstream from the Mine, and regional reference area lakes.

- Whale Tail Lake south basin (Whale Tail Lake[3]) – water levels in Whale Tail Lake were within baseline throughout 2018. The south basin of Whale Tail Lake was fully flooded by August 2019 (i.e., connected to sub-watershed lakes, including A20, A63, and A65). Note that the SWTC became operational in spring 2020, so there was no connectivity from the Impoundment to the downstream lakes Mammoth, A76 and DS1 before that time.
- Lakes A20, A63, A65 – inside the full-flood zone of the Impoundment. All would still have been independent from the Impoundment in August 2018, but part of the contiguous Impoundment in August 2019 and 2020.
- Mammoth Lake (MAM/MMT) is located downstream of the Impoundment (Lake A20). The SWTC connecting Mammoth Lake and Lake A20 was completed in spring 2020, but water was pumped from the Impoundment to Mammoth Lake for water management in the fall of 2019.
- Lake A76 is located downstream of MAM and is a mid-field (MF) area for the CREMP and MMP.
- Lake DS1 (Amur Lake) is the far-field (FF) exposure area located downstream from MAM. Lake DS1 is the largest lake in the local study area.
- Nemo Lake (NEM), Lake 8, Lake D1, Lake B03, Inuggugayualik Lake (INUG), and Pipedream Lake (PDL) are reference lakes not connected to the Whale Tail Lake watershed.

1.4 Scope of the 2021 Program

The scope of the 2021 program included surface water, sediment, and small-bodied fish. Small-bodied fish sampling targeted Slimy Sculpin (*Cottus cognatus*) and Ninespine Stickleback (*Pungitius pungitius*).

[3] May be listed as "WTS" in certain tables, figures or appendices.

Benthic invertebrates and zooplankton were sampled during the baseline period. Additional benthic invertebrate and zooplankton sampling under the MMP is only planned if mercury concentrations in water and fish tissue exceed the respective impact assessment predictions.

The four soil sampling stations around Whale Tail Lake and the northwest corner of Lake A65 are now flooded and categorized as sediment sampling locations. Sediment was collected from the inundated areas in Whale Tail Lake, Lake A20, and Lake A65 in 2021. However, the laboratory discarded the samples prior to analysis. Details on corrective actions for sample handling in future events is provided in **Appendix B2**. These locations will be resampled in 2022.

This report presents results for the surface water and sediment components of the program, comparing results from pre- and post-impoundment relative to updated predictions for the Expansion Project. Mercury concentrations in water and sediment chemistry are also compared to applicable guidelines for the protection of aquatic life.

This report also includes an assessment of changes in tissue mercury concentrations in both small-bodied and large-bodied fish collected in 2020. Due to a combination of factors related to COVID-19, laboratory tissue sample analysis results were delayed past the cut off for including in the fish tissue chemistry results in last year’s report. There were similar delays in processing the fish tissue data collected in 2021 and chemistry results for the small-bodied fish program are expected in early Q2 2022. The results of the 2021 fish chemistry program will be included in the 2022 mercury monitoring report (March 2023).

2 WATER

2.1 Overview

Predicted changes in mercury concentrations in surface water were presented in the FEIS for the Whale Tail Pit Expansion Project (main document of the 2018 FEIS Addendum, Section 6.2.3.2.; Golder, 2019). The predicted changes in mercury concentrations in Whale Tail Lake were between 50 ng/L and 100 ng/L. The prediction is based on baseline measurements and scaling from the mercury literature review (Azimuth, 2017). The mercury concentrations in surface water represent the maximum possible increase that could occur in Whale Tail Lake.

Ultra-trace mercury data for the MMP are collected in August of each year, concurrent with water sampling for the CREMP. The samples for ultra-trace mercury analysis are collected in addition to the mercury samples collected as part of the routine CREMP water quality program. Sample collection in 2021 was completed by Azimuth with field assistance from the Whale Tail Environment Team. Specifics of the mercury sampling for the MMP are provided below.

2.2 Methods

2.2.1 Sample Collection

Ultra-trace mercury samples were collected as surface level-grabs, following the *clean hands/dirty hands method* (US EPA, 1996). Sample bottles were double-bagged from the laboratory and returned to laboratory in the same double-bags. Samples were collected by a two-person field team; one team member, designated the *clean hands*, only handled the inner bag and sample container, while the second team member, designated the *dirty hands*, handled the outer bag and filtering equipment, but never contacted the sample container or inner bag. Unfiltered samples were collected at each station for total[4] and methylmercury. Samples were stored in a freezer on-site. Samples were filtered and preserved by the laboratory (Biotron) upon receipt. Samples collected for mercury analysis are summarized in **Table 2-1**. Results for unfiltered and filtered samples are reported in the sections that follow.

[4] The *total* in total mercury refers to the inclusion of all species of mercury (i.e., both inorganic and organic forms). To avoid confusion, we use the term *unfiltered* rather than *total* when addressing partitioning between particulate-bound and dissolved phases.

2.2.2 Laboratory Analysis

Water samples were shipped in coolers with ice packs to the laboratory at the earliest convenience to minimize the possibility of exceeding the recommended hold-times between collection and analysis. Water samples were analyzed at Biotron, at the University of Western Ontario, using an ultra-low detection limit. This is a CALA accredited laboratory, with detection limits for mercury that are lower than those available from commercial analytical laboratories. Total mercury analysis of filtered and unfiltered samples was completed using cold vapour atomic fluorescence spectrophotometry (Method Ref. modified from EPA 1631). Methylmercury analysis of filtered and unfiltered samples was completed using cold vapour atomic fluorescence spectroscopy (Method Ref. modified from EPA 1630).

2.2.3 Data Analysis

Total and methylmercury concentrations in unfiltered and filtered surface water samples were compared to baseline concentrations and concentrations in areas downstream of the Mine and reference area lakes. Furthermore, mercury concentrations in 2020 and 2021 were compared to the predicted changes in mercury concentrations in Whale Tail Lake.

Table 2-1. Summary of surface water samples collected for ultra-trace mercury analysis (total mercury and methylmercury).

Area/Lake	Designation	Year†					
		2016	2017	2018	2019	2020	2021
Whale Tail (south basin) |Impoundment	NF	n=1	n=1	n=2	~~n=2~~	n=2	n=2
Lake A20 | Impoundment	NF	-	-	n=2	~~n=2~~	n=2	n=2
Lake A65 | Impoundment	NF	-	-	n=2	~~n=2~~	n=2	n=2
Mammoth Lake	NF	-	n=1	n=2	~~n=2~~	n=2	n=2
Lake A76	MF	-	-	n=2	~~n=2~~	n=2	n=2
Lake DS1	FF	-	-	-	~~n=2~~	n=2	n=2
Inuggugayualik Lake	Reference	-	-	-	-	n=2	n=2
Pipedream Lake	Reference	-	-	-	-	n=2	n=2
Lake 8	Reference	-	-	n=2	~~n=2~~	n=2	-
Lake D1	Reference	-	-	-	-	n=2	n=2
Nemo Lake	Reference	-	-	n=2	-	n=2	-
Lake B03	Reference	-	-	-	-	n=2	n=2
Lake A44	Reference	-	-	-	-	n=2	n=2

Notes

'†Minor flooding of the Impoundment, limited to Whale Tail (south basin). Extensive during 2019 and 2020 sampling (i.e., connectivity between impounded lakes).
NF = near-field, MF = mid-field, FF = far-field
Shading indicates the status of the lake:
blue = baseline and reference areas (Control designation)
orange = post flooding (Impact designation)
"n" = number of sites sampled
"-" = data not collected as per the Mercury Monitoring Plan.
Water chemistry results from 2019 (strikethrough) excluded from the dataset because they were contaminated at the University of Waterloo prior to analysis (see Appendix L in Azimuth 2020 for details).

2.3 Quality Assurance / Quality Control

The objective of quality assurance / quality control (QA/QC) is to assure that the chemistry data collected are representative of the material or populations being sampled, are of known quality, have sufficient laboratory precision to be highly repeatable, are properly documented, and are scientifically defensible. Data quality was assured throughout sample collection and analysis using specified standardized procedures, by using laboratories that have been certified for all applicable methods, and by staffing the program with experienced technicians.

QA/QC results of 2021 surface water samples reported by the University of Western Ontario (Biotron) are summarized below.

- Laboratory duplicate samples analyzed for methylmercury and total mercury had an average relative percent difference (RPD) of 9% and 5%, respectively.
- The average matrix spike RPD for methylmercury and total mercury was 9% and 1%, respectively.
- The method blank (MB) was less than method detection limit for both methylmercury and ultra-low trace mercury analyses.
- For all mercury water results, the concentration in the unfiltered fraction was greater than the filtered fraction.
- There were no flags on quality control violations.

Overall, the 2021 data met the data quality objectives of the MMP.

2.4 Results and Discussion

Total mercury and methylmercury concentrations in filtered and unfiltered samples collected from 2016 through 2021 are presented in **Figure 2-1** and **Figure 2-2**. Tabulated results are provided in **Appendix A**.

Total mercury concentrations observed in Whale Tail Lake in both 2020 and 2021 are below both the predicted concentrations in the FEIS[5] (50 to 100 ng/L) and the CCME water quality guidelines for the protection of aquatic life (26 ng/L; CCME 2003). Methylmercury concentrations in the Impoundment in 2021 were well below the 4 ng/L CCME water quality guideline for the protection of aquatic life (CCME, 2003).

Total mercury concentrations in surface water samples collected prior to Impoundment or at reference lakes range from <0.017 ng/L to approximately 1.3 ng/L. Pre-impoundment concentrations for Whale

[5] Predicted maximum total mercury concentrations in water during impoundment. Predicted concentrations conservatively based on assumptions from literature on permanently flooded reservoirs and baseline measurements (Golder, 2019).

Tail Lake were approximately 0.2 to 0.5 ng/L. Increases over baseline/reference conditions were observed in 2020, particularly within Whale Tail Lake. Concentrations remained elevated in 2021, but to a lesser degree.

Total mercury concentrations downstream of the Impoundment were higher in 2020 and 2021 relative to baseline results. However, total mercury concentrations at the downstream locations were generally similar to those observed across the reference lakes in both time periods, suggesting that the observed change may be due to natural factors rather than to the inundation.

The temporal trend in methylmercury, shown in **Figure 2-2**, follows a similar trend as total mercury. Methylmercury concentrations in surface water samples collected prior to flooding or at reference lakes were typically below laboratory detection limits (<0.018 to <0.05 ng/L) in most samples. Concentrations in Whale Tail Lake increased in 2020 to approximately 0.5 ng/L and remained at similar levels in 2021. Given that methylmercury concentrations did not continue to rise sharply in 2021, it is possible that this represents the peak of methylmercury production within the Impoundment. It should be noted that bioaccumulation through the food chain will likely be delayed relative to the patterns observed in water. Ultimately, it is too early to tell if methylmercury increases have peaked. The 2022 results will hopefully provide a better understanding of this situation.

Methylmercury concentrations in downstream locations appear to show a slight increase in 2020 and 2021 relative to the pre-flooding period. However, the highest observed concentrations in both years were seen at Lake DS1, which was not sampled during the baseline period. Given its large size and most-downstream location in the watershed, it is unlikely that methylmercury concentrations in 2020 and 2021 are influenced by flooding. Concentrations measured upstream at Mammoth Lake and Lake A76 in 2020 and 2021 are generally lower than those seen at DS1. Furthermore, results for the reference lakes document natural methylmercury concentrations close to 0.05 ng/L. In summary, while there may be subtle impoundment-related increases of methylmercury at the downstream locations, the observed concentrations at Lake DS1 do not appear related to flooding and subsequent formation of the Impoundment.

Figure 2-1. Total mercury concentration (ng/L) in filtered and unfiltered surface water samples in Whale Tail area lakes, 2016–2021.

Notes:

Water samples for ultra-trace mercury analyses were collected in August.

Total mercury concentrations are below the 26 ng/L CCME guideline for the protection of aquatic life. Total mercury concentrations in 2021 in Whale Tail (south basin) are below the FEIS predicted concentration of 50 to 100 ng/L.

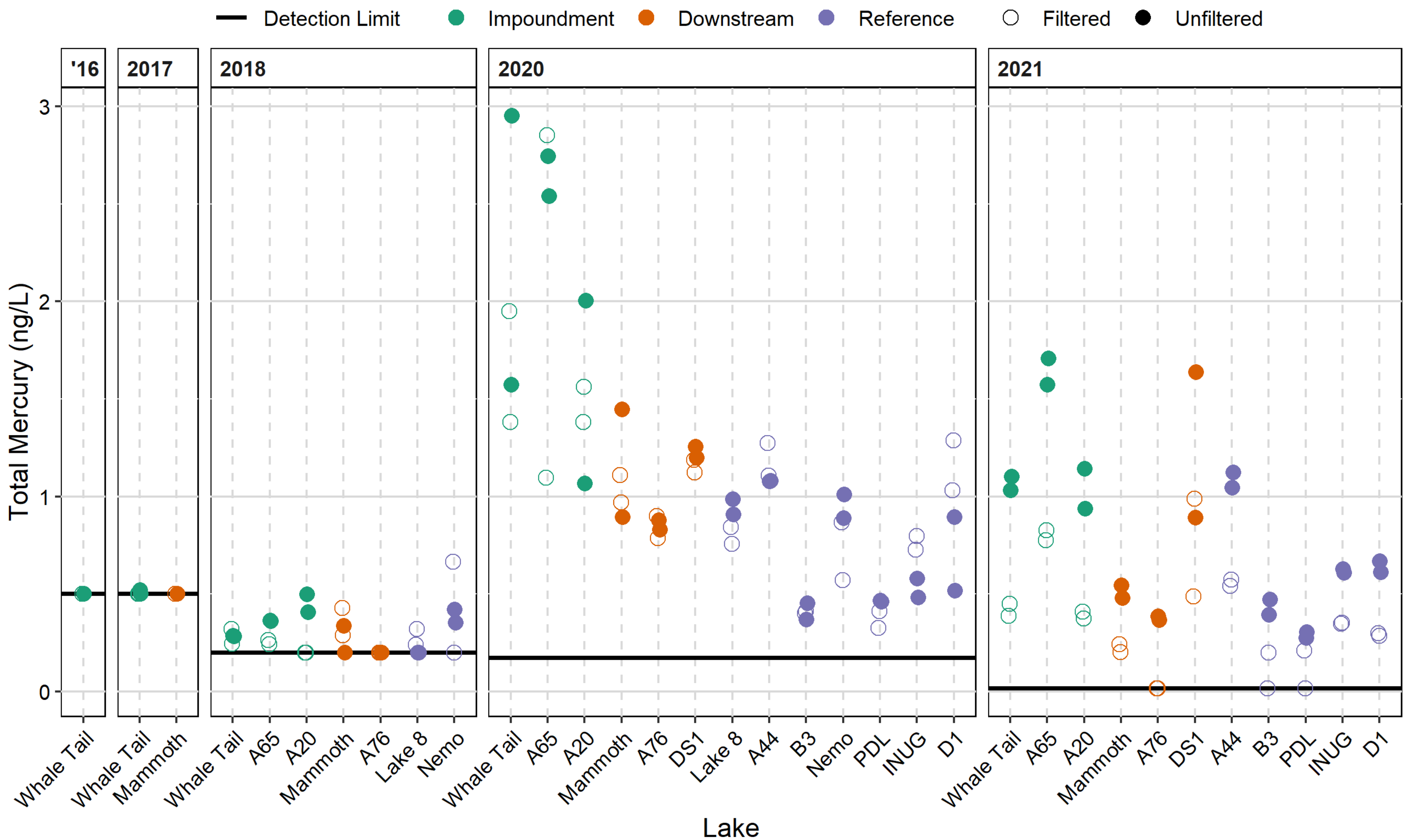
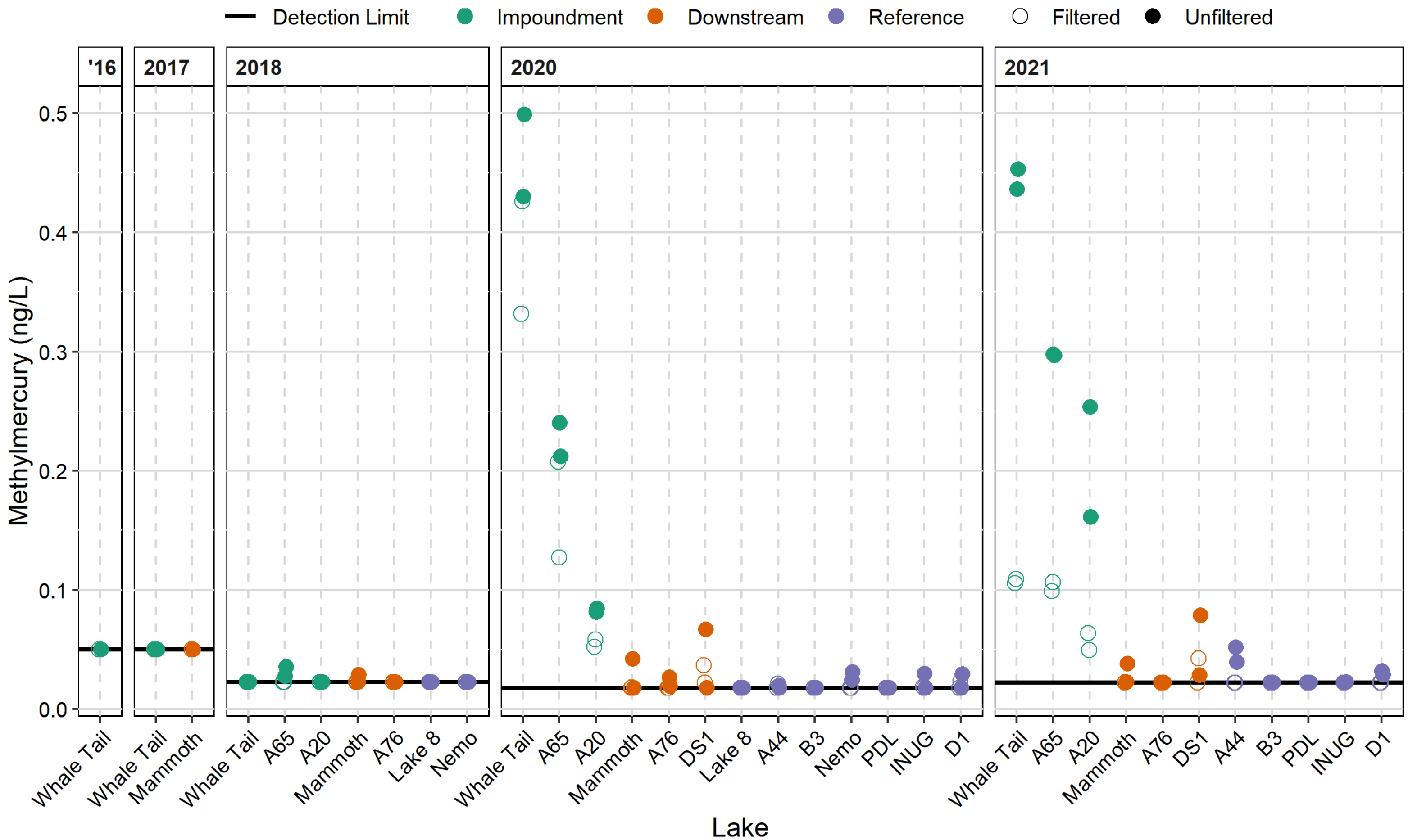


Figure 2-2. Methylmercury concentration (ng/L) in filtered and unfiltered surface water samples in Whale Tail area lakes, 2016–2021.

Notes:

Water samples for ultra-trace mercury analyses were collected in August.

All methylmercury concentrations are below the 4 ng/L CCME guideline for the protection of aquatic life.



3 SEDIMENT

3.1 Overview

The sediment chemistry component of the MMP consists of both grab samples and core samples. Grab samples integrate sediment chemistry across the top 3 to 5 cm to characterize conditions within the biologically active zone. Sedimentation rates in these headwater lakes are typically low, so sediment coring is done to quantify changes in sediment chemistry in the most active layer. The coring program focuses on the top 1.5 cm of sediment to track changes over time. Grab samples are collected each year as part of the CREMP and MMP at the same locations as the benthic invertebrate community samples. Sediment cores were collected in 2020 and are planned for every three years coinciding with the coring program under the CREMP and expanded EEM program requirements. The next coring event is planned for 2023. In 2021, sediment grabs were collected from routine CREMP sampling areas and from six locations in the Whale Tail Lake inundation zone coinciding with 2016 soil sampling locations. As noted in **Section 1.4**, a laboratory error resulted in the loss of many of the sediment samples collected in 2021; see **Section 3.3** for more details.

3.2 Field Methods

3.2.1 Depositional Areas

A summary of sediment sample collection (grabs and cores) by location and year is provided in **Table 3-1**. Sediment grab samples were collected using a Petite Ponar (6” x 6”). Each sample was a composite of two grabs. Sediment was collected by lowering the grab to within 1 m of the sediment, at which point the rate of descent was slowed to minimize disruption of the surficial layer of sediment. Upon retrieval, the grab was placed in a large stainless-steel bowl and inspected according to the acceptability criteria outlined in the standard operating procedure (SOP), namely: the absence of large foreign objects, adequate penetration depth, the grab is not overfilled, the jaws closed completely (i.e., well-sealed), and the sediment surface in the grab is undisturbed. Grabs that failed the acceptability criteria were discarded into a 20-L bucket and retained until sampling was completed at the station. The top 3 to 5 cm was collected, consistent with Meadowbank and Whale Tail Pit CREMP protocols and analyzed for total and methylmercury. A total of five grab samples are collected at each lake.

3.2.2 Inundation Zone

Sediment samples for methylmercury analysis were collected at six locations within the inundation zone to support the MMP. Four samples were collected along the shorelines of Whale Tail Lake and Lake A65 from areas where mercury-related soil samples were collected in 2016 as part of the baseline studies for the Project. Two new locations were sampled in 2021 in the flood areas along the shoreline of Lake A20.

Samples were collected from within the inundation zone using either a Petite Ponar or Tech Op Corer. Sample depths were no more than 1 m. Any surface layer of organic matter (e.g., sticks and twigs) was carefully moved aside and the sample collected from the top 2.5 cm of substrate. Samples were homogenized and collected into 500 mL jars.

The inundated area on Lake A20 was approximately 30 cm deep, limiting the area that could be sampled. Most of the shoreline around Lake A20 is very rocky further limiting the potential sample areas. Two locations were selected near the diversion channel outlet. Samples were collected from flooded areas to a maximum water depth of 30 cm accessed using chest waders. The soil depths in the sample area appeared shallow making it impossible to use the corer. Each Petite Ponar grab was opened and examined to ensure the surface layers were intact. There was evidence of growth in the overlying vegetation (e.g., new green shoots). Sediment/soil layers were thin and several grabs were required for each sample. Samples included organic and inorganic material.

The corer was used for sample collection in both Lake A65 and Whale Tail Lake. Inundation depths in both areas appeared to be greater than 1 m. The sample locations were accessed by boat which was anchored with a short anchor line to reduce swing. The corer was lowered to the sediment/soil line using an attached pole. The core tube was worked into the sediments by first pushing the corer down and then turning the corer while pushing deeper. Approximately one in three attempts were successful and cores were examined to ensure that they were intact before they were processed in the boat. Despite collecting the cores from depths of approximately 1 m, there was evidence of new growth (e.g., fresh green shoots) in many of the cores. Each sample required a minimum of 3 to 4 cores to achieve the desired sample size. Surface growth and plant matter was carefully moved aside to expose sediment/soil layers which were collected to approximately 2.5 cm depth.

Samples were shipped in coolers packed with ice to ALS in Burnaby.

3.2.3 Laboratory Analysis

Sediment samples were submitted to ALS (Burnaby, BC) for analysis. The samples were transported in coolers with ice packs and shipped to ALS at the earliest convenience to minimize the possibility of exceeding the recommended hold-times between when the samples were collected and analysis.

Analysis of methylmercury in sediment was completed according to standard methods from the US Geological Survey. Methylmercury is extracted from the sample and analyzed by cold vapour atomic fluorescence spectrophotometry. Total mercury in sediment is also analyzed by cold vapour atomic fluorescence spectrophotometry, following US EPA methods. Moisture content was determined gravimetrically.

Table 3-1. Summary of sediment chemistry samples (grab and core) collected for total mercury and methylmercury analysis.

Area/Lake	Designation	Habitat	Year					
			2016	2017	2018	2019	2020	2021
Whale Tail Lake | Impoundment†	NF	Depositional	G	G&C	G&C	G	G&C	G
		Inundation	S	-	-	-	-	*
Lake A20 | Impoundment†	NF	Depositional	G	G&C	G	G	G&C	*
		Inundation	-	-	-	-	-	*
Lake 65 | Impoundment†	NF	Inundation	S	-	-	-	-	*
Mammoth Lake	NF	Depositional	G	G&C	G	G	G&C	*
Lake A76	MF	Depositional	G	G&C	G	G	G&C	G
Lake DS1	FF	Depositional	G	G&C	G	G	G&C	*
Inuggugayualik Lake	Reference	Depositional	G	G&C	G	G	G&C	*
Pipedream Lake	Reference	Depositional	G	G&C	G	G	G&C	*
Lake 8	Reference	Depositional	-	-	G&C	G	G&C	-
Lake D1	Reference	Depositional	-	-	G&C	G	G&C	-
Lake B03	Reference	Depositional	-	-	-	-	G&C	-

Notes
† Minor flooding of impoundment, limited to Whale Tail (south basin). Extensive during 2019 and 2020 sampling (i.e., connectivity between impounded lakes).
[1] Soil samples collected along Whale Tail Lake shoreline in 2016 as part of baseline studies.
* Samples were collected but an error at the lab resulted in these samples being discarded prior to analysis. Refer to the ALS Corrective Action Report in **Appendix B2**.
NF = near-field, MF = mid-field, FF = far-field.
"-" = data not collected as per the Mercury Monitoring Plan.
C = Sediment core samples; G = Sediment grab samples; S = soil samples from the shoreline area.
Shading indicates the status of the lake:
blue = baseline and reference areas (Control designation)
orange = post flooding (Impact designation)
Refer to tabulated data in **Appendix B1** for the number of samples collected at each area.

3.3 Quality Assurance / Quality Control

In 2021, a batch of sediment samples were not analyzed due to a sample receipt error by the laboratory. In response to the error, ALS has implemented a number of corrective actions outlined in **Appendix B2**. As a result, the majority of the sediment QAQC for sediment chemistry could not be completed. The samples that were collected in the field and analyzed by the laboratory include sediment grabs from Whale Tail Lake and A76 and two field duplicate samples.

3.3.1 Field QA/QC

Field QA to avoid cross-contamination consisted of taking precautions between sampling areas by rinsing and cleaning the sampling gear for sediment samples (Petite Ponar grab, coring equipment, stainless steel compositing bowls and spoons) and using site water and phosphate-free cleaning detergent.

Field QC measures for sediment grab and core sampling were conducted on approximately 10% of samples. These measures included field duplicates to characterize spatial heterogeneity and assess consistency in field methodology, and filter swipes of the sampling equipment or coring tube to assess cleaning procedures.

3.3.2 Laboratory QC

The laboratory QC program for total mercury and methylmercury analysis in sediment consisted of method blanks and CRM/LCS. Laboratory duplicates samples were analyzed by ALS in 2021. All laboratory QC measures met ALS' data quality objectives.

3.3.3 Sediment Chemistry – Field Duplicates

Field duplicate RPD DQOs were set at 1.5-times the laboratory DQOs (i.e., 1.5 x 40% for total mercury and 1.5 x 30% for methylmercury). The RPDs met the DQOs for both total and methylmercury.

3.4 Results and Discussion

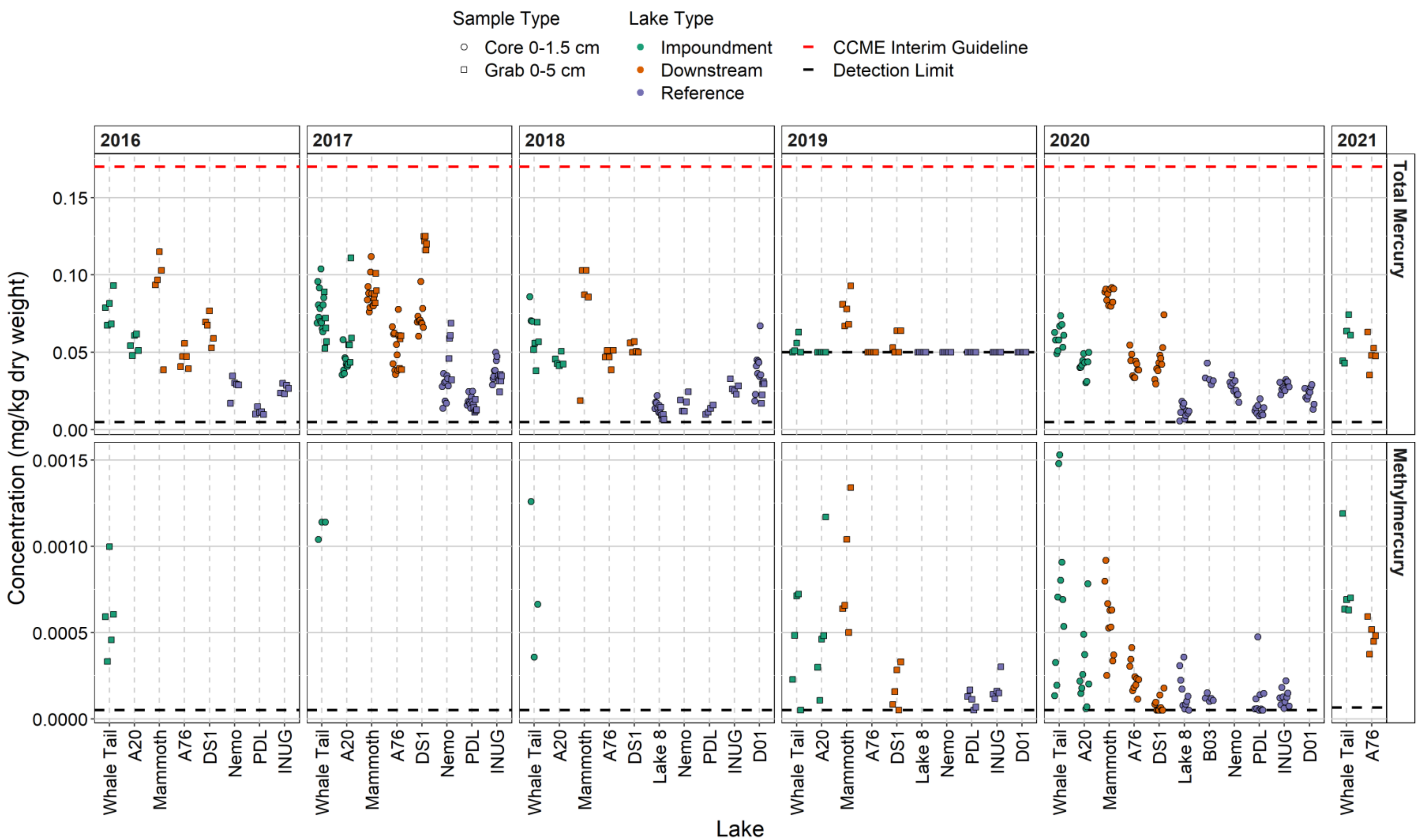
Total mercury and methylmercury concentrations in sediment samples collected between 2016 and 2021 are shown in **Figure 3-1**. Tabulated sediment mercury results are provided in **Appendix B1**.

Total mercury concentrations were below the CCME interim sediment quality guideline (ISQG) of 0.17 mg/kg dry weight in all samples collected between 2016 and 2021. Further, there was no observed change in total mercury concentrations in depositional areas, which is not unexpected. Predicted changes in sediment chemistry related to flooding were not developed as part of the FEIS for the Whale Tail Pit Expansion Project.

There are no CCME interim sediment quality (ISQG) or probable effect level (PEL) guidelines for methylmercury in sediment. Methylmercury concentrations in sediment samples in Whale Tail Lake in 2021 remain generally unchanged since flooding. All except one of the sediment grab sample replicates from Whale Tail Lake in 2021 had methylmercury concentrations that were within the range of concentrations prior to flooding (2016–2017) of 0.00033 mg/kg dry weight to 0.00114 mg/kg dry weight (see **Figure 3-1**). The one sediment sample at Whale Tail Lake that exceeded baseline concentrations, only slightly exceeded the upper limit of the range of concentrations observed prior to flooding (0.0019 mg/kg dry weight). Since the 2021 sediment samples collected from the inundation zone were discarded by the laboratory prior to analysis, sediment sampling planned for 2022 will include re-sampling at locations within the flood zone to allow spatial comparison between flooded and original substrates within the Impoundment.

Figure 3-1. Total mercury and methylmercury (mg/kg dry weight) in sediment samples from Whale Tail area lakes, 2016–2021.

Notes: All total mercury concentrations are below the 0.17 mg/kg dry weight CCME interim sediment quality guideline for the protection of aquatic life (red dashed line) and below the 0.486 mg/kg dry weight CCME probable effect level (not shown in figure).



4 LARGE-BODIED FISH

4.1 Overview

Predicted changes in Lake Trout mercury concentrations were modelled in 2017 based on information presented in the FEIS for the Approved Project (Agnico Eagle, 2016). The model assumed a relatively short flood duration of four years. In 2019, the predicted change in tissue mercury concentrations were updated to incorporate a longer duration of flooding as part of the Expansion Project (Azimuth, 2019). With the exception of flood duration, all other factors relevant to fish mercury predictions were assumed to be the same or similar between the Approved Project and Expansion Project[6]. Creation of the Whale Tail Lake Impoundment was predicted to potentially increase Lake Trout tissue mercury concentrations in that location to 1.55 mg/kg ww (approximately three-fold) with associated confidence limits ranging from 1.36 to 1.76 mg/kg ww (Azimuth, 2019).

Large-bodied fish tissue sampling for the MMP is conducted as part of EEM biological monitoring program to minimize duplication of effort and limit fish mortality. Samples collected in 2020 were compared to historical data (2015 and 2018) and to the increase in tissue mercury concentrations predicted for the FEIS (Azimuth, 2019).

- 2015: Lake Trout muscle tissue sampling was completed in Whale Tail Lake and Mammoth Lake as part of baseline sampling efforts.
- 2018: Lake Trout were captured during the fish-out of the north basin of Whale Tail Lake and a select number were retained for mercury analysis in muscle tissue. Lake Trout were also collected at Lake 8 in 2018 to characterize baseline mercury concentrations in fish from a nearby reference lake. Given that no flooding occurred in the north basin of Whale Tail Lake, these data should be reflective of baseline conditions from a methylmercury perspective.
- 2020: Lake Trout were captured from Mammoth Lake, Lake 8, and Lake D1 as part of the EEM sampling, with additional samples collected from Whale Tail Lake and Lake DS1 as per the MMP. Lake Trout tissue samples were submitted for mercury analysis in 2020, however, due to delays attributed to COVID-19, the results were not available to be included in the 2020 report. As such, the 2020 fish mercury results are discussed in this report.

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[6] While there are small differences in total terrestrial area flooded between the Approved and the Expansion Project (i.e., the total terrestrial area flooded is calculated to be bit smaller under the Expansion Project), the differences were not considered large enough to rerun the 2017 empirical models.

A summary of fish tissue samples submitted for mercury analysis is provided in **Table 4-1**.

4.2 Methods

4.2.1 Field Methods

Fish tissue data have been collected under various programs. Methods for each sampling event are outlined below.

2015 Whale Tail and Mammoth Lake Sampling – Lake Trout were captured in Whale Tail Lake and Mammoth Lake for collection of muscle tissue for baseline mercury and metals analysis. Fish sampling was conducted by C. Portt and Associates. Fish were captured using gill nets and samples of skinless, boneless dorsal muscle were collected in the field using a standard filleting knife. Samples were placed in labelled Whirl-Pak® bags, frozen, and transported to Guelph, Ontario, where they were stored frozen prior to shipping to ALS Laboratories in Burnaby, BC (C. Portt and Associates 2018).

2018 Fish-out of the North Basin of Whale Tail Lake – The fish-out was conducted by North/South Consultants (Winnipeg, MB). Results of the fish-out were submitted to the *Department of Fisheries and Oceans* in accordance with project requirements. Fish were captured using gill nets and filleted in the field. Tissue samples were placed in labelled Whirl-Pak® bags, frozen, and shipped to University of Waterloo. All fish tissue samples collected by North/South had skin and muscle tissue taken from the caudal peduncle.

The fish tissue sample sizes varied between samples; to maximize the preservation of baseline samples, University of Waterloo selected 20 of the largest tissue samples from each species (Round Whitefish, Arctic Char and Lake Trout) collected during the fish-out.

2018 Lake 8 Reference – In 2018, University of Waterloo researchers collected eight Lake Trout tissue samples from Reference Lake 8. Fish were captured using gill nets and filleted in the field. Tissue samples were collected following *Swanson Lab SOP – Fish sampling for chemical parameters*; tissue samples were taken from the muscle located above the lateral line and anterior to the dorsal fin. Tissue samples were placed in labelled Whirl-Pak® bags, frozen, and shipped to University of Waterloo. These eight samples serve as reference/control data for this work and future productivity studies.

2020 EEM and supplementary sampling – As part of the 2020 Cycle 1 EEM study implemented by C. Portt and Associates, Lake Trout were collected from Mammoth Lake, Lake 8, and Lake D1. Additional fish were collected from Whale Tail Lake and Lake DS1 for use in the mercury monitoring program. Fish were captured using gill nets and filleted in the field. Boneless, skinless dorsal muscle was taken from anterior to the dorsal fin. Tissue samples were placed in labelled Whirl-Pak® bags, frozen, and transported to the University of Waterloo.

4.2.2 Laboratory Methods

Mercury

Fish tissue samples collected in 2015 were sent to ALS Laboratories in Burnaby, BC for percent moisture and metals analysis (including total mercury). Concentrations of total mercury in tissue were determined for wet and dried tissue samples using atomic fluorescence spectrophotometry or atomic absorption spectrophotometry, adapted from US EPA Method 245.7.

Fish tissue samples collected in 2018 and 2020 were subsampled at the University of Waterloo using sterilized scissors and tweezers, placed in labelled vials, covered with Kimtech® tissues, and placed in the freeze dryer. Dried samples were homogenized and submitted to Biotron at the University of Western Ontario for analysis of total mercury in tissue using a Milestone® DMA-80 Direct Mercury Analyzer as per U.S. EPA method 7473 (US EPA, 2007). Mercury concentrations were converted to wet weight assuming 78% moisture content in the muscle tissue.

Ageing

Lake Trout collected in 2015 and 2020 were aged by Louise Stanley, a fish aging expert who provides consulting services to C. Portt and Associates. Otoliths were mounted whole on a glass slide with CrystalBond thermoplastic adhesive. Otoliths which could not be aged whole were ground to the core on one side, flipped to adhere the core area to the glass, and then ground to a thin section on the other side. Age was estimated based on the number of annuli counted using transmitted light and a Leica GZ6 Stereo Zoom microscope.

4.2.3 Data Analysis

Data analysis for large-bodied fish included modelling temporal and spatial length-mercury relationships across areas sampled in years 2015, 2018, and 2020. Data analysis also included estimating mercury concentrations and associated confidence limits for a 550-mm Lake Trout. Use of standardized sizes, like 550-mm, allows for more robust spatial or temporal comparisons by explicitly taking fish size into consideration. Finally, the 2020 mercury concentration estimate for a 550-mm Lake Trout was compared to the approximate three-fold increase prediction (1.55 mg/kg ww) and associated confidence interval (1.36 to 1.76 mg/kg ww) made for the FEIS (Azimuth, 2019).

Mercury and Ancillary Data

Fish meristic data and sampling details were recorded on field data sheets and entered into an Excel database. Ageing and mercury data were also entered into the Excel database upon receipt from the laboratory of Western Ontario and Biotron, respectively (**Section 4.2.2**). The large-bodied fish database is provided in **Appendix C1**.

Characterization of Size-Mercury Relationships:

For the analysis of pre-impoundment/baseline data and post-impoundment fish mercury data, we considered the following elements: catch and data, length and age, general mercury relationships, and length-mercury relationships. These are described below.

Catch and data summary – *Catch* refers to the fish that were caught and selected for mercury analysis. Because sampling for mercury analysis is conducted to characterize a range of fish sizes, the focus is on sampling evenly across the relevant size range of a species, rather than randomly sampling from all fish caught (see *Length-mercury relationships* below for more details). Catch data for each year and location is provided in **Table 4-1**. A summary of sample sizes and the mean and range for length, weight, condition[7], age, and mercury concentration is provided in **Table 4-2**.

Length and age – these two variables provide information on the size and age of Lake Trout.

General mercury-related relationships – Length, weight, and age can all influence fish mercury concentrations. Plots were used to explore the following key relationships:

- *Length-weight*: the length-weight relationship shows how weight increases as fish get longer. This relationship is usually tight in that the range of observed weights for a given fish length is narrow relative to the other relationships. Consequently, this plot is useful to identify outliers such as incorrectly entered data or unhealthy fish.
- *Age-length*: age-length relationships show how fish length increases as fish get older. These relationships are typically variable and show a wide range of length values for each age. This variability makes it harder to identify outliers, but the plots can still provide useful insights into growth patterns and how they influence mercury concentrations.
- *Length-mercury*: length-mercury is a well-established mercury relationship, because concentrations increase as fish length increases. Length is simple to measure and highly repeatable, so measurement error tends to be low. Mercury concentrations are also positively correlated to weight and age, but measurement error for both those variables relative to length is higher. For example, if the age is off by a year that could mean a 100% error for a year-old fish and the time since a fish's last meal can influence weight. This makes weight and age correlations less useful than length, particularly for comparing patterns over time or space.

When looking at patterns in fish mercury concentrations over time or space, fish size or length must be considered. Failing to do so can lead to biased results. For example, tissue mercury concentrations are

[7] Condition is a measure of fish weight relative to its length. It is calculated as weight/length^3 x 100 and is represented by the letter K. Higher condition fish weigh more for their size compared to lower condition fish.

known to increase as a fish length increases. While sampling targets similar number of fish in each range of size classes, there are almost always differences in sizes of fish caught. Therefore, the best way to remove potential size-related bias is to characterize the length-mercury relationships then use the length-mercury relationship to estimate mercury concentrations for a specific fish size (i.e., standardized sizes). The approach we used to characterize or model the length-mercury relationships is presented in detail in **Appendix D**.

Table 4-1. Summary of Lake Trout muscle tissue samples submitted for total mercury analysis.

Area/Lake	Designation	Year			
		2015	2018†	2020	2021
Whale Tail Lake | Impoundment	NF	n=21	n=15	n=30	-
Mammoth Lake	NF	n=25	-	n=25	-
Lake DS1	FF	-	-	n=24	-
Lake 8	Reference	-	n=8	n=26	-
Lake D1	Reference	-	-	n=27	-

Notes
† Fish collected from Whale Tail in 2018 were collected from the north basin following dike construction.
NF = near-field, FF = far-field.
Shading indicates the status of the lake:
blue = baseline and reference areas (Control designation)
orange = post flooding (Impact designation)
"n =" = number of fish sampled.
"-" = data not collected as per the Mercury Monitoring Plan.

4.3 Quality Assurance/Quality Control

Data quality was assured throughout sample analysis using specified standardized procedures, by using laboratories that have been certified for all applicable methods, and by staffing the program with experienced technicians. Samples were collected according to standard care and QA/QC procedures:

- Tissue samples were placed in individual Whirl-Pak® bags, labelled with sample ID and date, and placed in a freezer in the field. Samples were placed in coolers with ice or dry ice during shipment to the laboratory.
- Gloved hands were used for handling the fillet and care was taken to avoid introducing foreign particles with the fillet.
- The equipment (fillet knife and cutting board) was washed with phosphate-free cleaning detergent and site water and wiped dry with paper towel between samples.

QA/QC results of 2020 large-bodied fish tissue samples reported by the University of Western Ontario (Biotron) are summarized below. The data met the DQOs for the MMP.

- The average RPD in 2020 laboratory duplicate samples analyzed for total mercury was 5%.
- The average matrix spike RPD for total mercury was 2%.

- There were no flags on quality control violations and all data were retained for analysis.

4.4 Results and Discussion

All Lake Trout tissue samples were analyzed for total mercury. It is generally assumed that all the total mercury present in a fish sample is in the form of methylmercury.

Fish Mercury Concentrations – Fish mercury concentrations for all Lake Trout caught in 2015, 2018, and 2020, by area, are shown in **Figure 4-1**. Note that at this stage of the assessment fish size is not considered, although size is an important factor when comparing fish mercury concentrations over time or space; this is explored further in sections that follow.

Catch and Data Overview – The fish mercury dataset contains 201 tissue mercury samples for Lake Trout collected across years 2015, 2018, and 2020 (**Table 4-1**). The results show that despite efforts to keep fish size consistent across locations, there were differences among areas and years that could bias the mercury results (**Table 4-2**). For example, mean fish length was much lower for Lake Trout from Whale Tail Lake in 2018 relative to either 2015 or 2020. This highlights the need to use the length-mercury relationships as the foundation for making comparisons across time or space.

Length and Age – We used length frequency plots and age frequency plots to compare the distribution of fish samples from each location (**Figure 4-2**). In general, the ranges of length and age were similar across locations within a given year. Larger or older individuals (i.e., > 500 mm) were sampled less frequently at Mammoth Lake and Whale Tail Lake in 2015 compared to 2020. No ageing was completed in 2018.

General Mercury Relationships – Key mercury relationships are shown in **Figure 4-3**. The length-weight and age-length relationships are as expected for Lake Trout, with much less variability in length-weight relative to age-length. Overall, there are strong positive relationships for length-mercury, indicating that larger Lake Trout have higher tissue mercury concentrations than smaller Lake Trout. While there is some variability in the relationships, none of the data stand out as outliers.

Length-Mercury Relationships – Key results are summarized below, and detailed modelling results are provided in **Appendix D**.

- The results showed that the estimated mean tissue mercury concentration for a 550-mm Lake Trout in 2020 was 0.59 mg/kg ww in Whale Tail Lake. This result shows virtually no change has occurred relative to baseline/pre-impoundment conditions (0.58 mg/kg ww in 2015 and 0.63 mg/kg ww in 2018) (**Figure 4-4**).
- The 2020 tissue mercury concentration for a 550-mm Lake Trout in Whale Tail Lake remains well below both the peak increase predicted for the FEIS (Azimuth, 2019) (**Figure 4-4**).

The 2020 results indicate that no meaningful changes in fish mercury concentrations have occurred thus far in large-bodied fish since the Impoundment was created. While methylmercury concentrations in both surface water (**Section 2**) and in small-bodied fish tissue (**Section 5**) have clearly increased starting in 2020, it is not unexpected that similar changes have yet to be observed in Lake Trout. Given the slow growth rates and lower feeding rate in larger and older Lake Trout, increases in tissue mercury concentrations related to the Impoundment will likely take one or more monitoring cycles before they reach a level distinguishable from baseline conditions for a 550-mm fish. The next Lake Trout sampling event is planned for 2023 in conjunction with the EEM program.

The MMP committed to further risk-based analyses if measured fish tissue concentrations exceed the 1.55 mg/kg ww predicted peak mercury concentration for Lake Trout in Whale Tail Lake (Azimuth, 2019). **No meaningful increase in Lake Trout mercury concentrations has occurred through 2020. No MMP-related risk management measures are required at this time.**

Table 4-2. Lake Trout size, age and mercury concentration data summary in Whale Tail area lakes, 2015, 2018, and 2020.

Area	Designation	Year	N Fish	Fork Length (mm)		Weight (g)		Condition (K)		Age (yrs)		Hg (ppm ww)	
				Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range
Whale Tail | Impoundment	NF	2015	21	469	159-860	1412	37.4-7320	1.1	0.86-1.28	-	12	0.51	0.077-2.19
		2018	15	388	225-836	940	150-5600	1.1	0.93-1.39	-	-	0.46	0.07-3.42
		2020	30	483	238-866	1761	156-7410	1.2	0.96-1.64	-	10-9	0.60	0.26-2.35
Mammoth	NF	2015	25	360	215-700	661	96.2-4670	1.1	0.91-1.36	-	10	0.21	0.072-1.07
		2020	25	474	176-855	2043	64.4-6750	1.2	0.94-1.61	-	12-8	0.58	0.058-2.08
Lake DS1	FF	2020	24	512	269-745	1531	199-3706	1.0	0.81-1.22	-	10-49	0.79	0.21-4.04
Lake 8	Reference	2018	8	431	204-583	988	83.3-1980	1.0	0.72-1.13	-	-	0.43	0.084-1.16
		2020	26	398	150-660	839	33.0-3263	1.0	0.8-1.24	-	10-9	0.33	0.072-1.06
Lake D1	Reference	2020	27	490	169-876	2446	48.7-9530	1.1	0.87-1.53	-	10-9	0.82	0.12-2.96

Notes

N = number of fish submitted for analysis.

NF = near-field, FF = far-field.

"-" = data not collected as per the Mercury Monitoring Plan, or no measurement available.

Figure 4-1. Tissue mercury concentrations in Lake Trout collected from Whale Tail study area lakes in 2015, 2018, and 2020.

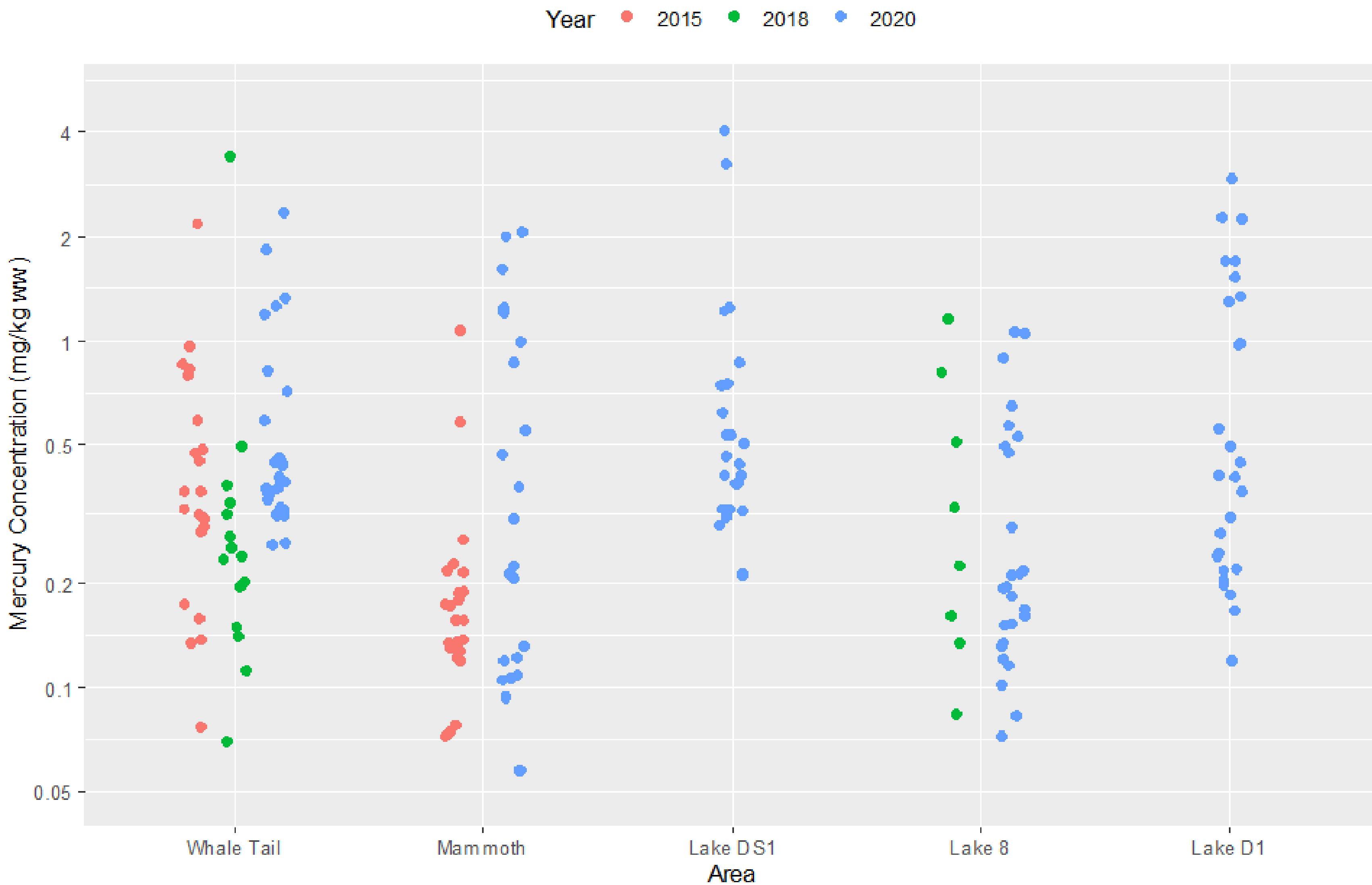


Figure 4-2. Length frequency and age frequency for Lake Trout in Whale Tail study area lakes, 2015, 2018 and 2020.

Figure 4-3. Key mercury relationships for Lake Trout in Whale Tail study area lakes, 2015, 2018 and 2020.

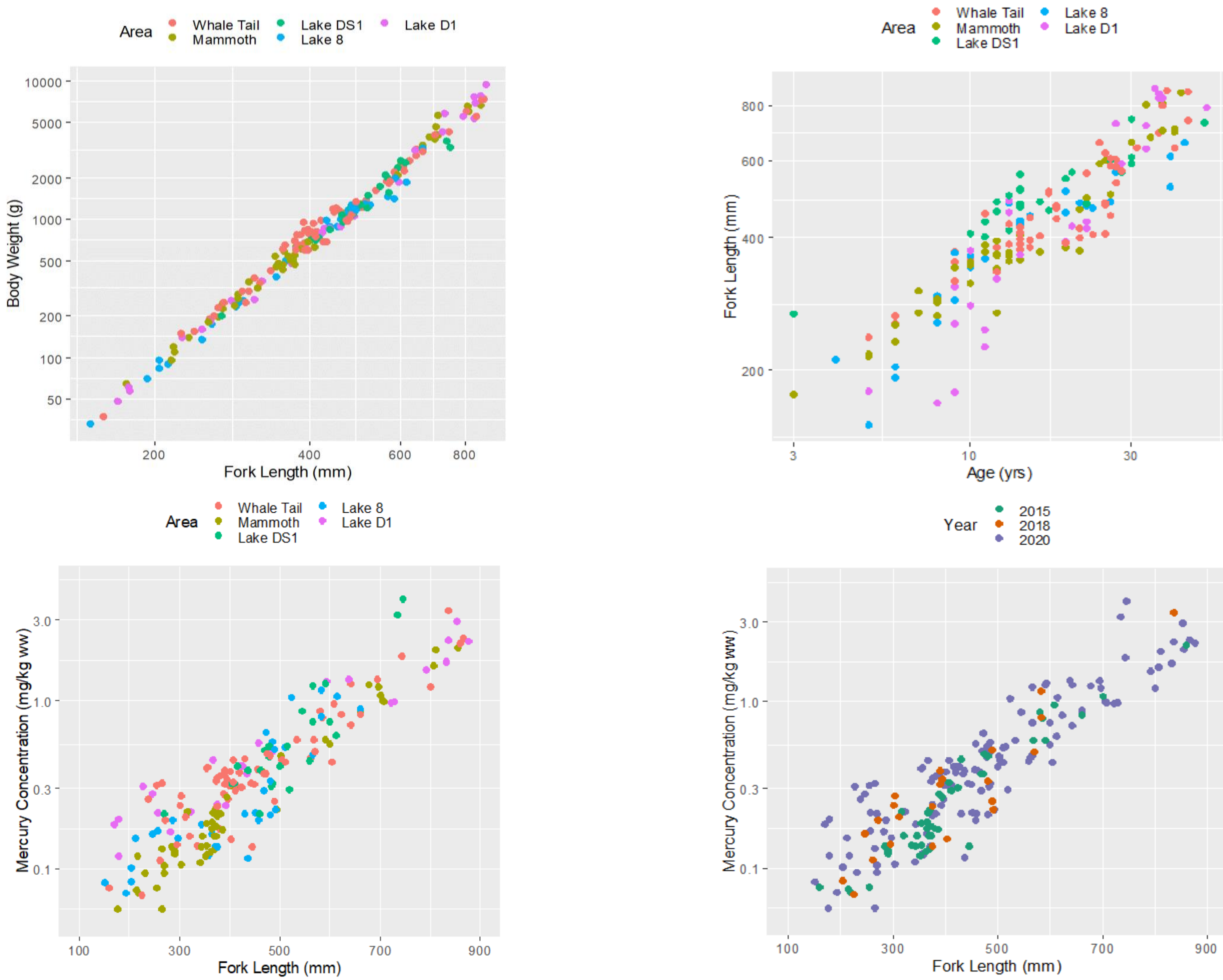
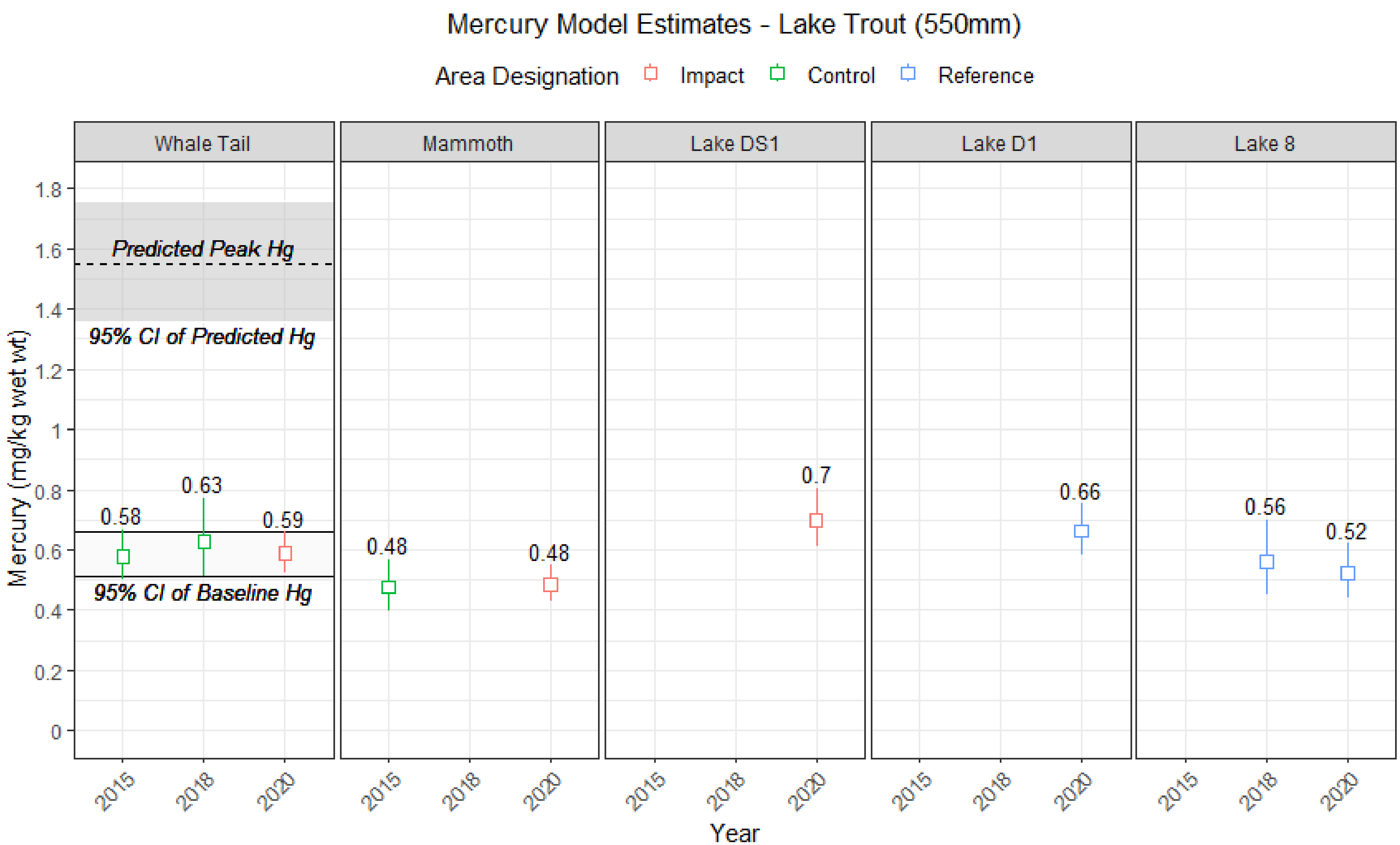


Figure 4-4. Estimated tissue mercury concentrations for a 550-mm Lake Trout in Whale Tail area lakes, 2015, 2018, and 2020.

Notes Points represent the mean; vertical bars represent the 95th % confidence interval.
Grey shading represents the 95% confidence interval of the predicted fish mercury concentration for a 550-mm Lake Trout (Azimuth, 2019).
Dashed line represents the revised mean predicted peak fish mercury concentration for 550-mm Lake Trout (Azimuth, 2019).
Black outlined box represents the 95% confidence interval of baseline mercury concentrations for 550-mm Lake Trout.



5 SMALL-BODIED FISH

5.1 Overview

Slimy Sculpin and Ninespine Stickleback are the target species for monitoring changes in small-bodied fish for the MMP. Sampling has been carried out annually since 2018. Sample collection has been coordinated between Azimuth and researchers at the University of Waterloo who are conducting a multi-year study investigating productivity within the Whale Tail Lake Impoundment. COVID-19 related health measures in Ontario limited access to the lab in Q4 2020 and Q1 2021, which delayed the processing and analysis of fish collected in 2020. Results were delivered in the spring 2021 after Agnico Eagle submitted the 2020 Annual Report. Results from the 2020 small-bodied fish sampling program are presented herein. Similar delays in processing and analyzing small-bodied fish collected in 2021 were encountered due to COVID-19 in Q4 2021. Results of the 2021 small-bodied fish sampling program will be reported in the 2022 MMP report.

5.2 Methods

5.2.1 Field Methods

Sample Collection

Fish were collected using a backpack electrofisher in the wadable shoreline region of the study area lakes. Slimy Sculpin and Ninespine Stickleback have different habitat preferences, and the increase in lake elevation in the Impoundment resulted in shifts in catch-per unit-effort (CPUE) for each species in Lake A65 and Lake A20. Prior to flooding, Slimy Sculpin were easier to catch (higher CPUE) than Ninespine Stickleback. This changed in 2019, and the CPUE for Ninespine Stickleback increased at Lake A65 and Lake A20. The difference in CPUE is mostly likely related to differences in accessible, wadable habitat. Since the long term CPUE trends within the shoreline habitat of the Impoundment are unknown, both species were collected and analyzed for total mercury.

Sample Selection for Mercury Analysis

A subset of Ninespine Stickleback and Slimy Sculpin samples collected by the University of Waterloo were selected for total mercury analysis. Samples were selected after reviewing the length distributions for each species. A list of the small-bodied fish that were submitted to Biotron for analysis is provided in **Table 5-1**. Size classes with sufficient sample numbers across collection years and lakes were selected to allow for spatial and temporal tissue mercury comparisons. For Ninespine Stickleback, two size classes were identified; up to five samples between 30-39 mm, and up to five samples between 40-49 mm were selected. For Slimy Sculpin, which had a more consistent distribution of samples among lakes/years, up to five samples targeting year 1 fish (i.e., total lengths between 27-45 mm) were selected.

5.2.2 Laboratory Methods

Fish tissue samples collected in 2018–2021 were processed at the University of Waterloo. After removing the viscera and otoliths, fish were placed in labelled vials, covered with Kimtech® tissues, and placed in the freeze dryer. Dried samples were homogenized and submitted to Biotron for mercury analysis as outlined above for the Lake Trout samples.

A subsample of the homogenized, freeze-dried samples was submitted for stable isotope analysis at the Environmental Isotope Laboratory (EIL) at the University of Waterloo. Measurements of ^{13}C and ^{15}N isotopes are determined through combustion conversion of sample material to gas through a 4010 Elemental Analyzer (Costech Instruments, Italy) coupled to a Delta Plus XL (Thermo-Finnigan, Germany) continuous flow isotope ratio mass spectrometer (CFIRMS). A complete description of the analytical method, including analytical precision, reference materials, and QA/QC procedures is available on the EIL website[8].

Table 5-1. Summary of small-bodied fish samples submitted for total mercury analysis.

Area/Lake	Designation	Ninespine Stickleback				Slimy Sculpin			
		Year†				Year†			
		2018	2019	2020	2021*	2018	2019	2020	2021*
Whale Tail Lake	NF | Impoundment	n=8	n=6	n=10	n=10	n=5	n=5	n=5	n=5
Lake A20	NF | Impoundment	n=2	n=10	n=10	n=10	n=5	-	n=5	n=5
Lake A65	NF | Impoundment	-	n=10	n=10	n=10	n=5	-	n=5	n=5
Mammoth Lake	NF	n=1	n=2	n=4	n=10	n=5	n=5	n=5	n=5
Lake 8	Reference	-	-	-	-	n=5	-	n=5	-
Lake A44	Reference	-	-	n=1	-	-	n=5	n=5	n=5
Lake B03	Reference	-	-	n=1	-	-	-	n=5	n=5
Lake D1	Reference	-	-	-	-	-	-	n=5	n=5

Notes
† Minor flooding of impoundment, limited to Whale Tail (south basin). Extensive flooding during 2019 and 2020 sampling (i.e., connectivity between impounded lakes).
* Due to delays in processing and analysis, results of the 2021 small-bodied fish sampling program will be reported in the 2022 MMP report.
NF = Near-field.
blue = baseline and reference areas (Control designation)
orange = post flooding (Impact designation)
"n =" = number of fish collected and submitted for analysis.
"-" = data not collected as per the Mercury Monitoring Plan.

[8] https://uwaterloo.ca/environmental-isotope-laboratory/

5.2.3 Data Analysis

Mercury tissue concentrations

Whole-body (carcass) mercury concentrations for each species were plotted across all years and areas sampled as follows:

- Mercury concentrations by year,
- Mercury concentrations by length (mm),
- Mercury concentrations with respect to the stable isotope data, discussed in the following section.

Feeding Ecology

Stable isotope analysis (SIA) was opportunistically[9] conducted on a subset of the small-bodied fish submitted for mercury analysis to understand the feeding relationships among and within species and across the sampling areas. Stable isotopes[10] are slightly different types of the same element (light & heavy) that are stable in the environment. Both types participate in chemical and biological reactions, but at different rates, which leads to patterns in the ratios of these isotopes in the environment. The ratios of carbon and nitrogen, two principal elements in biological tissue, can be used to quantify the feeding ecology of fish.

Nitrogen isotopes ($\delta^{15}N$) are used to determine the trophic position of consumers in aquatic systems (i.e., where they are within the food chain). With each increasing trophic level in the food chain organisms become more enriched in the stable isotope nitrogen-15. For example, the $\delta^{15}N$ value in a mature Lake Trout that eats other fish will be higher than in a Slimy Sculpin or Ninespine Stickleback that mostly eat invertebrates. Fish are known to change their diet as they get bigger, and this leads to their feeding at higher trophic positions as they get larger. As trophic levels increase, i.e., as the relative position of a fish in the food chain increases, the $\delta^{15}N$ values increase. The length-$\delta^{15}N$ relationship essentially shows how feeding preferences affect mercury concentrations in fish tissue. The expectation is for higher tissue mercury concentrations in fish that feed higher in the food chain.

Carbon isotopes ($\delta^{13}C$) trace the flow of energy, and therefore the flow of mercury, through food webs. Carbon isotopes can be used to determine whether fish are feeding more from the benthic or pelagic food webs. The results of the SIA analysis are provided in **Section 5.4**.

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[9] Stable isotope analysis is not a core component of the MMP.

[10] Isotope ratios are represented by the symbol δ, which is the Greek letter delta and is often used to signify difference. In this case, delta refers to the isotopic ratio of sample relative to that of a standard reference material. Units are ‰, which is per mil or parts per thousand.

5.3 Quality Assurance/Quality Control

Data quality was assured throughout sample analysis using specified standardized procedures, by using laboratories that have been certified for all applicable methods, and by staffing the program with experienced field sampling technicians. Samples were collected according to standard care and QA/QC procedures. Whole fish samples were placed in individual Whirl-Pak® bags, labelled with sample ID and date, and placed in a freezer in the field. Samples were placed in coolers with ice or dry ice during shipment to the laboratory.

Laboratory QC results for the 2020 small-bodied fish tissue samples reported by the University of Western Ontario (Biotron) are summarized below.

- The average RPD in 2020 laboratory duplicate samples analyzed for total mercury was 2%.
- The average matrix spike RPD for total mercury was 3%.
- All data were retained for analysis and there were no flags on quality control violations.

5.4 Results and Discussion

Of the fish collected in 2020, 40 Slimy Sculpin and 36 Ninespine Stickleback fish were submitted for total mercury analysis. It is generally assumed that all the total mercury present in a fish sample is in the form of methylmercury.

Whole-body analysis of Slimy Sculpin and Ninespine Stickleback in 2020 showed elevated mercury concentrations compared to 2018 and 2019 in the Impoundment lakes (i.e., Whale Tail Lake, Lake A20, and Lake A65; **Figure 5-1**). The magnitude of increase over years 2018 and 2019 was more pronounced at Whale Tail Lake compared to Lakes A20 and A65, suggesting that there are still basin-specific differences despite full connectivity. Mammoth lake, which is located downstream of the Impoundment, showed no change in mercury concentrations in either species in years 2018–2020. Similarly, mercury concentrations were consistent across in reference lakes in all years sampled.

Fish mercury and SIA results for Slimy Sculpin and Ninespine Stickleback are discussed below.

5.4.1 Slimy Sculpin

Mercury Concentrations

Fish tissue mercury concentrations are shown by year, species and area in **Figure 5-1**. In 2020, mercury concentrations in Slimy Sculpin were distinctly higher than in previous years in the Impoundment, with the highest concentrations in fish sampled from Whale Tail Lake followed by A65 and then A20. Mercury concentrations in fish sampled from Mammoth Lake and reference area lakes showed no changes across years and areas.

Fish tissue mercury concentrations are shown by size (length), area and year in **Figure 5-2**. Mercury concentrations generally did not show any strong relationship with size for any of the year/location combinations. This suggests that fish size is not an important driver of tissue mercury concentrations for Slimy Sculpin.

Feeding Ecology

Slimy Sculpin typically prey on a wide variety of benthic organisms, which include chironomids, gastropods, fish eggs and small fish. Furthermore, isotopic signatures from Slimy Sculpin from other northern lakes suggest they feed on prey located in near-shore and offshore environments (Arciszewski et al., 2015).

Recall that stable isotopes provide insights into trophic position (i.e., how high in the food chain a fish is feeding; $\delta^{15}N$) and which energy pathway is predominant (i.e., does a fish feed more from the water-column [pelagic] pathway or from the bottom substrate [benthic] pathway; $\delta^{13}C$). Depending on the distribution of mercury in the food web and how that evolves over time, particularly within the impoundment after flooding as terrestrial habitat transitions to aquatic habitat, changes in feeding ecology affecting trophic position or energy pathway could lead to corresponding changes in tissue mercury concentrations. Thus, understanding spatial and temporal patterns in feeding ecology can be used to help explain patterns in mercury bioaccumulation.

Stable isotope results to date for Slimy Sculpin are shown in **Figure 5-3**, with point fill showing the associated mercury concentration, and are summarized in **Figure 5-4**. Results for Whale Tail Lake suggest that a shift to more pelagic feeding (a shift to the right on the $\delta^{13}C$ axis) has occurred since 2018. This may be due to a relative lag in benthic invertebrate production in newly flooded areas. Further, there is also a general pattern of progressively higher $\delta^{15}N$ results from Lake A20 to A65 to Whale Tail Lake that existed prior to flooding but was more pronounced afterwards. Interestingly, these results show drops in trophic position ($\delta^{15}N$ results) for Slimy Sculpin in Lakes A65 and A20 *after* these lakes were fully connected to Whale Tail Lake due to the impoundment.

Collectively, the SIA results help explain the temporal and spatial patterns observed in the Slimy Sculpin tissue mercury results in Whale Tail Lake (**Figure 5-1**). In addition to the obvious changes in methylmercury concentrations in surface water (**Figure 2-2**), the changes in feeding strategy described above are also consistent with the patterns in tissue concentrations, suggesting that ecological shifts are also likely contributing to increased methylmercury bioaccumulation in Slimy Sculpin in the impoundment since flooding. The influence of the shift in feeding to a more pelagic diet on mercury concentrations can be seen in **Figure 5-4**, where more depleted (negative) $\delta^{13}C$ values are associated with higher mercury concentrations.

Downstream in Mammoth Lake, neither surface water methylmercury concentrations (**Figure 2-2**) nor feeding strategies (**Figure 5-3**) have changed since the Whale Tail Lake was flooded, which explains the absence of any meaningful increases in tissue mercury concentrations in Slimy Sculpin in that location (**Figure 5-1**).

5.4.2 Ninespine Stickleback

Mercury Concentrations

Fish tissue mercury concentrations are shown by year, species and area in **Figure 5-1**. Similar to Slimy Sculpin, mercury concentrations in Ninespine Stickleback increased substantially in Whale Tail Lake in 2020 relative to previous years and to the reference lakes. While notable increases also occurred in lakes A65 and A20, they were muted, but more variable, in lakes A65 and A20. Also similar to Slimy Sculpin, there was no evidence of a corresponding increase in mercury concentrations in downstream Mammoth Lake, where concentrations actually dropped in 2020 relative to the two previous events.

Fish tissue mercury concentrations are shown by size (length), area and year in **Figure 5-2**. Mercury concentrations generally did not show any strong relationship with size for any of the year/location combinations. This suggests that fish size is not an important driver of tissue mercury concentrations for Ninespine Stickleback.

Feeding Ecology

As described above for Slimy Sculpin, characterizing feeding ecology, either in trophic position ($\delta^{15}N$) or in targeted energy pathways ($\delta^{13}C$), can contribute to understanding spatial and temporal trends in methylmercury bioaccumulation.

Similar to those seen for Slimy Sculpin, the following patterns were evident in the stable isotope results for Ninespine Stickleback:

- Both $\delta^{15}N$ and $\delta^{13}C$ were fairly similar across lakes in 2018 (**Figure 5-3**).
- The pattern seen across 2019 and 2020 includes progressively higher trophic level ($\delta^{15}N$) from A20 to A65 to Whale Tail Lake. This pattern may have also existed prior to flooding.
- There is a consistent shift from 2019 to 2020 to more depleted (negative) $\delta^{13}C$ values, indicating a greater contribution from the pelagic energy pathway.

As discussed for Slimy Sculpin, this shift to more pelagic feeding may be due to a lag in benthic invertebrate production in newly flooded habitat as it transitions from terrestrial to aquatic. The influence of shifting diet can be seen in **Figure 5-4**, where tissue mercury concentrations increase with a more pelagic diet. Overall, the observed tissue mercury concentration patterns for Ninespine Stickleback (**Figure 5-1**) both in Whale Tail Lake and downstream in Mammoth Lake appear to be driven predominantly by increased concentrations of methylmercury in surface water (**Figure 2-2**) and a progressive shift to a more pelagic diet within the impoundment.

5.4.3 Summary and Recommendations

In 2020, mercury concentrations were markedly higher in Slimy Sculpin and Ninespine Stickleback from the Impoundment compared to 2018 and 2019 and compared to areas downstream of the Mine, and local reference lakes. These changes largely mirror those seen in surface water in the Impoundment and were expected. The lack of continued increase in methylmercury concentrations in surface water in 2021 suggests a possible peak in mercury methylation rates. However, it will be interesting to see how two years of elevated methylmercury concentrations in surface water affect food chain transfer to small-bodied fish. Stable isotope results helped to understand how changes in feeding strategies can affect tissue mercury concentrations in small-bodied fish. Next year's report should be able to provide some insights into whether a peak has been reached, with the inclusion of the 2021 small-bodied fish tissue results.

Figure 5-1. Fish tissue mercury concentrations (mg/kg ww) in Ninespine Stickleback and Slimy Sculpin collected at Whale Tail area lakes, 2018, 2019 and 2020.

Species Codes: NSSB = Ninespine Stickleback, SLSC = Slimy Sculpin

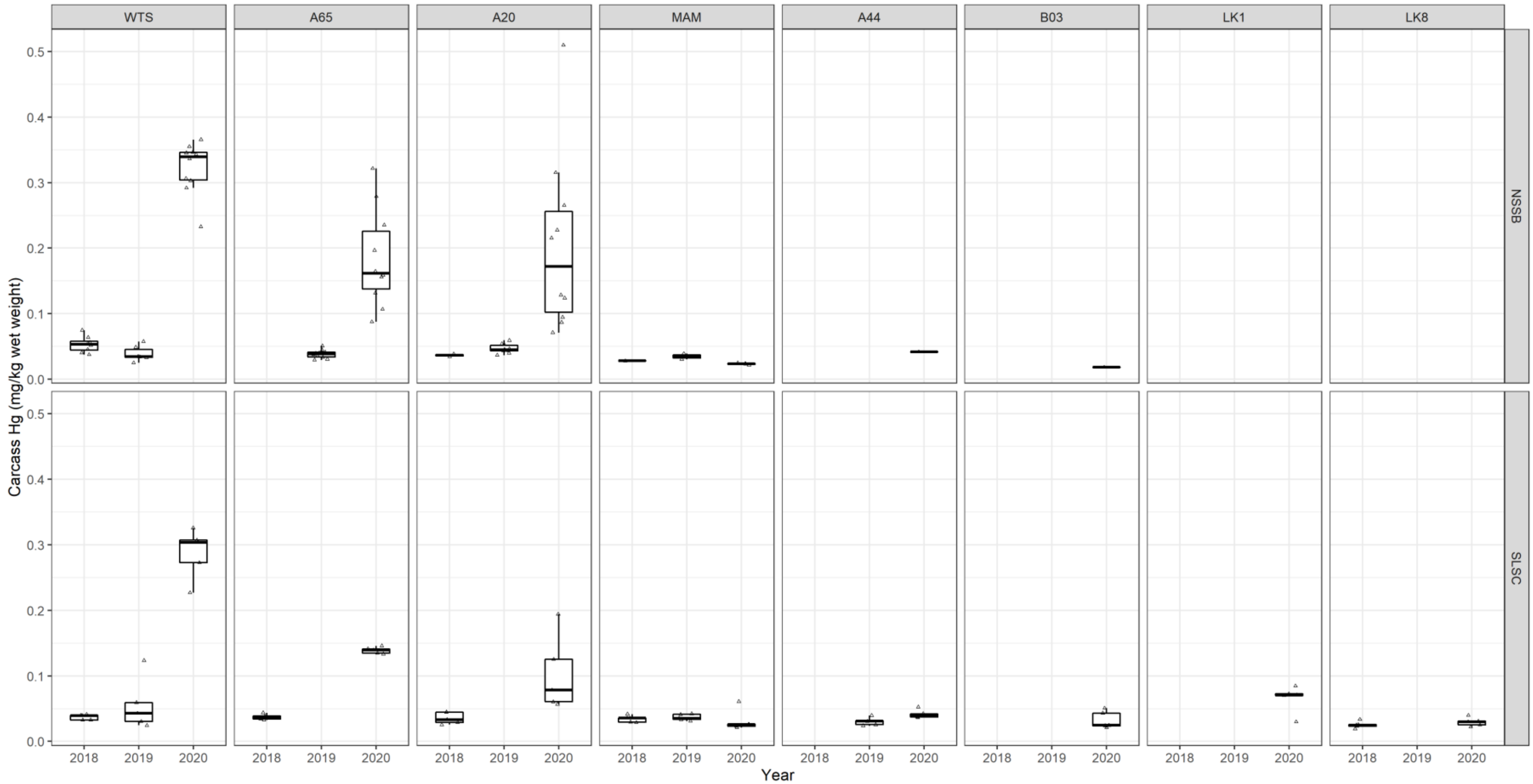


Figure 5-2. Fish tissue mercury concentrations (mg/kg ww) and fish sizes (length; mm) for Ninespine Stickleback and Slimy Sculpin collected at Whale Tail area lakes, 2018, 2019 and 2020.

Species Codes: NSSB = Ninespine Stickleback, SLSC = Slimy Sculpin

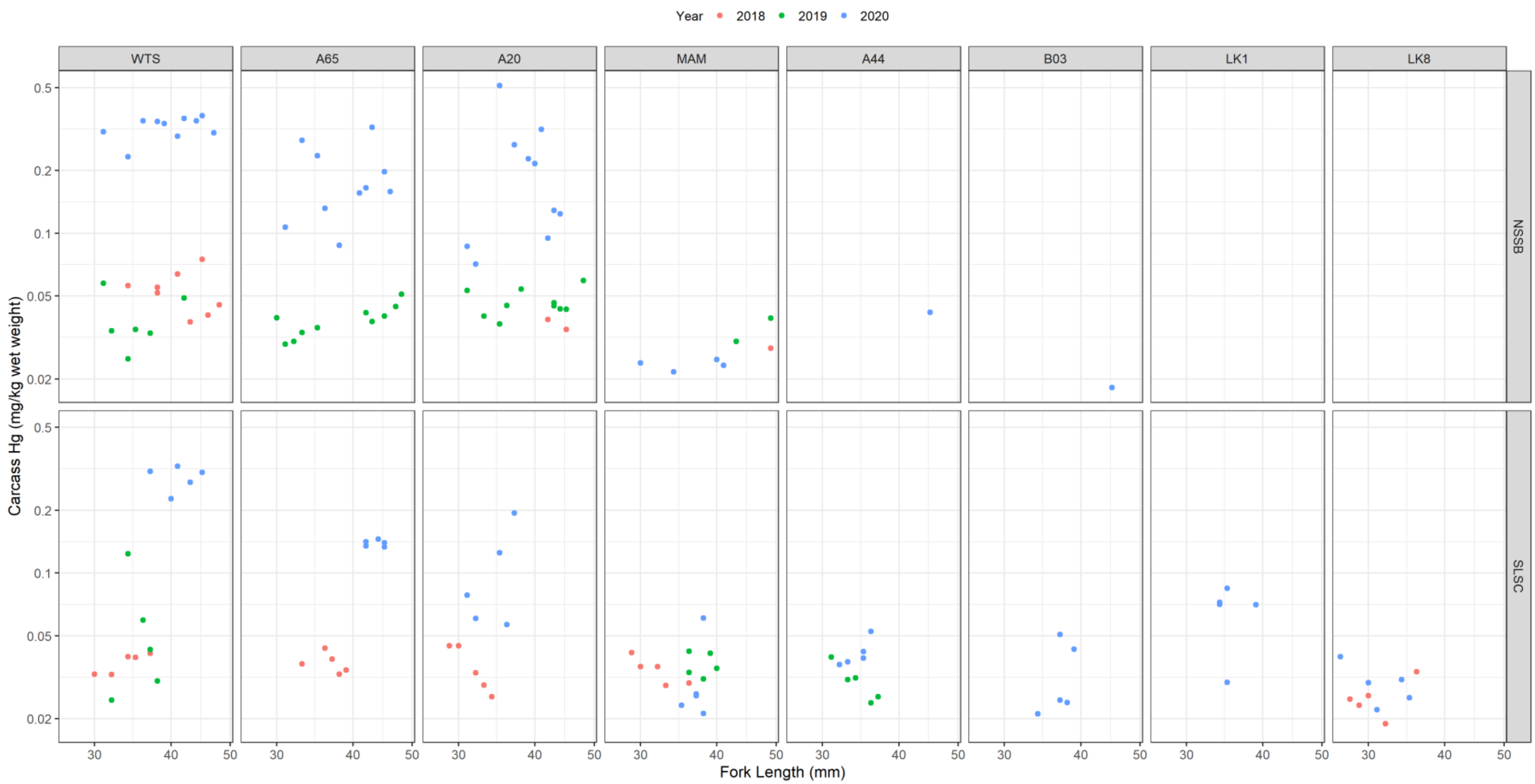


Figure 5-3. Mean $\delta^{15}N$ and $\delta^{13}C$ signatures (± standard deviation), of Ninespine Stickleback and Slimy Sculpin collected at Whale Tail area lakes, 2018, 2019 and 2020.

Species Codes: NSSB = Ninespine Stickleback, SLSC = Slimy Sculpin

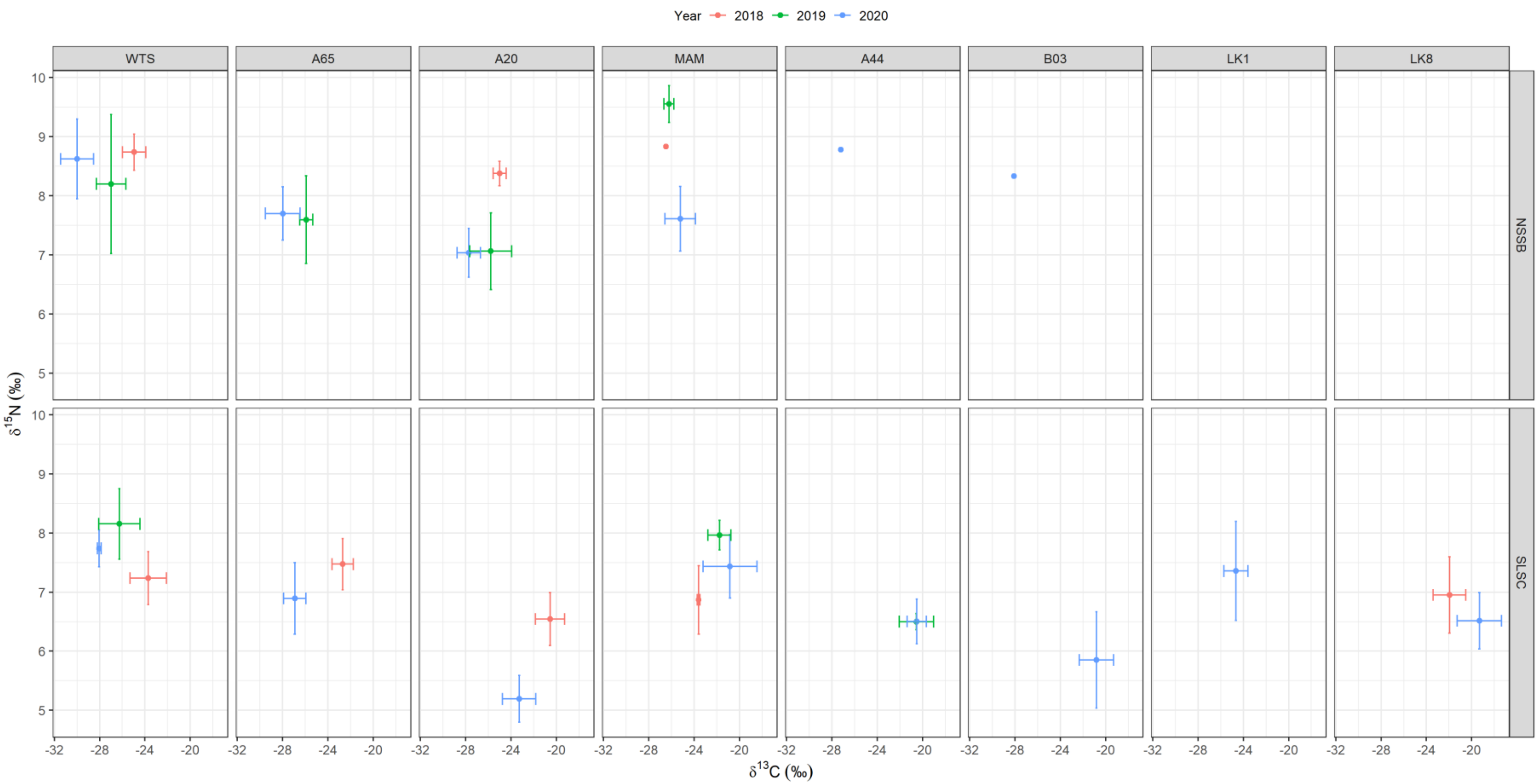
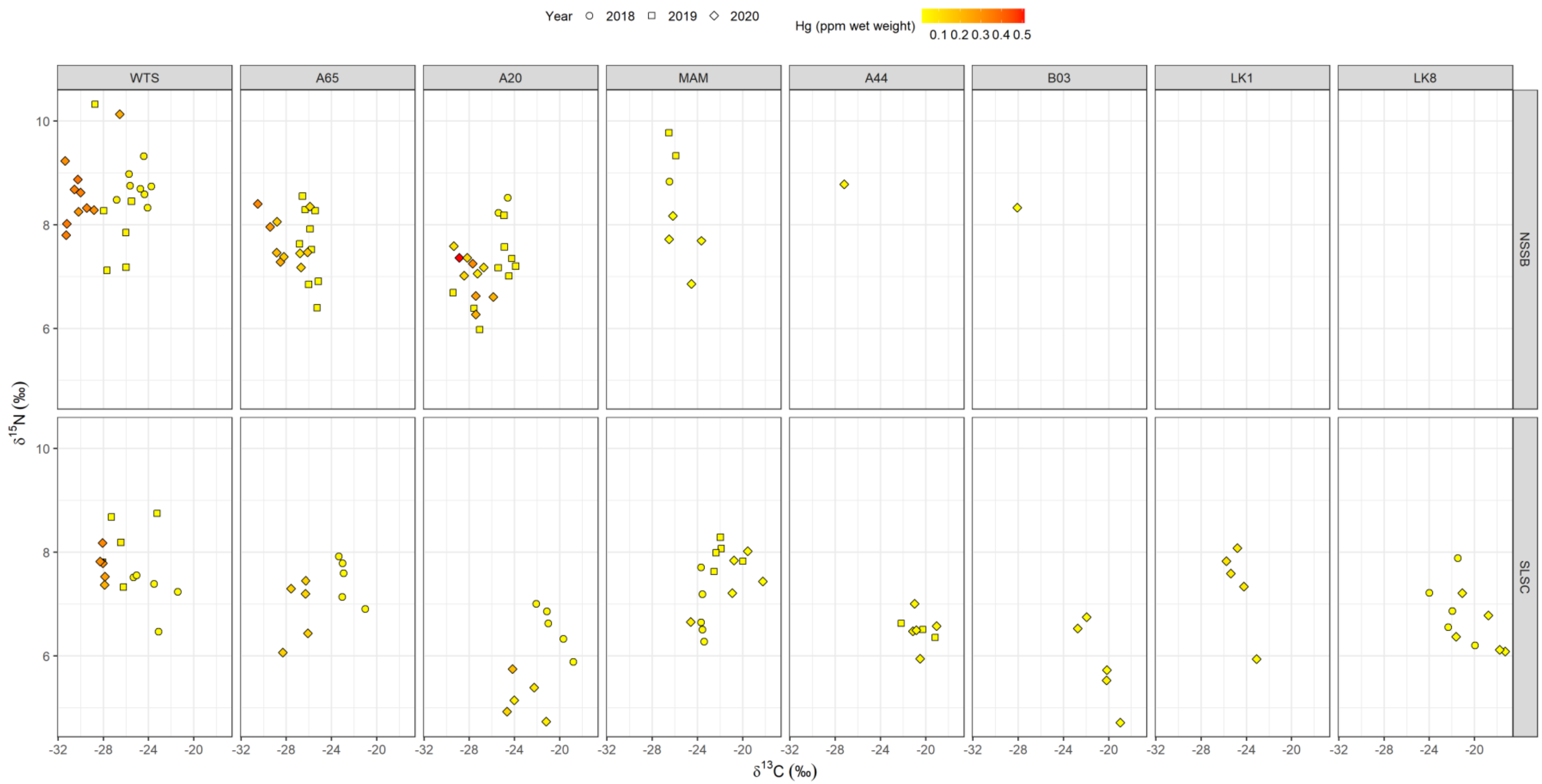


Figure 5-4. Stable isotope δ^{15}N and δ^{13}C signatures and mercury concentrations in tissue from Ninespine Stickleback and Slimy Sculpin collected at Whale Tail area lakes, 2018, 2019 and 2020.

Species Codes: NSSB = Ninespine Stickleback, SLSC = Slimy Sculpin



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APPENDICES

APPENDIX A
MERCURY DATABASE – WATER

Year	Date	Workorder	Collector	Site	Lake	Parameter	Units	Replicate	Sample Depth	Result	Detection Limit
2017	28-Aug-17	L1985255	Azimuth	WTS-23	Whale Tail	Total Hg Unfiltered	ng/L	A	Surface	0.52	0.5
2017	28-Aug-17	L1985255	Azimuth	WTS-23	Whale Tail	Total Hg Filtered	ng/L	A	Surface	<0.50	0.5
2017	28-Aug-17	L1985255	Azimuth	WTS-23	Whale Tail	MeHg Unfiltered	ng/L	A	Surface	<0.050	0.05
2017	28-Aug-17	L1985255	Azimuth	WTS-23	Whale Tail	MeHg Filtered	ng/L	A	Surface	<0.050	0.05
2017	28-Aug-17	L1985255	Azimuth	MAM-23	Mammoth	Total Hg Unfiltered	ng/L	A	Surface	<0.50	0.5
2017	28-Aug-17	L1985255	Azimuth	MAM-23	Mammoth	Total Hg Filtered	ng/L	A	Surface	<0.50	0.5
2017	28-Aug-17	L1985255	Azimuth	MAM-23	Mammoth	MeHg Unfiltered	ng/L	A	Surface	<0.050	0.05
2017	28-Aug-17	L1985255	Azimuth	MAM-23	Mammoth	MeHg Filtered	ng/L	A	Surface	<0.050	0.05
2017	14-Aug-17	L1981162	Azimuth	WTS-23	Whale Tail	Total Hg Unfiltered	ng/L	A	Surface	0.5	0.5
2017	14-Aug-17	L1981162	Azimuth	WTS-23	Whale Tail	Total Hg Filtered	ng/L	A	Surface	<0.50	0.5
2017	14-Aug-17	L1981162	Azimuth	WTS-23	Whale Tail	MeHg Unfiltered	ng/L	A	Surface	<0.050	0.05
2017	14-Aug-17	L1981162	Azimuth	WTS-23	Whale Tail	MeHg Filtered	ng/L	A	Surface	<0.050	0.05
2016	17-Aug-16	L1817642	Azimuth	WTS-12	Whale Tail	Total Hg Unfiltered	ng/L	A	Surface	<0.50	0.5
2016	17-Aug-16	L1817642	Azimuth	WTS-12	Whale Tail	Total Hg Filtered	ng/L	A	Surface	<0.50	0.5
2016	17-Aug-16	L1817642	Azimuth	WTS-12	Whale Tail	MeHg Unfiltered	ng/L	A	Surface	<0.050	0.05
2016	17-Aug-16	L1817642	Azimuth	WTS-12	Whale Tail	MeHg Filtered	ng/L	A	Surface	<0.050	0.05
2018	16-Aug-18	WO2019-02-008	UoW	WTL-WQ01	Whale Tail	Total Hg Unfiltered	ng/L	A	Surface	0.287	0.2
2018	16-Aug-18	WO2019-02-008	UoW	WTL-WQ01	Whale Tail	Total Hg Filtered	ng/L	A	Surface	0.321	0.2
2018	16-Aug-18	WO2019-02-008	UoW	WTL-WQ02	Whale Tail	Total Hg Unfiltered	ng/L	A	Surface	0.284	0.2
2018	16-Aug-18	WO2019-02-008	UoW	WTL-WQ02	Whale Tail	Total Hg Filtered	ng/L	A	Surface	0.246	0.2
2018	16-Aug-18	WO2019-02-008	UoW	MMT-WQ01	Mammoth	Total Hg Unfiltered	ng/L	A	Surface	0.337	0.2
2018	16-Aug-18	WO2019-02-008	UoW	MMT-WQ01	Mammoth	Total Hg Filtered	ng/L	A	Surface	0.428	0.2
2018	16-Aug-18	WO2019-02-008	UoW	MMT-WQ02	Mammoth	Total Hg Unfiltered	ng/L	A	Surface	<0.2	0.2
2018	16-Aug-18	WO2019-02-008	UoW	MMT-WQ02	Mammoth	Total Hg Filtered	ng/L	A	Surface	0.289	0.2
2018	17-Aug-18	WO2019-02-008	UoW	NEM-WQ01	Nemo	Total Hg Unfiltered	ng/L	A	Surface	0.419	0.2
2018	17-Aug-18	WO2019-02-008	UoW	NEM-WQ01	Nemo	Total Hg Filtered	ng/L	A	Surface	0.665	0.2
2018	17-Aug-18	WO2019-02-008	UoW	NEM-WQ02	Nemo	Total Hg Unfiltered	ng/L	A	Surface	0.352	0.2
2018	17-Aug-18	WO2019-02-008	UoW	NEM-WQ02	Nemo	Total Hg Filtered	ng/L	A	Surface	<0.2	0.2
2018	17-Aug-18	WO2019-02-008	UoW	A20-WQ01	A20	Total Hg Unfiltered	ng/L	A	Surface	0.498	0.2
2018	17-Aug-18	WO2019-02-008	UoW	A20-WQ01	A20	Total Hg Filtered	ng/L	A	Surface	<0.2	0.2
2018	17-Aug-18	WO2019-02-008	UoW	A20-WQ02	A20	Total Hg Unfiltered	ng/L	A	Surface	0.407	0.2
2018	17-Aug-18	WO2019-02-008	UoW	A20-WQ02	A20	Total Hg Filtered	ng/L	A	Surface	<0.2	0.2
2018	18-Aug-18	WO2019-02-008	UoW	A76-WQ01	A76	Total Hg Unfiltered	ng/L	A	Surface	<0.2	0.2
2018	18-Aug-18	WO2019-02-008	UoW	A76-WQ01	A76	Total Hg Filtered	ng/L	A	Surface	<0.2	0.2
2018	18-Aug-18	WO2019-02-008	UoW	A76-WQ02	A76	Total Hg Unfiltered	ng/L	A	Surface	<0.2	0.2
2018	18-Aug-18	WO2019-02-008	UoW	A76-WQ02	A76	Total Hg Filtered	ng/L	A	Surface	<0.2	0.2
2018	18-Aug-18	WO2019-02-008	UoW	A76-WQ02	A76	Total Hg Unfiltered	ng/L	B	Surface	0.381	0.2
2018	18-Aug-18	WO2019-02-008	UoW	A76-WQ02	A76	Total Hg Filtered	ng/L	B	Surface	<0.2	0.2
2018	20-Aug-18	WO2019-02-008	UoW	A63-WQ01	A63	Total Hg Unfiltered	ng/L	A	Surface	0.319	0.2
2018	20-Aug-18	WO2019-02-008	UoW	A63-WQ01	A63	Total Hg Filtered	ng/L	A	Surface	0.272	0.2
2018	20-Aug-18	WO2019-02-008	UoW	A63-WQ01	A63	Total Hg Unfiltered	ng/L	B	Surface	0.325	0.2
2018	20-Aug-18	WO2019-02-008	UoW	A63-WQ01	A63	Total Hg Filtered	ng/L	B	Surface	0.306	0.2
2018	20-Aug-18	WO2019-02-008	UoW	A63-WQ02	A63	Total Hg Unfiltered	ng/L	A	Surface	0.385	0.2
2018	20-Aug-18	WO2019-02-008	UoW	A63-WQ02	A63	Total Hg Filtered	ng/L	A	Surface	0.3	0.2
2018	20-Aug-18	WO2019-02-008	UoW	A65-WQ01	A65	Total Hg Unfiltered	ng/L	A	Surface	0.364	0.2
2018	20-Aug-18	WO2019-02-008	UoW	A65-WQ01	A65	Total Hg Filtered	ng/L	A	Surface	0.265	0.2
2018	20-Aug-18	WO2019-02-008	UoW	A65-WQ02	A65	Total Hg Unfiltered	ng/L	A	Surface	0.361	0.2
2018	20-Aug-18	WO2019-02-008	UoW	A65-WQ02	A65	Total Hg Filtered	ng/L	A	Surface	0.241	0.2
2018	21-Aug-18	WO2019-02-008	UoW	LK8-WQ01	Lake 8	Total Hg Unfiltered	ng/L	A	Surface	<0.2	0.2
2018	21-Aug-18	WO2019-02-008	UoW	LK8-WQ01	Lake 8	Total Hg Filtered	ng/L	A	Surface	0.241	0.2
2018	21-Aug-18	WO2019-02-008	UoW	LK8-WQ02	Lake 8	Total Hg Unfiltered	ng/L	A	Surface	<0.2	0.2
2018	21-Aug-18	WO2019-02-008	UoW	LK8-WQ02	Lake 8	Total Hg Filtered	ng/L	A	Surface	0.322	0.2
2018	16-Aug-18	WO2019-02-008	UoW	WTL-WQ01	Whale Tail	MeHg Unfiltered	ng/L	A	Surface	<0.0225	0.0225
2018	16-Aug-18	WO2019-02-008	UoW	WTL-WQ01	Whale Tail	MeHg Filtered	ng/L	A	Surface	<0.0225	0.0225
2018	16-Aug-18	WO2019-02-008	UoW	WTL-WQ02	Whale Tail	MeHg Unfiltered	ng/L	A	Surface	<0.0225	0.0225
2018	16-Aug-18	WO2019-02-008	UoW	WTL-WQ02	Whale Tail	MeHg Filtered	ng/L	A	Surface	<0.0225	0.0225
2018	16-Aug-18	WO2019-02-008	UoW	MMT-WQ01	Mammoth	MeHg Unfiltered	ng/L	A	Surface	<0.0225	0.0225
2018	16-Aug-18	WO2019-02-008	UoW	MMT-WQ01	Mammoth	MeHg Filtered	ng/L	A	Surface	<0.0225	0.0225
2018	16-Aug-18	WO2019-02-008	UoW	MMT-WQ02	Mammoth	MeHg Unfiltered	ng/L	A	Surface	0.029	0.0225
2018	16-Aug-18	WO2019-02-008	UoW	MMT-WQ02	Mammoth	MeHg Filtered	ng/L	A	Surface	<0.0225	0.0225
2018	17-Aug-18	WO2019-02-008	UoW	NEM-WQ01	Nemo	MeHg Unfiltered	ng/L	A	Surface	<0.0225	0.0225
2018	17-Aug-18	WO2019-02-008	UoW	NEM-WQ01	Nemo	MeHg Filtered	ng/L	A	Surface	<0.0225	0.0225
2018	17-Aug-18	WO2019-02-008	UoW	NEM-WQ02	Nemo	MeHg Unfiltered	ng/L	A	Surface	<0.0225	0.0225
2018	17-Aug-18	WO2019-02-008	UoW	NEM-WQ02	Nemo	MeHg Filtered	ng/L	A	Surface	<0.0225	0.0225
2018	17-Aug-18	WO2019-02-008	UoW	A20-WQ01	A20	MeHg Unfiltered	ng/L	A	Surface	<0.0225	0.0225
2018	17-Aug-18	WO2019-02-008	UoW	A20-WQ01	A20	MeHg Filtered	ng/L	A	Surface	<0.0225	0.0225
2018	17-Aug-18	WO2019-02-008	UoW	A20-WQ02	A20	MeHg Unfiltered	ng/L	A	Surface	<0.0225	0.0225
2018	17-Aug-18	WO2019-02-008	UoW	A20-WQ02	A20	MeHg Filtered	ng/L	A	Surface	<0.0225	0.0225
2018	18-Aug-18	WO2019-02-008	UoW	A76-WQ01	A76	MeHg Unfiltered	ng/L	A	Surface	<0.0225	0.0225
2018	18-Aug-18	WO2019-02-008	UoW	A76-WQ01	A76	MeHg Filtered	ng/L	A	Surface	<0.0225	0.0225

Year	Date	Workorder	Collector	Site	Lake	Parameter	Units	Replicate	Sample Depth	Result	Detection Limit
2018	18-Aug-18	WO2019-02-008	UoW	A76-WQ02	A76	MeHg Unfiltered	ng/L	A	Surface	<0.0225	0.0225
2018	18-Aug-18	WO2019-02-008	UoW	A76-WQ02	A76	MeHg Filtered	ng/L	A	Surface	<0.0225	0.0225
2018	18-Aug-18	WO2019-02-008	UoW	A76-WQ02	A76	MeHg Unfiltered	ng/L	B	Surface	<0.0225	0.0225
2018	18-Aug-18	WO2019-02-008	UoW	A76-WQ02	A76	MeHg Filtered	ng/L	B	Surface	<0.0225	0.0225
2018	20-Aug-18	WO2019-02-008	UoW	A63-WQ01	A63	MeHg Unfiltered	ng/L	A	Surface	0.03	0.0225
2018	20-Aug-18	WO2019-02-008	UoW	A63-WQ01	A63	MeHg Filtered	ng/L	A	Surface	<0.0225	0.0225
2018	20-Aug-18	WO2019-02-008	UoW	A63-WQ01	A63	MeHg Unfiltered	ng/L	B	Surface	<0.0225	0.0225
2018	20-Aug-18	WO2019-02-008	UoW	A63-WQ01	A63	MeHg Filtered	ng/L	B	Surface	<0.0225	0.0225
2018	20-Aug-18	WO2019-02-008	UoW	A63-WQ02	A63	MeHg Unfiltered	ng/L	A	Surface	0.049	0.0225
2018	20-Aug-18	WO2019-02-008	UoW	A63-WQ02	A63	MeHg Filtered	ng/L	A	Surface	<0.0225	0.0225
2018	20-Aug-18	WO2019-02-008	UoW	A65-WQ01	A65	MeHg Unfiltered	ng/L	A	Surface	0.027	0.0225
2018	20-Aug-18	WO2019-02-008	UoW	A65-WQ01	A65	MeHg Filtered	ng/L	A	Surface	<0.0225	0.0225
2018	20-Aug-18	WO2019-02-008	UoW	A65-WQ02	A65	MeHg Unfiltered	ng/L	A	Surface	0.035	0.0225
2018	20-Aug-18	WO2019-02-008	UoW	A65-WQ02	A65	MeHg Filtered	ng/L	A	Surface	<0.0225	0.0225
2018	21-Aug-18	WO2019-02-008	UoW	LK8-WQ01	Lake 8	MeHg Unfiltered	ng/L	A	Surface	<0.0225	0.0225
2018	21-Aug-18	WO2019-02-008	UoW	LK8-WQ01	Lake 8	MeHg Filtered	ng/L	A	Surface	<0.0225	0.0225
2018	21-Aug-18	WO2019-02-008	UoW	LK8-WQ02	Lake 8	MeHg Unfiltered	ng/L	A	Surface	<0.0225	0.0225
2018	21-Aug-18	WO2019-02-008	UoW	LK8-WQ02	Lake 8	MeHg Filtered	ng/L	A	Surface	<0.0225	0.0225
2020	12-Aug-20	WO2020-09-009	UoW	A65-WQ01	A65	Total Hg Unfiltered	ng/L	A	Surface	2.745	0.172
2020	12-Aug-20	WO2020-09-008	UoW	A65-WQ01	A65	Total Hg Filtered	ng/L	A	Surface	1.096	0.172
2020	12-Aug-20	WO2020-09-008	UoW	A65-WQ02	A65	Total Hg Unfiltered	ng/L	A	Surface	2.541	0.172
2020	12-Aug-20	WO2020-09-008	UoW	A65-WQ02	A65	Total Hg Filtered	ng/L	A	Surface	2.853	0.172
2020	12-Aug-20	WO2020-09-008	UoW	WTL-WQ01	Whale Tail	Total Hg Unfiltered	ng/L	A	Surface	1.573	0.172
2020	12-Aug-20	WO2020-09-008	UoW	WTL-WQ01	Whale Tail	Total Hg Filtered	ng/L	A	Surface	1.95	0.172
2020	12-Aug-20	WO2020-09-008	UoW	WTL-WQ01	Whale Tail	Total Hg Unfiltered	ng/L	B	Surface	1.341	0.172
2020	12-Aug-20	WO2020-09-008	UoW	WTL-WQ01	Whale Tail	Total Hg Filtered	ng/L	B	Surface	1.221	0.172
2020	12-Aug-20	WO2020-09-008	UoW	WTL-WQ02	Whale Tail	Total Hg Unfiltered	ng/L	A	Surface	2.951	0.172
2020	12-Aug-20	WO2020-09-008	UoW	WTL-WQ02	Whale Tail	Total Hg Filtered	ng/L	A	Surface	1.382	0.172
2020	14-Aug-20	WO2020-09-008	UoW	A20-WQ01	A20	Total Hg Unfiltered	ng/L	A	Surface	1.066	0.172
2020	14-Aug-20	WO2020-09-008	UoW	A20-WQ01	A20	Total Hg Filtered	ng/L	A	Surface	1.382	0.172
2020	14-Aug-20	WO2020-09-008	UoW	A20-WQ01	A20	Total Hg Unfiltered	ng/L	B	Surface	2.395	0.172
2020	14-Aug-20	WO2020-09-008	UoW	A20-WQ01	A20	Total Hg Filtered	ng/L	B	Surface	1.803	0.172
2020	14-Aug-20	WO2020-09-008	UoW	A20-WQ02	A20	Total Hg Unfiltered	ng/L	A	Surface	2.003	0.172
2020	14-Aug-20	WO2020-09-008	UoW	A20-WQ02	A20	Total Hg Filtered	ng/L	A	Surface	1.561	0.172
2020	15-Aug-20	WO2020-09-008	UoW	MMT-WQ01	Mammoth	Total Hg Unfiltered	ng/L	A	Surface	1.447	0.172
2020	15-Aug-20	WO2020-09-008	UoW	MMT-WQ01	Mammoth	Total Hg Filtered	ng/L	A	Surface	1.109	0.172
2020	15-Aug-20	WO2020-09-008	UoW	MMT-WQ02	Mammoth	Total Hg Unfiltered	ng/L	A	Surface	0.895	0.172
2020	15-Aug-20	WO2020-09-008	UoW	MMT-WQ02	Mammoth	Total Hg Filtered	ng/L	A	Surface	0.969	0.172
2020	16-Aug-20	WO2020-09-008	UoW	A76-WQ01	A76	Total Hg Unfiltered	ng/L	A	Surface	0.879	0.172
2020	16-Aug-20	WO2020-09-008	UoW	A76-WQ01	A76	Total Hg Filtered	ng/L	A	Surface	0.901	0.172
2020	16-Aug-20	WO2020-09-008	UoW	A76-WQ02	A76	Total Hg Unfiltered	ng/L	A	Surface	0.829	0.172
2020	16-Aug-20	WO2020-09-008	UoW	A76-WQ02	A76	Total Hg Filtered	ng/L	A	Surface	0.785	0.172
2020	17-Aug-20	WO2020-09-008	UoW	DS1-WQ01	DS1	Total Hg Unfiltered	ng/L	A	Surface	1.256	0.172
2020	17-Aug-20	WO2020-09-008	UoW	DS1-WQ01	DS1	Total Hg Filtered	ng/L	A	Surface	1.188	0.172
2020	17-Aug-20	WO2020-09-008	UoW	DS1-WQ02	DS1	Total Hg Unfiltered	ng/L	A	Surface	1.198	0.172
2020	17-Aug-20	WO2020-09-008	UoW	DS1-WQ02	DS1	Total Hg Filtered	ng/L	A	Surface	1.122	0.172
2020	21-Aug-20	WO2020-09-008	UoW	INUG-124	INUG	Total Hg Unfiltered	ng/L	A	Surface	0.579	0.172
2020	21-Aug-20	WO2020-09-008	UoW	INUG-124	INUG	Total Hg Filtered	ng/L	A	Surface	0.727	0.172
2020	21-Aug-20	WO2020-09-008	UoW	INUG-125	INUG	Total Hg Unfiltered	ng/L	A	Surface	0.484	0.172
2020	21-Aug-20	WO2020-09-008	UoW	INUG-125	INUG	Total Hg Filtered	ng/L	A	Surface	0.797	0.172
2020	22-Aug-20	WO2020-09-008	UoW	PDL-89	PDL	Total Hg Unfiltered	ng/L	A	Surface	0.467	0.172
2020	22-Aug-20	WO2020-09-008	UoW	PDL-89	PDL	Total Hg Filtered	ng/L	A	Surface	0.326	0.172
2020	22-Aug-20	WO2020-09-008	UoW	PDL-90	PDL	Total Hg Unfiltered	ng/L	A	Surface	0.46	0.172
2020	22-Aug-20	WO2020-09-008	UoW	PDL-90	PDL	Total Hg Filtered	ng/L	A	Surface	0.412	0.172
2020	23-Aug-20	WO2020-09-008	UoW	LK1-23	Lake D1	Total Hg Unfiltered	ng/L	A	Surface	0.895	0.172
2020	23-Aug-20	WO2020-09-008	UoW	LK1-23	Lake D1	Total Hg Filtered	ng/L	A	Surface	1.031	0.172
2020	23-Aug-20	WO2020-09-008	UoW	LK1-24	Lake D1	Total Hg Unfiltered	ng/L	A	Surface	0.517	0.172
2020	23-Aug-20	WO2020-09-008	UoW	LK1-24	Lake D1	Total Hg Filtered	ng/L	A	Surface	1.288	0.172
2020	23-Aug-20	WO2020-09-008	UoW	LK8-WQ01	Lake 8	Total Hg Unfiltered	ng/L	A	Surface	0.986	0.172
2020	23-Aug-20	WO2020-09-008	UoW	LK8-WQ01	Lake 8	Total Hg Filtered	ng/L	A	Surface	0.843	0.172
2020	23-Aug-20	WO2020-09-008	UoW	LK8-WQ02	Lake 8	Total Hg Unfiltered	ng/L	A	Surface	0.907	0.172
2020	23-Aug-20	WO2020-09-008	UoW	LK8-WQ02	Lake 8	Total Hg Filtered	ng/L	A	Surface	0.757	0.172
2020	23-Aug-20	WO2020-09-008	UoW	FIELD BLANK	FIELD BLANK	Total Hg Unfiltered	ng/L	A	Surface	0.23	0.172
2020	23-Aug-20	WO2020-09-008	UoW	FIELD BLANK	FIELD BLANK	Total Hg Filtered	ng/L	A	Surface	0.461	0.172
2020	29-Aug-20	WO2020-09-008	UoW	B3-WQ01	Lake B03	Total Hg Unfiltered	ng/L	A	Surface	0.369	0.172
2020	29-Aug-20	WO2020-09-008	UoW	B3-WQ01	Lake B03	Total Hg Filtered	ng/L	A	Surface	0.401	0.172
2020	29-Aug-20	WO2020-09-008	UoW	B3-WQ02	Lake B03	Total Hg Unfiltered	ng/L	A	Surface	0.451	0.172
2020	29-Aug-20	WO2020-09-008	UoW	B3-WQ02	Lake B03	Total Hg Filtered	ng/L	A	Surface	0.412	0.172
2020	29-Jun-20	WO2020-09-008	UoW	TRAVEL BLANK	TRAVEL BLANK	Total Hg Unfiltered	ng/L	A	Surface	<0.172	0.172
2020	12-Aug-20	WO2020-09-009	UoW	A65-WQ01	A65	MeHg Unfiltered	ng/L	A	Surface	0.24	0.0178

Year	Date	Workorder	Collector	Site	Lake	Parameter	Units	Replicate	Sample Depth	Result	Detection Limit
2020	12-Aug-20	WO2020-09-009	UoW	A65-WQ01	A65	MeHg Filtered	ng/L	A	Surface	0.208	0.0178
2020	12-Aug-20	WO2020-09-009	UoW	A65-WQ02	A65	MeHg Unfiltered	ng/L	A	Surface	0.212	0.0178
2020	12-Aug-20	WO2020-09-009	UoW	A65-WQ02	A65	MeHg Filtered	ng/L	A	Surface	0.127	0.0178
2020	12-Aug-20	WO2020-09-009	UoW	WTL-WQ01	Whale Tail	MeHg Unfiltered	ng/L	A	Surface	0.43	0.0178
2020	12-Aug-20	WO2020-09-009	UoW	WTL-WQ01	Whale Tail	MeHg Filtered	ng/L	A	Surface	0.331	0.0178
2020	12-Aug-20	WO2020-09-009	UoW	WTL-WQ01	Whale Tail	MeHg Unfiltered	ng/L	B	Surface	0.447	0.0178
2020	12-Aug-20	WO2020-09-009	UoW	WTL-WQ01	Whale Tail	MeHg Filtered	ng/L	B	Surface	0.328	0.0178
2020	12-Aug-20	WO2020-09-009	UoW	WTL-WQ02	Whale Tail	MeHg Unfiltered	ng/L	A	Surface	0.499	0.0178
2020	12-Aug-20	WO2020-09-009	UoW	WTL-WQ02	Whale Tail	MeHg Filtered	ng/L	A	Surface	0.426	0.0178
2020	14-Aug-20	WO2020-09-009	UoW	A20-WQ01	A20	MeHg Unfiltered	ng/L	A	Surface	0.081	0.0178
2020	14-Aug-20	WO2020-09-009	UoW	A20-WQ01	A20	MeHg Filtered	ng/L	A	Surface	0.052	0.0178
2020	14-Aug-20	WO2020-09-009	UoW	A20-WQ01	A20	MeHg Unfiltered	ng/L	B	Surface	0.098	0.0178
2020	14-Aug-20	WO2020-09-009	UoW	A20-WQ01	A20	MeHg Filtered	ng/L	B	Surface	0.058	0.0178
2020	14-Aug-20	WO2020-09-009	UoW	A20-WQ02	A20	MeHg Unfiltered	ng/L	A	Surface	0.084	0.0178
2020	14-Aug-20	WO2020-09-009	UoW	A20-WQ02	A20	MeHg Filtered	ng/L	A	Surface	0.058	0.0178
2020	15-Aug-20	WO2020-09-009	UoW	MMT-WQ01	Mammoth	MeHg Unfiltered	ng/L	A	Surface	0.042	0.0178
2020	15-Aug-20	WO2020-09-009	UoW	MMT-WQ01	Mammoth	MeHg Filtered	ng/L	A	Surface	<0.0178	0.0178
2020	15-Aug-20	WO2020-09-009	UoW	MMT-WQ02	Mammoth	MeHg Unfiltered	ng/L	A	Surface	<0.0178	0.0178
2020	15-Aug-20	WO2020-09-009	UoW	MMT-WQ02	Mammoth	MeHg Filtered	ng/L	A	Surface	0.018	0.0178
2020	16-Aug-20	WO2020-09-009	UoW	A76-WQ01	A76	MeHg Unfiltered	ng/L	A	Surface	0.027	0.0178
2020	16-Aug-20	WO2020-09-009	UoW	A76-WQ01	A76	MeHg Filtered	ng/L	A	Surface	<0.0178	0.0178
2020	16-Aug-20	WO2020-09-009	UoW	A76-WQ02	A76	MeHg Unfiltered	ng/L	A	Surface	0.019	0.0178
2020	16-Aug-20	WO2020-09-009	UoW	A76-WQ02	A76	MeHg Filtered	ng/L	A	Surface	<0.0178	0.0178
2020	17-Aug-20	WO2020-09-009	UoW	DS1-WQ01	DS1	MeHg Unfiltered	ng/L	A	Surface	0.067	0.0178
2020	17-Aug-20	WO2020-09-009	UoW	DS1-WQ01	DS1	MeHg Filtered	ng/L	A	Surface	0.037	0.0178
2020	17-Aug-20	WO2020-09-009	UoW	DS1-WQ02	DS1	MeHg Unfiltered	ng/L	A	Surface	<0.0178	0.0178
2020	17-Aug-20	WO2020-09-009	UoW	DS1-WQ02	DS1	MeHg Filtered	ng/L	A	Surface	0.022	0.0178
2020	21-Aug-20	WO2020-09-009	UoW	INUG-124	INUG	MeHg Unfiltered	ng/L	A	Surface	0.029	0.0178
2020	21-Aug-20	WO2020-09-009	UoW	INUG-124	INUG	MeHg Filtered	ng/L	A	Surface	0.018	0.0178
2020	21-Aug-20	WO2020-09-009	UoW	INUG-125	INUG	MeHg Unfiltered	ng/L	A	Surface	<0.0178	0.0178
2020	21-Aug-20	WO2020-09-009	UoW	INUG-125	INUG	MeHg Filtered	ng/L	A	Surface	<0.0178	0.0178
2020	22-Aug-20	WO2020-09-009	UoW	PDL-89	PDL	MeHg Unfiltered	ng/L	A	Surface	<0.0178	0.0178
2020	22-Aug-20	WO2020-09-009	UoW	PDL-89	PDL	MeHg Filtered	ng/L	A	Surface	<0.0178	0.0178
2020	22-Aug-20	WO2020-09-009	UoW	PDL-90	PDL	MeHg Unfiltered	ng/L	A	Surface	<0.0178	0.0178
2020	22-Aug-20	WO2020-09-009	UoW	PDL-90	PDL	MeHg Filtered	ng/L	A	Surface	<0.0178	0.0178
2020	23-Aug-20	WO2020-09-009	UoW	LK1-23	Lake D1	MeHg Unfiltered	ng/L	A	Surface	<0.0178	0.0178
2020	23-Aug-20	WO2020-09-009	UoW	LK1-23	Lake D1	MeHg Filtered	ng/L	A	Surface	<0.0178	0.0178
2020	23-Aug-20	WO2020-09-009	UoW	LK1-24	Lake D1	MeHg Unfiltered	ng/L	A	Surface	0.029	0.0178
2020	23-Aug-20	WO2020-09-009	UoW	LK1-24	Lake D1	MeHg Filtered	ng/L	A	Surface	0.023	0.0178
2020	23-Aug-20	WO2020-09-009	UoW	LK8-WQ01	Lake 8	MeHg Unfiltered	ng/L	A	Surface	<0.0178	0.0178
2020	23-Aug-20	WO2020-09-009	UoW	LK8-WQ01	Lake 8	MeHg Filtered	ng/L	A	Surface	<0.0178	0.0178
2020	23-Aug-20	WO2020-09-009	UoW	LK8-WQ02	Lake 8	MeHg Unfiltered	ng/L	A	Surface	<0.0178	0.0178
2020	23-Aug-20	WO2020-09-009	UoW	LK8-WQ02	Lake 8	MeHg Filtered	ng/L	A	Surface	<0.0178	0.0178
2020	23-Aug-20	WO2020-09-009	UoW	FIELD BLANK	FIELD BLANK	MeHg Unfiltered	ng/L	A	Surface	<0.0178	0.0178
2020	23-Aug-20	WO2020-09-009	UoW	FIELD BLANK	FIELD BLANK	MeHg Filtered	ng/L	A	Surface	<0.0178	0.0178
2020	29-Aug-20	WO2020-09-009	UoW	B3-WQ01	Lake B03	MeHg Unfiltered	ng/L	A	Surface	<0.0178	0.0178
2020	29-Aug-20	WO2020-09-009	UoW	B3-WQ01	Lake B03	MeHg Filtered	ng/L	A	Surface	<0.0178	0.0178
2020	29-Aug-20	WO2020-09-009	UoW	B3-WQ02	Lake B03	MeHg Unfiltered	ng/L	A	Surface	<0.0178	0.0178
2020	29-Aug-20	WO2020-09-009	UoW	B3-WQ02	Lake B03	MeHg Filtered	ng/L	A	Surface	<0.0178	0.0178
2020	29-Jun-20	WO2020-09-009	UoW	TRAVEL BLANK	TRAVEL BLANK	MeHg Unfiltered	ng/L	A	Surface	<0.0178	0.0178
2020	12-Aug-20	WO2020-09-009	UoW	NEM-WQ01	Nemo	Total Hg Unfiltered	ng/L	A	Surface	0.89	0.172
2020	12-Aug-20	WO2020-09-009	UoW	NEM-WQ01	Nemo	Total Hg Filtered	ng/L	A	Surface	0.867	0.172
2020	12-Aug-20	WO2020-09-009	UoW	NEM-WQ02	Nemo	Total Hg Unfiltered	ng/L	A	Surface	1.011	0.172
2020	12-Aug-20	WO2020-09-009	UoW	NEM-WQ02	Nemo	Total Hg Filtered	ng/L	A	Surface	0.57	0.172
2020	12-Aug-20	WO2020-09-009	UoW	A63-WQ01	A63	Total Hg Unfiltered	ng/L	A	Surface	3.264	0.172
2020	12-Aug-20	WO2020-09-009	UoW	A63-WQ01	A63	Total Hg Filtered	ng/L	A	Surface	1.962	0.172
2020	12-Aug-20	WO2020-09-009	UoW	A63-WQ02	A63	Total Hg Unfiltered	ng/L	A	Surface	3.925	0.172
2020	12-Aug-20	WO2020-09-009	UoW	A63-WQ02	A63	Total Hg Filtered	ng/L	A	Surface	3.145	0.172
2020	29-Aug-20	WO2020-09-009	UoW	A44-WQ01	A44	Total Hg Unfiltered	ng/L	A	Surface	1.078	0.172
2020	29-Aug-20	WO2020-09-009	UoW	A44-WQ01	A44	Total Hg Filtered	ng/L	A	Surface	1.274	0.172
2020	29-Aug-20	WO2020-09-009	UoW	A44-WQ02	A44	Total Hg Unfiltered	ng/L	A	Surface	1.08	0.172
2020	29-Aug-20	WO2020-09-009	UoW	A44-WQ02	A44	Total Hg Filtered	ng/L	A	Surface	1.107	0.172
2020	12-Aug-20	WO2020-09-009	UoW	NEM-WQ01	Nemo	MeHg Unfiltered	ng/L	A	Surface	0.024	0.0178
2020	12-Aug-20	WO2020-09-009	UoW	NEM-WQ01	Nemo	MeHg Filtered	ng/L	A	Surface	<0.0178	0.0178
2020	12-Aug-20	WO2020-09-009	UoW	NEM-WQ02	Nemo	MeHg Unfiltered	ng/L	A	Surface	0.031	0.0178
2020	12-Aug-20	WO2020-09-009	UoW	NEM-WQ02	Nemo	MeHg Filtered	ng/L	A	Surface	<0.0178	0.0178
2020	12-Aug-20	WO2020-09-009	UoW	A63-WQ01	A63	MeHg Unfiltered	ng/L	A	Surface	0.91	0.0178
2020	12-Aug-20	WO2020-09-009	UoW	A63-WQ01	A63	MeHg Filtered	ng/L	A	Surface	0.48	0.0178
2020	12-Aug-20	WO2020-09-009	UoW	A63-WQ02	A63	MeHg Unfiltered	ng/L	A	Surface	0.949	0.0178
2020	12-Aug-20	WO2020-09-009	UoW	A63-WQ02	A63	MeHg Filtered	ng/L	A	Surface	0.548	0.0178

Year	Date	Workorder	Collector	Site	Lake	Parameter	Units	Replicate	Sample Depth	Result	Detection Limit
2020	29-Aug-20	WO2020-09-009	UoW	A44-WQ01	A44	MeHg Unfiltered	ng/L	A	Surface	0.019	0.0178
2020	29-Aug-20	WO2020-09-009	UoW	A44-WQ01	A44	MeHg Filtered	ng/L	A	Surface	<0.0178	0.0178
2020	29-Aug-20	WO2020-09-009	UoW	A44-WQ02	A44	MeHg Unfiltered	ng/L	A	Surface	<0.0178	0.0178
2020	29-Aug-20	WO2020-09-009	UoW	A44-WQ02	A44	MeHg Filtered	ng/L	A	Surface	0.021	0.0178
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-M	A20 Profile	Total Hg Filtered	ng/L	A	10m	0.379	0.172
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-M	A20 Profile	Total Hg Filtered	ng/L	B	10m	0.381	0.172
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-S	A20 Profile	Total Hg Filtered	ng/L	A	3m	0.367	0.172
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-S	A20 Profile	Total Hg Filtered	ng/L	B	3m	0.376	0.172
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-D	A20 Profile	Total Hg Filtered	ng/L	A	17m	0.456	0.172
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-FB	FIELD BLANK	Total Hg Filtered	ng/L	A	Surface	<0.172	0.172
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-TB	TRAVEL BLANK	Total Hg Filtered	ng/L	A	Surface	<0.172	0.172
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-M	A20 Profile	Total Hg Unfiltered	ng/L	A	10m	0.738	0.172
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-M	A20 Profile	Total Hg Unfiltered	ng/L	B	10m	0.719	0.172
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-S	A20 Profile	Total Hg Unfiltered	ng/L	A	3m	0.683	0.172
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-S	A20 Profile	Total Hg Unfiltered	ng/L	B	3m	0.694	0.172
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-D	A20 Profile	Total Hg Unfiltered	ng/L	A	17m	0.714	0.172
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-FB	FIELD BLANK	Total Hg Unfiltered	ng/L	A	Surface	<0.172	0.172
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-TB	TRAVEL BLANK	Total Hg Unfiltered	ng/L	A	Surface	<0.172	0.172
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-M	A20 Profile	MeHg Filtered	ng/L	A	10m	0.039	0.0178
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-M	A20 Profile	MeHg Filtered	ng/L	B	10m	0.059	0.0178
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-S	A20 Profile	MeHg Filtered	ng/L	A	3m	0.056	0.0178
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-S	A20 Profile	MeHg Filtered	ng/L	B	3m	0.063	0.0178
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-D	A20 Profile	MeHg Filtered	ng/L	A	17m	0.067	0.0178
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-FB	FIELD BLANK	MeHg Filtered	ng/L	A	Surface	<MRL	0.0178
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-TB	TRAVEL BLANK	MeHg Filtered	ng/L	A	Surface	<MRL	0.0178
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-M	A20 Profile	MeHg Unfiltered	ng/L	A	10m	0.072	0.0178
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-M	A20 Profile	MeHg Unfiltered	ng/L	B	10m	0.082	0.0178
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-S	A20 Profile	MeHg Unfiltered	ng/L	A	3m	0.067	0.0178
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-S	A20 Profile	MeHg Unfiltered	ng/L	B	3m	0.08	0.0178
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-D	A20 Profile	MeHg Unfiltered	ng/L	A	17m	0.086	0.0178
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-FB	FIELD BLANK	MeHg Unfiltered	ng/L	A	Surface	<MRL	0.0178
2020	02-Dec-20	WO2020-12-005	Agnico	A20-MMP-TB	TRAVEL BLANK	MeHg Unfiltered	ng/L	A	Surface	<MRL	0.0178
2021	07-Aug-21	WO2021-08-009	Azimuth	A76-55	A76	Total Hg Unfiltered	ng/L	A	Surface	0.39	0.01679
2021	07-Aug-21	WO2021-08-009	Azimuth	A76-56	A76	Total Hg Unfiltered	ng/L	A	Surface	0.37	0.01679
2021	07-Aug-21	WO2021-08-009	Azimuth	MAM-63	Mammoth	Total Hg Unfiltered	ng/L	A	Surface	0.54	0.01679
2021	07-Aug-21	WO2021-08-009	Azimuth	MAM-64	Mammoth	Total Hg Unfiltered	ng/L	A	Surface	0.48	0.01679
2021	10-Aug-21	WO2021-08-009	Azimuth	A20-57	A20	Total Hg Unfiltered	ng/L	A	Surface	1.14	0.01679
2021	10-Aug-21	WO2021-08-009	Azimuth	A20-58	A20	Total Hg Unfiltered	ng/L	A	Surface	0.94	0.01679
2021	10-Aug-21	WO2021-08-009	Azimuth	WTS-63	Whale Tail	Total Hg Unfiltered	ng/L	A	Surface	1.03	0.01679
2021	10-Aug-21	WO2021-08-009	Azimuth	WTS-64	Whale Tail	Total Hg Unfiltered	ng/L	A	Surface	1.10	0.01679
2021	11-Aug-21	WO2021-08-009	Azimuth	LK1-31	Lake D1	Total Hg Unfiltered	ng/L	A	Surface	0.67	0.01679
2021	11-Aug-21	WO2021-08-009	Azimuth	LK1-32	Lake D1	Total Hg Unfiltered	ng/L	A	Surface	0.61	0.01679
2021	13-Aug-21	WO2021-08-009	Azimuth	A44-1	A44	Total Hg Unfiltered	ng/L	A	Surface	1.05	0.01679
2021	13-Aug-21	WO2021-08-009	Azimuth	A44-2	A44	Total Hg Unfiltered	ng/L	A	Surface	1.12	0.01679
2021	07-Aug-21	WO2021-08-009	Azimuth	MAM-64	Mammoth	Total Hg Unfiltered	ng/L	B	Surface	0.53	0.01679
2021	10-Aug-21	WO2021-08-009	Azimuth	WTS-63	Whale Tail	Total Hg Unfiltered	ng/L	B	Surface	1.01	0.01679
2021	10-Aug-21	WO2021-08-009	Azimuth	DI-1	FIELD BLANK	Total Hg Unfiltered	ng/L	A	Surface	<0.01679	0.01679
2021	15-Aug-21	WO2021-08-009	Azimuth	B03-1	Lake B03	Total Hg Unfiltered	ng/L	A	Surface	0.39	0.01679
2021	15-Aug-21	WO2021-08-009	Azimuth	B03-2	Lake B03	Total Hg Unfiltered	ng/L	A	Surface	0.47	0.01679
2021	12-Aug-21	WO2021-08-009	Azimuth	A65-1	A65	Total Hg Unfiltered	ng/L	A	Surface	1.57	0.01679
2021	12-Aug-21	WO2021-08-009	Azimuth	A65-2	A65	Total Hg Unfiltered	ng/L	A	Surface	1.71	0.01679
2021	15-Aug-21	WO2021-08-009	Azimuth	LK8-1	LK8	Total Hg Unfiltered	ng/L	A	Surface	0.38	0.01679
2021	15-Aug-21	WO2021-08-009	Azimuth	LK8-2	LK8	Total Hg Unfiltered	ng/L	A	Surface	0.36	0.01679
2021	15-Aug-21	WO2021-08-009	Azimuth	DS1-53	DS1	Total Hg Unfiltered	ng/L	A	Surface	0.89	0.01679
2021	15-Aug-21	WO2021-08-009	Azimuth	DS1-54	DS1	Total Hg Unfiltered	ng/L	A	Surface	1.64	0.01679
2021	16-Aug-21	WO2021-08-009	Azimuth	PDL-99	PDL	Total Hg Unfiltered	ng/L	A	Surface	0.28	0.01679
2021	16-Aug-21	WO2021-08-009	Azimuth	PDL-100	PDL	Total Hg Unfiltered	ng/L	A	Surface	0.31	0.01679
2021	18-Aug-21	WO2021-08-009	Azimuth	INUG-134	INUG	Total Hg Unfiltered	ng/L	A	Surface	0.63	0.01679
2021	18-Aug-21	WO2021-08-009	Azimuth	INUG-135	INUG	Total Hg Unfiltered	ng/L	A	Surface	0.61	0.01679
2021	07-Aug-21	WO2021-08-009	Azimuth	A76-55	A76	Total Hg Filtered	ng/L	A	Surface	<0.01679	0.01679
2021	07-Aug-21	WO2021-08-009	Azimuth	A76-56	A76	Total Hg Filtered	ng/L	A	Surface	<0.01679	0.01679
2021	07-Aug-21	WO2021-08-009	Azimuth	MAM-63	Mammoth	Total Hg Filtered	ng/L	A	Surface	0.24	0.01679
2021	07-Aug-21	WO2021-08-009	Azimuth	MAM-64	Mammoth	Total Hg Filtered	ng/L	A	Surface	0.20	0.01679
2021	10-Aug-21	WO2021-08-009	Azimuth	A20-57	A20	Total Hg Filtered	ng/L	A	Surface	0.41	0.01679
2021	10-Aug-21	WO2021-08-009	Azimuth	A20-58	A20	Total Hg Filtered	ng/L	A	Surface	0.37	0.01679
2021	10-Aug-21	WO2021-08-009	Azimuth	WTS-63	Whale Tail	Total Hg Filtered	ng/L	A	Surface	0.39	0.01679
2021	10-Aug-21	WO2021-08-009	Azimuth	WTS-64	Whale Tail	Total Hg Filtered	ng/L	A	Surface	0.45	0.01679
2021	11-Aug-21	WO2021-08-009	Azimuth	LK1-31	Lake D1	Total Hg Filtered	ng/L	A	Surface	0.30	0.01679
2021	11-Aug-21	WO2021-08-009	Azimuth	LK1-32	Lake D1	Total Hg Filtered	ng/L	A	Surface	0.28	0.01679
2021	13-Aug-21	WO2021-08-009	Azimuth	A44-1	A44	Total Hg Filtered	ng/L	A	Surface	0.54	0.01679

Year	Date	Workorder	Collector	Site	Lake	Parameter	Units	Replicate	Sample Depth	Result	Detection Limit
2021	13-Aug-21	WO2021-08-009	Azimuth	A44-2	A44	Total Hg Filtered	ng/L	A	Surface	0.57	0.01679
2021	07-Aug-21	WO2021-08-009	Azimuth	MAM-64	Mammoth	Total Hg Filtered	ng/L	B	Surface	0.26	0.01679
2021	10-Aug-21	WO2021-08-009	Azimuth	WTS-63	Whale Tail	Total Hg Filtered	ng/L	B	Surface	0.44	0.01679
2021	10-Aug-21	WO2021-08-009	Azimuth	DI-1	FIELD BLANK	Total Hg Filtered	ng/L	A	Surface	<0.01679	0.01679
2021	15-Aug-21	WO2021-08-009	Azimuth	B03-1	Lake B03	Total Hg Filtered	ng/L	A	Surface	<0.01679	0.01679
2021	15-Aug-21	WO2021-08-009	Azimuth	B03-2	Lake B03	Total Hg Filtered	ng/L	A	Surface	0.20	0.01679
2021	12-Aug-21	WO2021-08-009	Azimuth	A65-1	A65	Total Hg Filtered	ng/L	A	Surface	0.77	0.01679
2021	12-Aug-21	WO2021-08-009	Azimuth	A65-2	A65	Total Hg Filtered	ng/L	A	Surface	0.83	0.01679
2021	15-Aug-21	WO2021-08-009	Azimuth	LK8-1	LK8	Total Hg Filtered	ng/L	A	Surface	0.26	0.01679
2021	15-Aug-21	WO2021-08-009	Azimuth	LK8-2	LK8	Total Hg Filtered	ng/L	A	Surface	0.22	0.01679
2021	15-Aug-21	WO2021-08-009	Azimuth	DS1-53	DS1	Total Hg Filtered	ng/L	A	Surface	0.49	0.01679
2021	15-Aug-21	WO2021-08-009	Azimuth	DS1-54	DS1	Total Hg Filtered	ng/L	A	Surface	0.99	0.01679
2021	16-Aug-21	WO2021-08-009	Azimuth	PDL-99	PDL	Total Hg Filtered	ng/L	A	Surface	0.21	0.01679
2021	16-Aug-21	WO2021-08-009	Azimuth	PDL-100	PDL	Total Hg Filtered	ng/L	A	Surface	<0.01679	0.01679
2021	18-Aug-21	WO2021-08-009	Azimuth	INUG-134	INUG	Total Hg Filtered	ng/L	A	Surface	0.349	0.01679
2021	18-Aug-21	WO2021-08-009	Azimuth	INUG-135	INUG	Total Hg Filtered	ng/L	A	Surface	0.352	0.01679
2021	07-Aug-21	WO2021-08-009	Azimuth	A76-55	A76	MeHg Filtered	ng/L	A	Surface	<0.022	0.022
2021	07-Aug-21	WO2021-08-009	Azimuth	A76-56	A76	MeHg Filtered	ng/L	A	Surface	<0.022	0.022
2021	07-Aug-21	WO2021-08-009	Azimuth	MAM-63	Mammoth	MeHg Filtered	ng/L	A	Surface	<0.022	0.022
2021	07-Aug-21	WO2021-08-009	Azimuth	MAM-64	Mammoth	MeHg Filtered	ng/L	A	Surface	0.02	0.022
2021	10-Aug-21	WO2021-08-009	Azimuth	A20-57	A20	MeHg Filtered	ng/L	A	Surface	0.06	0.022
2021	10-Aug-21	WO2021-08-009	Azimuth	A20-58	A20	MeHg Filtered	ng/L	A	Surface	0.05	0.022
2021	10-Aug-21	WO2021-08-009	Azimuth	WTS-63	Whale Tail	MeHg Filtered	ng/L	A	Surface	0.105	0.022
2021	10-Aug-21	WO2021-08-009	Azimuth	WTS-64	Whale Tail	MeHg Filtered	ng/L	A	Surface	0.11	0.022
2021	11-Aug-21	WO2021-08-009	Azimuth	LK1-31	Lake D1	MeHg Filtered	ng/L	A	Surface	<0.022	0.022
2021	11-Aug-21	WO2021-08-009	Azimuth	LK1-32	Lake D1	MeHg Filtered	ng/L	A	Surface	<0.022	0.022
2021	13-Aug-21	WO2021-08-009	Azimuth	A44-1	A44	MeHg Filtered	ng/L	A	Surface	<0.022	0.022
2021	13-Aug-21	WO2021-08-009	Azimuth	A44-2	A44	MeHg Filtered	ng/L	A	Surface	<0.022	0.022
2021	07-Aug-21	WO2021-08-009	Azimuth	MAM-64	Mammoth	MeHg Filtered	ng/L	B	Surface	0.025	0.022
2021	10-Aug-21	WO2021-08-009	Azimuth	WTS-63	Whale Tail	MeHg Filtered	ng/L	B	Surface	0.12	0.022
2021	10-Aug-21	WO2021-08-009	Azimuth	DI-1	FIELD BLANK	MeHg Filtered	ng/L	A	Surface	<0.022	0.022
2021	15-Aug-21	WO2021-08-009	Azimuth	B03-1	Lake B03	MeHg Filtered	ng/L	A	Surface	<0.022	0.022
2021	15-Aug-21	WO2021-08-009	Azimuth	B03-2	Lake B03	MeHg Filtered	ng/L	A	Surface	<0.022	0.022
2021	12-Aug-21	WO2021-08-009	Azimuth	A65-1	A65	MeHg Filtered	ng/L	A	Surface	0.10	0.022
2021	12-Aug-21	WO2021-08-009	Azimuth	A65-2	A65	MeHg Filtered	ng/L	A	Surface	0.11	0.022
2021	15-Aug-21	WO2021-08-009	Azimuth	LK8-1	LK8	MeHg Filtered	ng/L	A	Surface	<0.022	0.022
2021	15-Aug-21	WO2021-08-009	Azimuth	LK8-2	LK8	MeHg Filtered	ng/L	A	Surface	<0.022	0.022
2021	15-Aug-21	WO2021-08-009	Azimuth	DS1-53	DS1	MeHg Filtered	ng/L	A	Surface	<0.022	0.022
2021	15-Aug-21	WO2021-08-009	Azimuth	DS1-54	DS1	MeHg Filtered	ng/L	A	Surface	0.043	0.022
2021	16-Aug-21	WO2021-08-009	Azimuth	PDL-99	PDL	MeHg Filtered	ng/L	A	Surface	<0.022	0.022
2021	16-Aug-21	WO2021-08-009	Azimuth	PDL-100	PDL	MeHg Filtered	ng/L	A	Surface	<0.022	0.022
2021	18-Aug-21	WO2021-08-009	Azimuth	INUG-134	INUG	MeHg Filtered	ng/L	A	Surface	<0.022	0.022
2021	18-Aug-21	WO2021-08-009	Azimuth	INUG-135	INUG	MeHg Filtered	ng/L	A	Surface	<0.022	0.022
2021	07-Aug-21	WO2021-08-009	Azimuth	A76-55	A76	MeHg Unfiltered	ng/L	A	Surface	<0.022	0.022
2021	07-Aug-21	WO2021-08-009	Azimuth	A76-56	A76	MeHg Unfiltered	ng/L	A	Surface	<0.022	0.022
2021	07-Aug-21	WO2021-08-009	Azimuth	MAM-63	Mammoth	MeHg Unfiltered	ng/L	A	Surface	0.023	0.022
2021	07-Aug-21	WO2021-08-009	Azimuth	MAM-64	Mammoth	MeHg Unfiltered	ng/L	A	Surface	0.04	0.022
2021	10-Aug-21	WO2021-08-009	Azimuth	A20-57	A20	MeHg Unfiltered	ng/L	A	Surface	0.25	0.022
2021	10-Aug-21	WO2021-08-009	Azimuth	A20-58	A20	MeHg Unfiltered	ng/L	A	Surface	0.16	0.022
2021	10-Aug-21	WO2021-08-009	Azimuth	WTS-63	Whale Tail	MeHg Unfiltered	ng/L	A	Surface	0.44	0.022
2021	10-Aug-21	WO2021-08-009	Azimuth	WTS-64	Whale Tail	MeHg Unfiltered	ng/L	A	Surface	0.45	0.022
2021	11-Aug-21	WO2021-08-009	Azimuth	LK1-31	Lake D1	MeHg Unfiltered	ng/L	A	Surface	0.032	0.022
2021	11-Aug-21	WO2021-08-009	Azimuth	LK1-32	Lake D1	MeHg Unfiltered	ng/L	A	Surface	0.029	0.022
2021	13-Aug-21	WO2021-08-009	Azimuth	A44-1	A44	MeHg Unfiltered	ng/L	A	Surface	0.052	0.022
2021	13-Aug-21	WO2021-08-009	Azimuth	A44-2	A44	MeHg Unfiltered	ng/L	A	Surface	0.039	0.022
2021	07-Aug-21	WO2021-08-009	Azimuth	MAM-64	Mammoth	MeHg Unfiltered	ng/L	B	Surface	0.042	0.022
2021	10-Aug-21	WO2021-08-009	Azimuth	WTS-63	Whale Tail	MeHg Unfiltered	ng/L	B	Surface	0.48	0.022
2021	10-Aug-21	WO2021-08-009	Azimuth	DI-1	FIELD BLANK	MeHg Unfiltered	ng/L	A	Surface	<0.022	0.022
2021	15-Aug-21	WO2021-08-009	Azimuth	B03-1	Lake B03	MeHg Unfiltered	ng/L	A	Surface	<0.022	0.022
2021	15-Aug-21	WO2021-08-009	Azimuth	B03-2	Lake B03	MeHg Unfiltered	ng/L	A	Surface	<0.022	0.022
2021	12-Aug-21	WO2021-08-009	Azimuth	A65-1	A65	MeHg Unfiltered	ng/L	A	Surface	0.30	0.022
2021	12-Aug-21	WO2021-08-009	Azimuth	A65-2	A65	MeHg Unfiltered	ng/L	A	Surface	0.30	0.022
2021	15-Aug-21	WO2021-08-009	Azimuth	LK8-1	LK8	MeHg Unfiltered	ng/L	A	Surface	0.08	0.022
2021	15-Aug-21	WO2021-08-009	Azimuth	LK8-2	LK8	MeHg Unfiltered	ng/L	A	Surface	<0.022	0.022
2021	15-Aug-21	WO2021-08-009	Azimuth	DS1-53	DS1	MeHg Unfiltered	ng/L	A	Surface	0.03	0.022
2021	15-Aug-21	WO2021-08-009	Azimuth	DS1-54	DS1	MeHg Unfiltered	ng/L	A	Surface	0.08	0.022
2021	16-Aug-21	WO2021-08-009	Azimuth	PDL-99	PDL	MeHg Unfiltered	ng/L	A	Surface	<0.022	0.022
2021	16-Aug-21	WO2021-08-009	Azimuth	PDL-100	PDL	MeHg Unfiltered	ng/L	A	Surface	<0.022	0.022
2021	18-Aug-21	WO2021-08-009	Azimuth	INUG-134	INUG	MeHg Unfiltered	ng/L	A	Surface	<0.022	0.022
2021	18-Aug-21	WO2021-08-009	Azimuth	INUG-135	INUG	MeHg Unfiltered	ng/L	A	Surface	0.02	0.022

APPENDIX B
SEDIMENT DATA

APPENDIX B1

MERCURY DATABASE – SEDIMENT

Year	Sample ID	Lake	Method	Depth Start	Depth End	Date	THg	MeHg	THg Detection Limit	MeHg Detection Limit	Hg Units
2016	WTS-1	WTS	grab	0	5	12-Aug-16	0.0788	0.0006	0.005	0.00005	mg/kg
2016	WTS-2	WTS	grab	0	5	12-Aug-16	0.0675	0.0003	0.005	0.00005	mg/kg
2016	WTS-3	WTS	grab	0	5	12-Aug-16	0.0816	0.001	0.005	0.00005	mg/kg
2016	WTS-4	WTS	grab	0	5	12-Aug-16	0.0683	0.0005	0.005	0.00005	mg/kg
2016	WTS-5	WTS	grab	0	5	12-Aug-16	0.0932	0.0006	0.005	0.00005	mg/kg
2016	PDL-1	PDL	grab	0	5	06-Aug-16	0.0101		0.005		mg/kg
2016	PDL-2	PDL	grab	0	5	06-Aug-16	0.0149		0.005		mg/kg
2016	PDL-3	PDL	grab	0	5	06-Aug-16	0.011		0.005		mg/kg
2016	PDL-4	PDL	grab	0	5	06-Aug-16	0.0117		0.005		mg/kg
2016	PDL-5	PDL	grab	0	5	06-Aug-16	0.0098		0.005		mg/kg
2016	INUG-1	INUG	grab	0	5	07-Aug-16	0.0237		0.005		mg/kg
2016	INUG-2	INUG	grab	0	5	07-Aug-16	0.03		0.005		mg/kg
2016	INUG-3	INUG	grab	0	5	07-Aug-16	0.0232		0.005		mg/kg
2016	INUG-4	INUG	grab	0	5	07-Aug-16	0.0287		0.005		mg/kg
2016	INUG-5	INUG	grab	0	5	07-Aug-16	0.0267		0.005		mg/kg
2016	MAM-1	MAM	grab	0	5	14-Aug-16	0.0936		0.005		mg/kg
2016	MAM-2	MAM	grab	0	5	14-Aug-16	0.0968		0.005		mg/kg
2016	MAM-3	MAM	grab	0	5	14-Aug-16	0.115		0.005		mg/kg
2016	MAM-4	MAM	grab	0	5	14-Aug-16	0.103		0.005		mg/kg
2016	MAM-5	MAM	grab	0	5	14-Aug-16	0.0387		0.005		mg/kg
2016	A20-1	A20	grab	0	5	14-Aug-16	0.0544		0.005		mg/kg
2016	A20-2	A20	grab	0	5	14-Aug-16	0.0479		0.005		mg/kg
2016	A20-3	A20	grab	0	5	14-Aug-16	0.0609		0.005		mg/kg
2016	A20-4	A20	grab	0	5	14-Aug-16	0.0618		0.005		mg/kg
2016	A20-5	A20	grab	0	5	14-Aug-16	0.0512		0.005		mg/kg
2016	DS1-1	DS1	grab	0	5	16-Aug-16	0.0697		0.005		mg/kg
2016	DS1-2	DS1	grab	0	5	16-Aug-16	0.0675		0.005		mg/kg
2016	DS1-3	DS1	grab	0	5	16-Aug-16	0.0768		0.005		mg/kg
2016	DS1-4	DS1	grab	0	5	16-Aug-16	0.0529		0.005		mg/kg
2016	DS1-5	DS1	grab	0	5	16-Aug-16	0.059		0.005		mg/kg
2016	NEM-1	NEM	grab	0	5	13-Aug-16	0.0171		0.005		mg/kg
2016	NEM-2	NEM	grab	0	5	13-Aug-16	0.0348		0.005		mg/kg
2016	NEM-3	NEM	grab	0	5	13-Aug-16	0.0303		0.005		mg/kg
2016	NEM-4	NEM	grab	0	5	13-Aug-16	0.0293		0.005		mg/kg
2016	NEM-5	NEM	grab	0	5	13-Aug-16	0.0289		0.005		mg/kg
2016	A76-1	A76	grab	0	5	15-Aug-16	0.0408		0.005		mg/kg
2016	A76-2	A76	grab	0	5	15-Aug-16	0.0474		0.005		mg/kg
2016	A76-3	A76	grab	0	5	15-Aug-16	0.0558		0.005		mg/kg
2016	A76-4	A76	grab	0	5	15-Aug-16	0.0473		0.005		mg/kg
2016	A76-5	A76	grab	0	5	15-Aug-16	0.0394		0.005		mg/kg
2017	WTS-1	WTS	grab	0	5	12-Aug-17	0.089		0.005		mg/kg
2017	WTS-2	WTS	grab	0	5	12-Aug-17	0.0526		0.005		mg/kg
2017	WTS-3	WTS	grab	0	5	12-Aug-17	0.0721		0.005		mg/kg
2017	WTS-4	WTS	grab	0	5	12-Aug-17	0.0657		0.005		mg/kg
2017	WTS-5	WTS	grab	0	5	12-Aug-17	0.0569		0.005		mg/kg
2017	A20-1	A20	grab	0	5	16-Aug-17	0.0549		0.005		mg/kg
2017	A20-2	A20	grab	0	5	16-Aug-17	0.0547		0.005		mg/kg
2017	A20-3	A20	grab	0	5	16-Aug-17	0.0435		0.005		mg/kg
2017	A20-4	A20	grab	0	5	16-Aug-17	0.111		0.005		mg/kg
2017	A20-5	A20	grab	0	5	16-Aug-17	0.0593		0.005		mg/kg
2017	MAM-1	MAM	grab	0	5	17-Aug-17	0.0849		0.005		mg/kg
2017	MAM-2	MAM	grab	0	5	17-Aug-17	0.0877		0.005		mg/kg
2017	MAM-3	MAM	grab	0	5	17-Aug-17	0.0819		0.005		mg/kg
2017	MAM-4	MAM	grab	0	5	17-Aug-17	0.101		0.005		mg/kg
2017	MAM-5	MAM	grab	0	5	17-Aug-17	0.0899		0.005		mg/kg
2017	DS1-1	DS1	grab	0	5	18-Aug-17	0.125		0.005		mg/kg
2017	DS1-2	DS1	grab	0	5	18-Aug-17	0.122		0.005		mg/kg
2017	DS1-3	DS1	grab	0	5	18-Aug-17	0.125		0.005		mg/kg
2017	DS1-4	DS1	grab	0	5	18-Aug-17	0.116		0.005		mg/kg
2017	DS1-5	DS1	grab	0	5	18-Aug-17	0.12		0.005		mg/kg
2017	PDL-1	PDL	grab	0	5	24-Aug-17	0.0142		0.005		mg/kg
2017	PDL-2	PDL	grab	0	5	24-Aug-17	0.0112		0.005		mg/kg
2017	PDL-3	PDL	grab	0	5	24-Aug-17	0.0195		0.005		mg/kg
2017	PDL-4	PDL	grab	0	5	24-Aug-17	0.0124		0.005		mg/kg
2017	PDL-5	PDL	grab	0	5	24-Aug-17	0.0129		0.005		mg/kg
2017	INUG-1	INUG	grab	0	5	25-Aug-17	0.0315		0.005		mg/kg
2017	INUG-2	INUG	grab	0	5	25-Aug-17	0.0244		0.005		mg/kg
2017	INUG-3	INUG	grab	0	5	25-Aug-17	0.0358		0.005		mg/kg
2017	INUG-4	INUG	grab	0	5	25-Aug-17	0.0315		0.005		mg/kg

Year	Sample ID	Lake	Method	Depth Start	Depth End	Date	THg	MeHg	THg Detection Limit	MeHg Detection Limit	Hg Units
2017	INUG-5	INUG	grab	0	5	25-Aug-17	0.0347		0.005		mg/kg
2017	NEM-1	NEM	grab	0	5	15-Aug-17	0.046		0.005		mg/kg
2017	NEM-2	NEM	grab	0	5	15-Aug-17	0.059		0.005		mg/kg
2017	NEM-3	NEM	grab	0	5	15-Aug-17	0.0609		0.005		mg/kg
2017	NEM-4	NEM	grab	0	5	15-Aug-17	0.0688		0.005		mg/kg
2017	NEM-5	NEM	grab	0	5	15-Aug-17	0.0322		0.005		mg/kg
2017	WTS-SC-1	WTS	core	0	1.5	15-Aug-17	0.069	0.001	0.005	0.00005	mg/kg
2017	WTS-SC-5	WTS	core	0	1.5	15-Aug-17	0.0957	0.0011	0.005	0.00005	mg/kg
2017	WTS-SC-9	WTS	core	0	1.5	15-Aug-17	0.0806	0.0011	0.005	0.00005	mg/kg
2017	WTS-SC-1	WTS	core	0	1.5	15-Aug-17	0.0728		0.005		mg/kg
2017	WTS-SC-2	WTS	core	0	1.5	14-Aug-17	0.0918		0.005		mg/kg
2017	WTS-SC-3	WTS	core	0	1.5	14-Aug-17	0.0785		0.005		mg/kg
2017	WTS-SC-4	WTS	core	0	1.5	15-Aug-17	0.0701		0.005		mg/kg
2017	WTS-SC-5	WTS	core	0	1.5	15-Aug-17	0.104		0.005		mg/kg
2017	WTS-SC-6	WTS	core	0	1.5	15-Aug-17	0.0693		0.005		mg/kg
2017	WTS-SC-7	WTS	core	0	1.5	15-Aug-17	0.0653		0.005		mg/kg
2017	WTS-SC-8	WTS	core	0	1.5	15-Aug-17	0.0633		0.005		mg/kg
2017	WTS-SC-9	WTS	core	0	1.5	15-Aug-17	0.0807		0.005		mg/kg
2017	WTS-SC-10	WTS	core	0	1.5	15-Aug-17	0.0853		0.005		mg/kg
2017	NEM-SC-1	NEM	core	0	1.5	15-Aug-17	0.028		0.005		mg/kg
2017	NEM-SC-3	NEM	core	0	1.5	15-Aug-17	0.0139		0.005		mg/kg
2017	NEM-SC-4	NEM	core	0	1.5	15-Aug-17	0.0363		0.005		mg/kg
2017	NEM-SC-5	NEM	core	0	1.5	15-Aug-17	0.0307		0.005		mg/kg
2017	NEM-SC-6	NEM	core	0	1.5	15-Aug-17	0.0187		0.005		mg/kg
2017	NEM-SC-7	NEM	core	0	1.5	15-Aug-17	0.0313		0.005		mg/kg
2017	NEM-SC-8	NEM	core	0	1.5	15-Aug-17	0.0172		0.005		mg/kg
2017	NEM-SC-9	NEM	core	0	1.5	15-Aug-17	0.035		0.005		mg/kg
2017	NEM-SC-10	NEM	core	0	1.5	15-Aug-17	0.0331		0.005		mg/kg
2017	NEM-SC-2	NEM	core	0	1.5	15-Aug-17	0.0284		0.005		mg/kg
2017	A20-SC-1	A20	core	0	1.5	16-Aug-17	0.0356		0.005		mg/kg
2017	A20-SC-2	A20	core	0	1.5	16-Aug-17	0.0583		0.005		mg/kg
2017	A20-SC-3	A20	core	0	1.5	16-Aug-17	0.0387		0.005		mg/kg
2017	A20-SC-4	A20	core	0	1.5	16-Aug-17	0.0364		0.005		mg/kg
2017	A20-SC-5	A20	core	0	1.5	16-Aug-17	0.0466		0.005		mg/kg
2017	A20-SC-6	A20	core	0	1.5	16-Aug-17	0.0457		0.005		mg/kg
2017	A20-SC-7	A20	core	0	1.5	16-Aug-17	0.0425		0.005		mg/kg
2017	A20-SC-8	A20	core	0	1.5	16-Aug-17	0.0413		0.005		mg/kg
2017	A20-SC-9	A20	core	0	1.5	16-Aug-17	0.041		0.005		mg/kg
2017	A20-SC-10	A20	core	0	1.5	16-Aug-17	0.0424		0.005		mg/kg
2017	MAM-SC-1	MAM	core	0	1.5	17-Aug-17	0.084		0.005		mg/kg
2017	MAM-SC-2	MAM	core	0	1.5	17-Aug-17	0.0926		0.005		mg/kg
2017	MAM-SC-3	MAM	core	0	1.5	17-Aug-17	0.0882		0.005		mg/kg
2017	MAM-SC-4	MAM	core	0	1.5	17-Aug-17	0.0761		0.005		mg/kg
2017	MAM-SC-5	MAM	core	0	1.5	17-Aug-17	0.079		0.005		mg/kg
2017	MAM-SC-6	MAM	core	0	1.5	17-Aug-17	0.102		0.005		mg/kg
2017	MAM-SC-7	MAM	core	0	1.5	17-Aug-17	0.112		0.005		mg/kg
2017	MAM-SC-8	MAM	core	0	1.5	17-Aug-17	0.0881		0.005		mg/kg
2017	MAM-SC-9	MAM	core	0	1.5	17-Aug-17	0.0804		0.005		mg/kg
2017	MAM-SC-10	MAM	core	0	1.5	17-Aug-17	0.08		0.005		mg/kg
2017	A76-SC-1	A76	core	0	1.5	17-Aug-17	0.0665		0.005		mg/kg
2017	A76-SC-2	A76	core	0	1.5	18-Aug-17	0.0428		0.005		mg/kg
2017	A76-SC-3	A76	core	0	1.5	18-Aug-17	0.0619		0.005		mg/kg
2017	A76-SC-4	A76	core	0	1.5	18-Aug-17	0.0626		0.005		mg/kg
2017	A76-SC-5	A76	core	0	1.5	18-Aug-17	0.0385		0.005		mg/kg
2017	A76-SC-6	A76	core	0	1.5	18-Aug-17	0.0358		0.005		mg/kg
2017	A76-SC-7	A76	core	0	1.5	18-Aug-17	0.0551		0.005		mg/kg
2017	A76-SC-8	A76	core	0	1.5	18-Aug-17	0.0485		0.005		mg/kg
2017	A76-SC-9	A76	core	0	1.5	18-Aug-17	0.0384		0.005		mg/kg
2017	A76-SC-10	A76	core	0	1.5	18-Aug-17	0.0778		0.005		mg/kg
2017	DS1-SC-1	DS1	core	0	1.5	18-Aug-17	0.0696		0.005		mg/kg
2017	DS1-SC-2	DS1	core	0	1.5	18-Aug-17	0.0733		0.005		mg/kg
2017	DS1-SC-3	DS1	core	0	1.5	18-Aug-17	0.0605		0.005		mg/kg
2017	DS1-SC-4	DS1	core	0	1.5	18-Aug-17	0.0705		0.005		mg/kg
2017	DS1-SC-5	DS1	core	0	1.5	18-Aug-17	0.0708		0.005		mg/kg
2017	DS1-SC-6	DS1	core	0	1.5	18-Aug-17	0.0957		0.005		mg/kg
2017	DS1-SC-7	DS1	core	0	1.5	18-Aug-17	0.0692		0.005		mg/kg
2017	DS1-SC-8	DS1	core	0	1.5	18-Aug-17	0.0687		0.005		mg/kg
2017	DS1-SC-9	DS1	core	0	1.5	18-Aug-17	0.0784		0.005		mg/kg
2017	DS1-SC-10	DS1	core	0	1.5	18-Aug-17	0.0662		0.005		mg/kg

Year	Sample ID	Lake	Method	Depth Start	Depth End	Date	THg	MeHg	THg Detection Limit	MeHg Detection Limit	Hg Units
2017	PDL-SC-1	PDL	core	0	1.5	24-Aug-17	0.0159		0.005		mg/kg
2017	PDL-SC-2	PDL	core	0	1.5	24-Aug-17	0.0184		0.005		mg/kg
2017	PDL-SC-3	PDL	core	0	1.5	24-Aug-17	0.0247		0.005		mg/kg
2017	PDL-SC-4	PDL	core	0	1.5	24-Aug-17	0.0178		0.005		mg/kg
2017	PDL-SC-5	PDL	core	0	1.5	24-Aug-17	0.0168		0.005		mg/kg
2017	PDL-SC-9	PDL	core	0	1.5	24-Aug-17	0.0139		0.005		mg/kg
2017	PDL-SC-6	PDL	core	0	1.5	24-Aug-17	0.0213		0.005		mg/kg
2017	PDL-SC-7	PDL	core	0	1.5	24-Aug-17	0.0182		0.005		mg/kg
2017	PDL-SC-8	PDL	core	0	1.5	24-Aug-17	0.025		0.005		mg/kg
2017	PDL-SC-10	PDL	core	0	1.5	24-Aug-17	0.0167		0.005		mg/kg
2017	INUG-SC-1	INUG	core	0	1.5	25-Aug-17	0.0291		0.005		mg/kg
2017	INUG-SC-2	INUG	core	0	1.5	25-Aug-17	0.0332		0.005		mg/kg
2017	INUG-SC-3	INUG	core	0	1.5	25-Aug-17	0.0345		0.005		mg/kg
2017	INUG-SC-4	INUG	core	0	1.5	25-Aug-17	0.0382		0.005		mg/kg
2017	INUG-SC-5	INUG	core	0	1.5	25-Aug-17	0.0385		0.005		mg/kg
2017	INUG-SC-6	INUG	core	0	1.5	25-Aug-17	0.05		0.005		mg/kg
2017	INUG-SC-7	INUG	core	0	1.5	25-Aug-17	0.0448		0.005		mg/kg
2017	INUG-SC-8	INUG	core	0	1.5	25-Aug-17	0.0475		0.005		mg/kg
2017	INUG-SC-9	INUG	core	0	1.5	25-Aug-17	0.034		0.005		mg/kg
2017	INUG-SC-10	INUG	core	0	1.5	25-Aug-17	0.0353		0.005		mg/kg
2017	A76-1	A76	grab	0	5	17-Aug-17	0.0609		0.005		mg/kg
2017	A76-2	A76	grab	0	5	17-Aug-17	0.0397		0.005		mg/kg
2017	A76-3	A76	grab	0	5	17-Aug-17	0.0586		0.005		mg/kg
2017	A76-4	A76	grab	0	5	17-Aug-17	0.0607		0.005		mg/kg
2017	A76-5	A76	grab	0	5	17-Aug-17	0.0388		0.005		mg/kg
2018	WTS-1	WTS	grab	0	5	13-Aug-18	0.0518		0.005		mg/kg
2018	WTS-2	WTS	grab	0	5	13-Aug-18	0.056		0.005		mg/kg
2018	WTS-3	WTS	grab	0	5	13-Aug-18	0.0381		0.005		mg/kg
2018	WTS-4	WTS	grab	0	5	13-Aug-18	0.0695		0.005		mg/kg
2018	WTS-5	WTS	grab	0	5	13-Aug-18	0.0568		0.005		mg/kg
2018	INUG-1	INUG	grab	0	5	13-Aug-18	0.0329		0.005		mg/kg
2018	INUG-2	INUG	grab	0	5	13-Aug-18	0.0264		0.005		mg/kg
2018	INUG-3	INUG	grab	0	5	13-Aug-18	0.0251		0.005		mg/kg
2018	INUG-4	INUG	grab	0	5	13-Aug-18	0.0229		0.005		mg/kg
2018	INUG-5	INUG	grab	0	5	13-Aug-18	0.0283		0.005		mg/kg
2018	PDL-1	PDL	grab	0	5	13-Aug-18	0.0099		0.005		mg/kg
2018	PDL-2	PDL	grab	0	5	13-Aug-18	0.0113		0.005		mg/kg
2018	PDL-3	PDL	grab	0	5	13-Aug-18	0.0138		0.005		mg/kg
2018	PDL-4	PDL	grab	0	5	13-Aug-18	0.0159		0.005		mg/kg
2018	MAM-1	MAM	grab	0	5	16-Aug-18	0.0188		0.005		mg/kg
2018	MAM-2	MAM	grab	0	5	16-Aug-18	0.103		0.005		mg/kg
2018	MAM-3	MAM	grab	0	5	16-Aug-18	0.0872		0.005		mg/kg
2018	MAM-4	MAM	grab	0	5	16-Aug-18	0.103		0.005		mg/kg
2018	MAM-5	MAM	grab	0	5	16-Aug-18	0.0857		0.005		mg/kg
2018	A20-1	A20	grab	0	5	18-Aug-18	0.0457		0.005		mg/kg
2018	A20-2	A20	grab	0	5	18-Aug-18	0.0427		0.005		mg/kg
2018	A20-3	A20	grab	0	5	18-Aug-18	0.0414		0.005		mg/kg
2018	A20-4	A20	grab	0	5	18-Aug-18	0.0507		0.005		mg/kg
2018	A20-5	A20	grab	0	5	18-Aug-18	0.0424		0.005		mg/kg
2018	DS1-1	DS1	grab	0	5	19-Aug-18	0.0561		0.005		mg/kg
2018	DS1-2	DS1	grab	0	5	19-Aug-18	0.05		0.005		mg/kg
2018	DS1-3	DS1	grab	0	5	19-Aug-18	0.0569		0.005		mg/kg
2018	DS1-4	DS1	grab	0	5	19-Aug-18	0.0507		0.005		mg/kg
2018	DS1-5	DS1	grab	0	5	19-Aug-18	0.05		0.005		mg/kg
2018	LK8-1	LK8	grab	0	5	17-Aug-18	0.0145		0.005		mg/kg
2018	LK8-2	LK8	grab	0	5	17-Aug-18	0.0093		0.005		mg/kg
2018	LK8-3	LK8	grab	0	5	17-Aug-18	0.007		0.005		mg/kg
2018	LK8-4	LK8	grab	0	5	17-Aug-18	0.0097		0.005		mg/kg
2018	LK8-5	LK8	grab	0	5	17-Aug-18	0.0067		0.005		mg/kg
2018	NEM-1	NEM	grab	0	5	17-Aug-18	0.0192		0.005		mg/kg
2018	NEM-2	NEM	grab	0	5	17-Aug-18	0.0121		0.005		mg/kg
2018	NEM-3	NEM	grab	0	5	17-Aug-18	0.0119		0.005		mg/kg
2018	NEM-4	NEM	grab	0	5	17-Aug-18	0.0179		0.005		mg/kg
2018	NEM-5	NEM	grab	0	5	17-Aug-18	0.0245		0.005		mg/kg
2018	WTS-1	WTS	core	0	1.5	18-Aug-18	0.0861	0.0013	0.005	0.00005	mg/kg
2018	WTS-1	WTS	core	5	6	18-Aug-18	0.0515	0.0003	0.005	0.00005	mg/kg
2018	WTS-1	WTS	core	10	11	18-Aug-18	0.0421	0.0014	0.005	0.00005	mg/kg
2018	WTS-2	WTS	core	0	1.5	18-Aug-18	0.0704	0.0004	0.005	0.00005	mg/kg
2018	WTS-2	WTS	core	5	6	18-Aug-18	0.0523	0.0003	0.005	0.00005	mg/kg

Year	Sample ID	Lake	Method	Depth Start	Depth End	Date	THg	MeHg	THg Detection Limit	MeHg Detection Limit	Hg Units
2018	WTS-2	WTS	core	10	11	18-Aug-18	0.0486	8E-05	0.005	0.00005	mg/kg
2018	WTS-3	WTS	core	0	1.5	18-Aug-18	0.07	0.0007	0.005	0.00005	mg/kg
2018	WTS-3	WTS	core	5	6	18-Aug-18	0.0445	0.0002	0.005	0.00005	mg/kg
2018	WTS-3	WTS	core	10	11	18-Aug-18	0.0412	0.0003	0.005	0.00005	mg/kg
2018	LK8-SC-1	LK8	core	0	1.5	17-Aug-18	0.0137		0.005		mg/kg
2018	LK8-SC-2	LK8	core	0	1.5	17-Aug-18	0.0177		0.005		mg/kg
2018	LK8-SC-3	LK8	core	0	1.5	17-Aug-18	0.0173		0.005		mg/kg
2018	LK8-SC-4	LK8	core	0	1.5	17-Aug-18	0.022		0.005		mg/kg
2018	LK8-SC-5	LK8	core	0	1.5	17-Aug-18	0.0142		0.005		mg/kg
2018	LK8-SC-6	LK8	core	0	1.5	17-Aug-18	0.0113		0.005		mg/kg
2018	LK8-SC-7	LK8	core	0	1.5	17-Aug-18	0.0158		0.005		mg/kg
2018	LK8-SC-8	LK8	core	0	1.5	17-Aug-18	0.0108		0.005		mg/kg
2018	A76-1	A76	grab	0	5	18-Aug-18	0.047		0.005		mg/kg
2018	A76-2	A76	grab	0	5	18-Aug-18	0.0512		0.005		mg/kg
2018	A76-3	A76	grab	0	5	18-Aug-18	0.047		0.005		mg/kg
2018	A76-4	A76	grab	0	5	18-Aug-18	0.0387		0.005		mg/kg
2018	A76-5	A76	grab	0	5	18-Aug-18	0.0513		0.005		mg/kg
2018	D01-1	D01	grab	0	5	15-Aug-18	0.017		0.005		mg/kg
2018	D01-2	D01	grab	0	5	15-Aug-18	0.0225		0.005		mg/kg
2018	D01-3	D01	grab	0	5	15-Aug-18	0.0297		0.005		mg/kg
2018	D01-4	D01	grab	0	5	15-Aug-18	0.0311		0.005		mg/kg
2018	D01-5	D01	grab	0	5	15-Aug-18	0.0297		0.005		mg/kg
2018	LK1-SC-1	D01	core	0	1.5	14-Aug-18	0.0187		0.005		mg/kg
2018	LK1-SC-2	D01	core	0	1.5	14-Aug-18	0.0229		0.005		mg/kg
2018	LK1-SC-3	D01	core	0	1.5	14-Aug-18	0.0412		0.005		mg/kg
2018	LK1-SC-4	D01	core	0	1.5	15-Aug-18	0.0452		0.005		mg/kg
2018	LK1-SC-5	D01	core	0	1.5	15-Aug-18	0.0363		0.005		mg/kg
2018	LK1-SC-6	D01	core	0	1.5	15-Aug-18	0.0443		0.005		mg/kg
2018	LK1-SC-7	D01	core	0	1.5	15-Aug-18	0.0436		0.005		mg/kg
2018	LK1-SC-8	D01	core	0	1.5	15-Aug-18	0.0345		0.005		mg/kg
2018	LK1-SC-9	D01	core	0	1.5	15-Aug-18	0.0672		0.005		mg/kg
2018	LK1-SC-10	D01	core	0	1.5	15-Aug-18	0.0355		0.005		mg/kg
2019	WTS-1	WTS	grab	0	5	18-Aug-19	<0.050	0.0002	0.05	0.00005	mg/kg
2019	WTS-2	WTS	grab	0	5	18-Aug-19	0.051	0.0005	0.05	0.00005	mg/kg
2019	WTS-3	WTS	grab	0	5	18-Aug-19	0.056	0.0007	0.05	0.00005	mg/kg
2019	WTS-4	WTS	grab	0	5	18-Aug-19	0.063	0.0007	0.05	0.00005	mg/kg
2019	WTS-5	WTS	grab	0	5	18-Aug-19	<0.050	<0.000050	0.05	0.00005	mg/kg
2019	INUG-1	INUG	grab	0	5	15-Aug-19	<0.050	0.0001	0.05	0.00005	mg/kg
2019	INUG-2	INUG	grab	0	5	15-Aug-19	<0.050	0.0001	0.05	0.00005	mg/kg
2019	INUG-3	INUG	grab	0	5	15-Aug-19	<0.050	0.0002	0.05	0.00005	mg/kg
2019	INUG-4	INUG	grab	0	5	15-Aug-19	<0.050	0.0001	0.05	0.00005	mg/kg
2019	INUG-5	INUG	grab	0	5	15-Aug-19	<0.050	0.0003	0.05	0.00005	mg/kg
2019	PDL-1	PDL	grab	0	5	14-Aug-19	<0.050	0.0001	0.05	0.00005	mg/kg
2019	PDL-2	PDL	grab	0	5	14-Aug-19	<0.050	0.0002	0.05	0.00005	mg/kg
2019	PDL-3	PDL	grab	0	5	14-Aug-19	<0.050	0.0001	0.05	0.00005	mg/kg
2019	PDL-4	PDL	grab	0	5	14-Aug-19	<0.050	<0.000050	0.05	0.00005	mg/kg
2019	PDL-5	PDL	grab	0	5	14-Aug-19	<0.050	7E-05	0.05	0.00005	mg/kg
2019	MAM-1	MAM	grab	0	5	19-Aug-19	0.081	0.0006	0.05	0.00005	mg/kg
2019	MAM-2	MAM	grab	0	5	19-Aug-19	0.067	0.0007	0.05	0.00005	mg/kg
2019	MAM-3	MAM	grab	0	5	19-Aug-19	0.078	0.001	0.05	0.00005	mg/kg
2019	MAM-4	MAM	grab	0	5	19-Aug-19	0.068	0.0005	0.05	0.00005	mg/kg
2019	MAM-5	MAM	grab	0	5	19-Aug-19	0.093	0.0013	0.05	0.00005	mg/kg
2019	A20-1	A20	grab	0	5	16-Aug-19	<0.050	0.0003	0.05	0.00005	mg/kg
2019	A20-2	A20	grab	0	5	16-Aug-19	<0.050	0.0001	0.05	0.00005	mg/kg
2019	A20-3	A20	grab	0	5	16-Aug-19	<0.050	0.0005	0.05	0.00005	mg/kg
2019	A20-4	A20	grab	0	5	16-Aug-19	<0.050	0.0005	0.05	0.00005	mg/kg
2019	A20-5	A20	grab	0	5	16-Aug-19	<0.050	0.0012	0.05	0.00005	mg/kg
2019	DS1-1	DS1	grab	0	5	17-Aug-19	0.053	8E-05	0.05	0.00005	mg/kg
2019	DS1-2	DS1	grab	0	5	17-Aug-19	<0.050	0.0002	0.05	0.00005	mg/kg
2019	DS1-3	DS1	grab	0	5	17-Aug-19	0.064	0.0003	0.05	0.00005	mg/kg
2019	DS1-4	DS1	grab	0	5	17-Aug-19	<0.050	<0.000050	0.05	0.00005	mg/kg
2019	DS1-5	DS1	grab	0	5	17-Aug-19	0.064	0.0003	0.05	0.00005	mg/kg
2019	LK8-1	LK8	grab	0	5	16-Aug-19	<0.050		0.05		mg/kg
2019	LK8-2	LK8	grab	0	5	17-Aug-19	<0.050		0.05		mg/kg
2019	LK8-3	LK8	grab	0	5	17-Aug-19	<0.050		0.05		mg/kg
2019	LK8-4	LK8	grab	0	5	17-Aug-19	<0.050		0.05		mg/kg
2019	LK8-5	LK8	grab	0	5	17-Aug-19	<0.050		0.05		mg/kg
2019	A76-1	A76	grab	0	5	15-Aug-19	<0.050		0.05		mg/kg
2019	A76-2	A76	grab	0	5	15-Aug-19	<0.050		0.05		mg/kg

Year	Sample ID	Lake	Method	Depth Start	Depth End	Date	THg	MeHg	THg Detection Limit	MeHg Detection Limit	Hg Units
2019	A76-3	A76	grab	0	5	15-Aug-19	<0.050		0.05		mg/kg
2019	A76-4	A76	grab	0	5	15-Aug-19	<0.050		0.05		mg/kg
2019	A76-5	A76	grab	0	5	15-Aug-19	<0.050		0.05		mg/kg
2019	NEM-1	NEM	grab	0	5	18-Aug-19	<0.050		0.05		mg/kg
2019	NEM-2	NEM	grab	0	5	18-Aug-19	<0.050		0.05		mg/kg
2019	NEM-3	NEM	grab	0	5	18-Aug-19	<0.050		0.05		mg/kg
2019	NEM-4	NEM	grab	0	5	18-Aug-19	<0.050		0.05		mg/kg
2019	NEM-5	NEM	grab	0	5	18-Aug-19	<0.050		0.05		mg/kg
2019	LK1-1	D01	grab	0	5	17-Aug-19	<0.050		0.05		mg/kg
2019	LK1-2	D01	grab	0	5	17-Aug-19	<0.050		0.05		mg/kg
2019	LK1-3	D01	grab	0	5	17-Aug-19	<0.050		0.05		mg/kg
2019	LK1-4	D01	grab	0	5	17-Aug-19	<0.050		0.05		mg/kg
2019	LK1-5	D01	grab	0	5	17-Aug-19	<0.050		0.05		mg/kg
2020	PDL-SC-1	PDL	core	0	1.5	22-Aug-20	0.0122	6E-05	0.005	0.00005	mg/kg
2020	PDL-SC-2	PDL	core	0	1.5	22-Aug-20	0.0141	0.0001	0.005	0.00005	mg/kg
2020	PDL-SC-3	PDL	core	0	1.5	22-Aug-20	0.0107	6E-05	0.005	0.00005	mg/kg
2020	PDL-SC-4	PDL	core	0	1.5	22-Aug-20	0.0157	0.0005	0.005	0.00005	mg/kg
2020	PDL-SC-5	PDL	core	0	1.5	22-Aug-20	0.009	<0.00005	0.005	0.00005	mg/kg
2020	PDL-SC-6	PDL	core	0	1.5	22-Aug-20	0.02	0.0001	0.005	0.00005	mg/kg
2020	PDL-SC-7	PDL	core	0	1.5	22-Aug-20	0.0103	6E-05	0.005	0.00005	mg/kg
2020	PDL-SC-8	PDL	core	0	1.5	22-Aug-20	0.011	<0.00005	0.005	0.00005	mg/kg
2020	PDL-SC-9	PDL	core	0	1.5	22-Aug-20	0.0097	<0.00005	0.005	0.00005	mg/kg
2020	PDL-SC-10	PDL	core	0	1.5	22-Aug-20	0.0144	0.0001	0.005	0.00005	mg/kg
2020	INUG-SC-1	INUG	core	0	1.5	21-Aug-20	0.0306	0.0001	0.005	0.00005	mg/kg
2020	INUG-SC-2	INUG	core	0	1.5	21-Aug-20	0.0227	8E-05	0.005	0.00005	mg/kg
2020	INUG-SC-3	INUG	core	0	1.5	21-Aug-20	0.0261	0.0002	0.005	0.00005	mg/kg
2020	INUG-SC-4	INUG	core	0	1.5	21-Aug-20	0.0276	0.0001	0.005	0.00005	mg/kg
2020	INUG-SC-5	INUG	core	0	1.5	21-Aug-20	0.0265	6E-05	0.005	0.00005	mg/kg
2020	INUG-SC-6	INUG	core	0	1.5	21-Aug-20	0.0253	1E-04	0.005	0.00005	mg/kg
2020	INUG-SC-7	INUG	core	0	1.5	21-Aug-20	0.0324	0.0002	0.005	0.00005	mg/kg
2020	INUG-SC-8	INUG	core	0	1.5	21-Aug-20	0.0311	0.0001	0.005	0.00005	mg/kg
2020	INUG-SC-9	INUG	core	0	1.5	21-Aug-20	0.0311	0.0001	0.005	0.00005	mg/kg
2020	INUG-SC-10	INUG	core	0	1.5	21-Aug-20	0.0277	8E-05	0.005	0.00005	mg/kg
2020	LK8-SC-1	LK8	core	0	1.5	28-Aug-20	0.0058	0.0003	0.005	0.00005	mg/kg
2020	LK8-SC-2	LK8	core	0	1.5	28-Aug-20	0.0112	0.0002	0.005	0.00005	mg/kg
2020	LK8-SC-3	LK8	core	0	1.5	28-Aug-20	0.0184	0.0002	0.005	0.00005	mg/kg
2020	LK8-SC-4	LK8	core	0	1.5	28-Aug-20	0.0154	8E-05	0.005	0.00005	mg/kg
2020	LK8-SC-5	LK8	core	0	1.5	28-Aug-20	0.0172	0.0004	0.005	0.00005	mg/kg
2020	LK8-SC-6	LK8	core	0	1.5	28-Aug-20	0.007	6E-05	0.005	0.00005	mg/kg
2020	LK8-SC-7	LK8	core	0	1.5	28-Aug-20	0.0092	9E-05	0.005	0.00005	mg/kg
2020	LK8-SC-8	LK8	core	0	1.5	28-Aug-20	0.0122	0.0001	0.005	0.00005	mg/kg
2020	LK8-SC-9	LK8	core	0	1.5	28-Aug-20	0.0108	0.0001	0.005	0.00005	mg/kg
2020	LK8-SC-10	LK8	core	0	1.5	28-Aug-20	0.012	<0.00005	0.005	0.00005	mg/kg
2020	B3-SC-1	B03	core	0	1.5	22-Aug-20	0.0336	0.0001	0.005	0.00005	mg/kg
2020	B3-SC-2	B03	core	0	1.5	30-Aug-20	0.0431	0.0002	0.005	0.00005	mg/kg
2020	B3-SC-3	B03	core	0	1.5	30-Aug-20	0.0324	<0.000102	0.005	0.00005	mg/kg
2020	B3-SC-4	B03	core	0	1.5	30-Aug-20	0.0292	0.0001	0.005	0.00005	mg/kg
2020	B3-SC-5	B03	core	0	1.5	30-Aug-20	0.0317	0.0001	0.005	0.00005	mg/kg
2020	LK1-SC-1	D01	core	0	1.5	19-Aug-20	0.0267		0.005		mg/kg
2020	LK1-SC-2	D01	core	0	1.5	19-Aug-20	0.0208		0.005		mg/kg
2020	LK1-SC-3	D01	core	0	1.5	19-Aug-20	0.0198		0.005		mg/kg
2020	LK1-SC-4	D01	core	0	1.5	19-Aug-20	0.0218		0.005		mg/kg
2020	LK1-SC-5	D01	core	0	1.5	19-Aug-20	0.0249		0.005		mg/kg
2020	LK1-SC-6	D01	core	0	1.5	19-Aug-20	0.0244		0.005		mg/kg
2020	LK1-SC-7	D01	core	0	1.5	19-Aug-20	0.0279		0.005		mg/kg
2020	LK1-SC-8	D01	core	0	1.5	19-Aug-20	0.0293		0.005		mg/kg
2020	LK1-SC-9	D01	core	0	1.5	19-Aug-20	0.0133		0.005		mg/kg
2020	LK1-SC-10	D01	core	0	1.5	19-Aug-20	0.0165		0.005		mg/kg
2020	DS1-SC-1	DS1	core	0	1.5	21-Aug-20	0.0324	9E-05	0.005	0.00005	mg/kg
2020	DS1-SC-2	DS1	core	0	1.5	21-Aug-20	0.0297	1E-04	0.005	0.00005	mg/kg
2020	DS1-SC-3	DS1	core	0	1.5	21-Aug-20	0.0394	<0.00005	0.005	0.00005	mg/kg
2020	DS1-SC-4	DS1	core	0	1.5	21-Aug-20	0.0382	<0.00005	0.005	0.00005	mg/kg
2020	DS1-SC-5	DS1	core	0	1.5	21-Aug-20	0.0433	<0.00005	0.005	0.00005	mg/kg
2020	DS1-SC-6	DS1	core	0	1.5	21-Aug-20	0.0483	0.0001	0.005	0.00005	mg/kg
2020	DS1-SC-7	DS1	core	0	1.5	21-Aug-20	0.0461	7E-05	0.005	0.00005	mg/kg
2020	DS1-SC-8	DS1	core	0	1.5	21-Aug-20	0.0422	<0.00005	0.005	0.00005	mg/kg
2020	DS1-SC-9	DS1	core	0	1.5	21-Aug-20	0.0531	<0.00005	0.005	0.00005	mg/kg
2020	DS1-SC-10	DS1	core	0	1.5	21-Aug-20	0.0743	0.0002	0.005	0.00005	mg/kg
2020	A20-SC-1	A20	core	0	1.5	21-Aug-20	0.0403	0.0002	0.005	0.00005	mg/kg

Year	Sample ID	Lake	Method	Depth Start	Depth End	Date	THg	MeHg	THg Detection Limit	MeHg Detection Limit	Hg Units
2020	A20-SC-2	A20	core	0	1.5	21-Aug-20	0.0405	0.0001	0.005	0.00005	mg/kg
2020	A20-SC-3	A20	core	0	1.5	21-Aug-20	0.0418	0.0002	0.005	0.00005	mg/kg
2020	A20-SC-4	A20	core	0	1.5	21-Aug-20	0.0448	0.0003	0.005	0.00005	mg/kg
2020	A20-SC-5	A20	core	0	1.5	21-Aug-20	0.0493	0.0005	0.005	0.00005	mg/kg
2020	A20-SC-6	A20	core	0	1.5	21-Aug-20	0.0435	0.0004	0.005	0.00005	mg/kg
2020	A20-SC-7	A20	core	0	1.5	21-Aug-20	0.0305	6E-05	0.005	0.00005	mg/kg
2020	A20-SC-8	A20	core	0	1.5	21-Aug-20	0.0313	7E-05	0.005	0.00005	mg/kg
2020	A20-SC-9	A20	core	0	1.5	21-Aug-20	0.044	0.0008	0.005	0.00005	mg/kg
2020	A20-SC-10	A20	core	0	1.5	21-Aug-20	0.05	0.0002	0.005	0.00005	mg/kg
2020	NEM-SC-1	NEM	core	0	1.5	21-Aug-20	0.0307		0.005		mg/kg
2020	NEM-SC-2	NEM	core	0	1.5	21-Aug-20	0.0284		0.005		mg/kg
2020	NEM-SC-3	NEM	core	0	1.5	21-Aug-20	0.0356		0.005		mg/kg
2020	NEM-SC-4	NEM	core	0	1.5	21-Aug-20	0.0303		0.005		mg/kg
2020	NEM-SC-5	NEM	core	0	1.5	21-Aug-20	0.0252		0.005		mg/kg
2020	NEM-SC-6	NEM	core	0	1.5	21-Aug-20	0.0317		0.005		mg/kg
2020	NEM-SC-7	NEM	core	0	1.5	21-Aug-20	0.0256		0.005		mg/kg
2020	NEM-SC-8	NEM	core	0	1.5	21-Aug-20	0.0225		0.005		mg/kg
2020	NEM-SC-9	NEM	core	0	1.5	21-Aug-20	0.023		0.005		mg/kg
2020	NEM-SC-10	NEM	core	0	1.5	21-Aug-20	0.0177		0.005		mg/kg
2020	WTS-SC-1	WTS	core	0	1.5	21-Aug-20	0.063	0.0001	0.005	0.00005	mg/kg
2020	WTS-SC-2	WTS	core	0	1.5	21-Aug-20	0.058	0.0003	0.005	0.00005	mg/kg
2020	WTS-SC-3	WTS	core	0	1.5	21-Aug-20	0.0492	0.0002	0.005	0.00005	mg/kg
2020	WTS-SC-4	WTS	core	0	1.5	21-Aug-20	0.051	0.0007	0.005	0.00005	mg/kg
2020	WTS-SC-5	WTS	core	0	1.5	21-Aug-20	0.0581	0.0015	0.005	0.00005	mg/kg
2020	WTS-SC-6	WTS	core	0	1.5	21-Aug-20	0.0671	0.0015	0.005	0.00005	mg/kg
2020	WTS-SC-7	WTS	core	0	1.5	21-Aug-20	0.0738	0.0008	0.005	0.00005	mg/kg
2020	WTS-SC-8	WTS	core	0	1.5	21-Aug-20	0.0681	0.0009	0.005	0.00005	mg/kg
2020	WTS-SC-9	WTS	core	0	1.5	21-Aug-20	0.0533	0.0007	0.005	0.00005	mg/kg
2020	WTS-SC-10	WTS	core	0	1.5	21-Aug-20	0.061	0.0005	0.005	0.00005	mg/kg
2020	MAM-SC-1	MAM	core	0	1.5	21-Aug-20	0.089	0.0008	0.005	0.00005	mg/kg
2020	MAM-SC-2	MAM	core	0	1.5	21-Aug-20	0.091	0.0009	0.005	0.00005	mg/kg
2020	MAM-SC-3	MAM	core	0	1.5	21-Aug-20	0.0838	0.0003	0.005	0.00005	mg/kg
2020	MAM-SC-4	MAM	core	0	1.5	21-Aug-20	0.0878	0.0007	0.005	0.00005	mg/kg
2020	MAM-SC-5	MAM	core	0	1.5	21-Aug-20	0.0803	0.0005	0.005	0.00005	mg/kg
2020	MAM-SC-6	MAM	core	0	1.5	21-Aug-20	0.091	0.0006	0.005	0.00005	mg/kg
2020	MAM-SC-7	MAM	core	0	1.5	21-Aug-20	0.0799	0.0005	0.005	0.00005	mg/kg
2020	MAM-SC-8	MAM	core	0	1.5	21-Aug-20	0.0919	0.0006	0.005	0.00005	mg/kg
2020	MAM-SC-9	MAM	core	0	1.5	21-Aug-20	0.0825	0.0003	0.005	0.00005	mg/kg
2020	MAM-SC-10	MAM	core	0	1.5	21-Aug-20	0.0911	0.0004	0.005	0.00005	mg/kg
2020	A76-SC-1	A76	core	0	1.5	21-Aug-20	0.0548	0.0003	0.005	0.00005	mg/kg
2020	A76-SC-2	A76	core	0	1.5	21-Aug-20	0.0448	0.0003	0.005	0.00005	mg/kg
2020	A76-SC-3	A76	core	0	1.5	21-Aug-20	0.0489	0.0004	0.005	0.00005	mg/kg
2020	A76-SC-4	A76	core	0	1.5	21-Aug-20	0.035	0.0002	0.005	0.00005	mg/kg
2020	A76-SC-5	A76	core	0	1.5	21-Aug-20	0.0337	0.0002	0.005	0.00005	mg/kg
2020	A76-SC-6	A76	core	0	1.5	21-Aug-20	0.0337	0.0002	0.005	0.00005	mg/kg
2020	A76-SC-7	A76	core	0	1.5	21-Aug-20	0.0444	0.0002	0.005	0.00005	mg/kg
2020	A76-SC-8	A76	core	0	1.5	21-Aug-20	0.0426	0.0002	0.005	0.00005	mg/kg
2020	A76-SC-9	A76	core	0	1.5	21-Aug-20	0.0388	0.0001	0.005	0.00005	mg/kg
2020	A76-SC-10	A76	core	0	1.5	21-Aug-20	0.0386	0.0002	0.005	0.00005	mg/kg
2021	WTS-1	WTS	grab	0	5	05-Aug-21	0.0446	0.0012	0.005	0.00005	mg/kg
2021	WTS-2	WTS	grab	0	5	05-Aug-21	0.043	0.0006	0.005	0.00005	mg/kg
2021	WTS-3	WTS	grab	0	5	05-Aug-21	0.0637	0.0007	0.005	0.00005	mg/kg
2021	WTS-4	WTS	grab	0	5	05-Aug-21	0.0743	0.0006	0.005	0.00005	mg/kg
2021	WTS-5	WTS	grab	0	5	05-Aug-21	0.0611	0.0007	0.005	0.00005	mg/kg
2021	A76-1	A76	grab	0	5	07-Aug-21	0.0631	0.0006	0.005	0.000099	mg/kg
2021	A76-2	A76	grab	0	5	07-Aug-21	0.0354	0.0004	0.005	0.00005	mg/kg
2021	A76-3	A76	grab	0	5	07-Aug-21	0.048	0.0005	0.005	0.00005	mg/kg
2021	A76-4	A76	grab	0	5	07-Aug-21	0.0527	0.0004	0.005	0.000101	mg/kg
2021	A76-5	A76	grab	0	5	07-Aug-21	0.0477	0.0005	0.005	0.0001	mg/kg
2021	DUP-1	DUP-1	grab	0	5	06-Aug-21	0.0445	0.0011	0.005	0.00005	mg/kg
2021	DUP-3	DUP-3	grab	0	5	06-Aug-21	0.0655	0.0004	0.005	0.0001	mg/kg

Appendix B2

ALS Corrective Action Report – Sediment Testing and Missed Analyses for Mercury Monitoring Program Sediment Samples

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December 6, 2021

Azimuth Consulting Group
218-2902 West Broadway
Vancouver, BC
V6K 2G8

Dear Marianna DiMauro,

Re: ALS Corrective Action Report (CAR) #21562 – Sediment Testing and Missed Analyses for CREMP Sediment Grabs - Quote #Q38011 - ALS Work Order VA21B7872

ALS Burnaby received 86 sediment samples from Azimuth Consulting on Aug 23, 2021 under ALS Quote #Q38011. The submission was registered at ALS under the file number VA21B7872 and samples were placed on hold as per client request. On Aug 26, 2021, Azimuth e-mailed ALS with the updated testing requirements. Unfortunately, due to an error in sample receipt, the requested analyses were not added to the above referenced file. By the time this error was discovered, the samples had exceeded their ALS 45 day in-house archive time and samples had been disposed of.

In response to this error, ALS has implemented the following corrective actions:

1. Review of the details of this issue with all Client Services staff
   This issue and the implications for Azimuth, have been discussed with all of the ALS Client Services and Sample Login staff.

2. Clarification of expectations for on hold analysis requests
   A review of the process for adding analyses to on hold samples was conducted and several modifications were made to the procedure to prevent this issue from reoccurring.

ALS sincerely apologizes for the inconvenience that this issue has caused Azimuth Consulting and their client. We recognize and understand the implications of this type of error and take this issue very seriously.

If you require any additional information, please do not hesitate to contact either myself or Jerry Holzbecher.

Sincerely,

Katherine B. Thomas, B.Sc.
Operations Manager – Vancouver

Jerry Holzbecher, B.Sc.
Client Services Manager – Vancouver

APPENDIX C
FISH DATA

APPENDIX C1

LARGE-BODIED FISH DATABASE

Appendix C1. Large-bodied fish database for Lake Trout collected in Whale Tail area lakes, 2018–2021.

Fish ID	Year	Date	Area	Capture Method Effort	Species	Fork Length (mm)	Weight (g)	Liver Weight (g)	Gonad weight (g)	Sex	Maturity [1]	Egg Sample Weight (g)	Egg Count	Age (years)	Sample Weight (g)	Total Mercury in fish tissue			Stable Isotopes		Condition (K)	Stomach Contents	DELTs	Comment
																THg in Sample (ng)	THg (ppm)	THg (ppm ww)	C13	N15				
LT-1	2020	19-Aug-20	Mammoth	1.1	Lake Trout	855	6750	51.47	101.49	F	M	NA	NA	42	0.0077	72.559	9.423	2.076	-21.61	12.78	1.08	NA	NA	NA
LT-2	2020	19-Aug-20	Mammoth	1.1	Lake Trout	705	4110	56.2	413	F	M	57.26	NA	40	0.0064	28.929	4.52	0.996	-20.99	12.36	1.173	NA	NA	NA
LT-3	2020	19-Aug-20	Mammoth	1.1	Lake Trout	661	3447	22.34	81.75	M	M	NA	NA	30	0.0051	20.02	3.926	0.865	-20.27	12.16	1.194	NA	NA	NA
LT-4	2020	19-Aug-20	Mammoth	1.1	Lake Trout	807	6570	62.84	220	M	M	NA	NA	33	0.0056	41.247	7.365	1.622	-21.98	12.64	1.25	Lake Trout, 410 mm	NA	NA
LT-5	2020	19-Aug-20	Mammoth	1.1	Lake Trout	811	6040	49.16	157.52	F	M	NA	NA	37	0.0057	51.989	9.121	2.009	-22.53	12.73	1.132	NA	NA	NA
LT-6	2020	19-Aug-20	Mammoth	1.1	Lake Trout	494	1219	8.88	1.42	M	I	NA	NA	22	0.0039	4.006	1.027	0.226	-21.22	11.04	1.011	NA	NA	NA
LT-7	2020	19-Aug-20	Mammoth	1.1	Lake Trout	374	627	4.08	22.68	M	M	NA	NA	21	0.0057	5.331	0.935	0.206	-24.27	9.36	1.199	NA	NA	NA
LT-8	2020	19-Aug-20	Mammoth	1.1	Lake Trout	341	543	5.45	17.53	M	M	NA	NA	12	0.0053	2.614	0.493	0.109	-24.02	9.43	1.369	NA	NA	NA
LT-9	2020	19-Aug-20	Mammoth	1.1	Lake Trout	465	1116	8.93	0.79	F	I	NA	NA	21	0.0053	9.142	1.725	0.38	-20.43	11.71	1.11	NA	NA	NA
LT-10	2020	19-Aug-20	Mammoth	1.1	Lake Trout	356	588	8.53	59.79	F	M	59.79	NA	14	0.007	3.88	0.554	0.122	-23.66	9.34	1.303	NA	14 encysted parasites on stomach	NA
LT-11	2020	19-Aug-20	Mammoth	1.1	Lake Trout	270	226	2.91	0.12	F	I	NA	NA	12	0.0049	2.329	0.475	0.105	-24.39	9.17	1.148	NA	NA	NA
LT-12	2020	19-Aug-20	Mammoth	1.1	Lake Trout	265	197	1.83	0.1	F	I	NA	NA	8	0.0042	2.516	0.599	0.132	-20.32	11.07	1.059	NA	NA	NA
LT-13	2020	19-Aug-20	Mammoth	1.1	Lake Trout	266	230	2.66	0.11	F	I	NA	NA	8	0.0052	1.367	0.263	0.058	-25.89	8.73	1.222	NA	NA	NA
LT-14	2020	19-Aug-20	Mammoth	1.1	Lake Trout	502	1290	11.89	9.08	F	I	NA	NA	26	0.0041	8.736	2.131	0.469	-20.51	11.4	1.02	NA	NA	NA
LT-15	2020	19-Aug-20	Mammoth	1.1	Lake Trout	382	648	4.15	7.02	F	I	NA	NA	19	0.0041	3.983	0.972	0.214	-24.55	10.18	1.162	NA	NA	NA
LT-16	2020	19-Aug-20	Mammoth	1.1	Lake Trout	304	355	3.63	0.16	F	I	NA	NA	7	0.0052	2.502	0.481	0.106	-26.16	10.46	1.264	NA	NA	NA
LT-17	2020	19-Aug-20	Mammoth	1.1	Lake Trout	270	246	2.72	0.38	F	I	NA	NA	7	0.0042	1.794	0.427	0.094	-27.14	8.87	1.25	NA	23 encysted parasites on stomach	NA
LT-18	2020	19-Aug-20	Mammoth	1.1	Lake Trout	232	141	1.47	0.03	U	I	NA	NA	6	0.0043	1.852	0.431	0.095	-21.99	8.53	1.129	NA	NA	NA
LT-19	2020	19-Aug-20	Mammoth	1.1	Lake Trout	217	119.6	1.06	-	U	I	NA	NA	5	0.0044	2.406	0.547	0.12	-20.24	10.77	1.17	NA	NA	NA
LT-20	2020	19-Aug-20	Mammoth	1.1	Lake Trout	176	64.4	0.56	-	U	I	NA	NA	3	0.0049	1.29	0.263	0.058	-24.16	9.04	1.181	NA	NA	NA
LT-80	2020	25-Aug-20	Mammoth	1.2	Lake Trout	678	3919	58.17	454	F	M	32.25	371	34	0.0037	20.944	5.661	1.247	-21.54	12.06	1.257	2 fish and invertebrates	Photo taken mistakenly says LT-83	NA
LT-81	2020	25-Aug-20	Mammoth	1.2	Lake Trout	600	2468	30.29	1.91	F	I	NA	NA	25	0.005	12.552	2.51	0.553	-19.99	11.74	1.143	NA	NA	NA
LT-82	2020	25-Aug-20	Mammoth	1.2	Lake Trout	696	3832	31.76	58.84	F	M	NA	NA	40	0.0032	17.508	5.471	1.205	-20.54	12.35	1.137	NA	2 encysted parasites	NA
LT-83	2020	25-Aug-20	Mammoth	1.2	Lake Trout	708	5699	67.46	51.78	F	M	NA	NA	40	0.0035	15.786	4.51	0.993	-20.32	12.44	1.606	3 whitefish with combined weight of 1011 g	NA	NA
LT-84	2020	26-Aug-20	Mammoth	1.4	Lake Trout	408	635	5.43	0.74	F	I	NA	NA	14	0.0044	6.116	1.39	0.306	-19.43	11.08	0.935	Invertebrates	NA	NA
LT-114	2020	28-Aug-20	Whale Tail	1.2	Lake Trout	238	156.36	1.37	0.04	U	I	NA	NA	5	0.0067	7.974	1.19	0.262	-23.17	11.42	1.16	Sculpin, 53 mm	14 encysted parasites on stomach	NA
LT-85	2020	28-Aug-20	Whale Tail	1.1	Lake Trout	255	189.75	1.79	0.16	F	I	NA	NA	6	0.0093	13.32	1.432	0.315	-26.47	10.45	1.144	NA	8 encysted parasites	NA
LT-88	2020	28-Aug-20	Whale Tail	1.1	Lake Trout	265	231	2.17	0.38	F	I	NA	NA	6	0.0079	11.596	1.468	0.323	-26.71	10.81	1.241	NA	NA	NA
LT-89	2020	28-Aug-20	Whale Tail	1.1	Lake Trout	353	606	5.98	0.27	U	I	NA	NA	9	0.0088	15.8	1.795	0.395	-28.67	9.51	1.378	NA	NA	Fat around stomach
LT-90	2020	28-Aug-20	Whale Tail	1.1	Lake Trout	357	649	7.52	0.42	M	I	NA	NA	10	0.0095	17.47	1.839	0.405	-28.35	10.2	1.426	NA	15 encysted parasites	Fat around intestines
LT-102	2020	28-Aug-20	Whale Tail	1.2	Lake Trout	373	704	6.6	1.53	F	I	NA	NA	9	0.0058	8.726	1.505	0.331	-28.65	10.04	1.357	NA	NA	NA
LT-117	2020	28-Aug-20	Whale Tail	1.2	Lake Trout	376	776	10.98	92.78	F	M	36.88	393	14	0.0045	7.144	1.587	0.35	-27.28	9.84	1.46	NA	NA	NA
LT-91	2020	28-Aug-20	Whale Tail	1.1	Lake Trout	382	771	5.06	31.21	M	M	NA	NA	15	0.0099	16.121	1.628	0.359	-27.88	9.29	1.383	NA	18 encysted parasites	NA
LT-107	2020	28-Aug-20	Whale Tail	1.2	Lake Trout	388	958	11.41	122.59	F	M	43.73	421	14	0.0056	9.259	1.653	0.364	-27.95	9.83	1.64	NA	NA	NA
LT-99	2020	28-Aug-20	Whale Tail	1.1	Lake Trout	396	850	9.24	28.15	M	M	NA	NA	15	0.0063	7.426	1.179	0.26	-27.15	9.63	1.369	NA	12 encysted parasites	NA
LT-97	2020	28-Aug-20	Whale Tail	1.1	Lake Trout	398	795	6.65	23.34	M	M	NA	NA	14	0.0048	6.825	1.422	0.313	-30.55	9.55	1.261	NA	NA	NA
LT-100	2020	28-Aug-20	Whale Tail	1.1	Lake Trout	401	813	7.45	26.34	M	M	NA	NA	21	0.0052	8.927	1.717	0.378	-28.74	9.34	1.261	NA	NA	NA
LT-95	2020	28-Aug-20	Whale Tail	1.1	Lake Trout	406	934	19.57	114.83	F	M	37.81	380	16	0.0104	21.175	2.036	0.448	-27.22	9.88	1.396	NA	2 encysted parasites	NA
LT-103	2020	28-Aug-20	Whale Tail	1.2	Lake Trout	411	821	7.91	0.68	M	I	NA	NA	14	0.007	10.091	1.442	0.318	-23.74	10.52	1.183	NA	NA	NA
LT-94	2020	28-Aug-20	Whale Tail	1.1	Lake Trout	420	983	14.36	119.31	F	M	33.84	311	21	0.0092	15.668	1.703	0.375	-27.51	9.22	1.327	Zooplankton	NA	NA
LT-96	2020	28-Aug-20	Whale Tail	1.1	Lake Trout	443	1195	14.82	197.8	F	M	33.44	300	18	0.0097	14.344	1.479	0.326	-27.36	8.86	1.375	NA	NA	NA
LT-109	2020	28-Aug-20	Whale Tail	1.2	Lake Trout	449	1202	13.09	32.25	M	M	NA	NA	26	0.0063	9.066	1.439	0.317	-27.58	9.31	1.328	Fingernail clams	NA	NA
LT-104	2020	28-Aug-20	Whale Tail	1.2	Lake Trout	456	1142	20.64	2.75	F	I	NA	NA	11	0.0057	10.17	1.784	0.393	-23.22	11.59	1.204	NA	7 encysted parasites	NA
LT-113	2020	28-Aug-20	Whale Tail	1.2	Lake Trout	505	1232	10.17	8.64	F	I	NA	NA	17	0.0069	14.001	2.029	0.447	-22.38	11.78	0.957	NA	NA	NA
LT-116	2020	28-Aug-20	Whale Tail	1.2	Lake Trout	511	1359	13.89	1.67	M	I	NA	NA	17	0.0079	15.61	1.976	0.435	-21.91	11.9	1.018	NA	NA	NA
LT-110	2020	28-Aug-20	Whale Tail	1.2	Lake Trout	534	1611	10.5	2.01	M	I	NA	NA	27	0.0086	23.025	2.677	0.59	-21.55	12.03	1.058	NA	7 encysted parasites	NA
LT-112	2020	28-Aug-20	Whale Tail	1.2	Lake Trout	562	1882	15.08	17.5	F	M	NA	NA	22	0.0076	15.913	2.094	0.461	-21.78	12.22	1.06	NA	NA	NA
LT-118	2020	28-Aug-20	Whale Tail	1.2	Lake Trout	604	2363	27.73	4.5	M	M	NA	NA	27	0.0065	12.849	1.977	0.435	-22.66	11.38	1.072	Invertebrates	NA	NA
LT-93	2020	28-Aug-20	Whale Tail	1.1	Lake Trout	623	2648	16.14	70.1	M	M	NA	NA	25	0.0095	35.545	3.742	0.824	-23.77	12.36	1.095	NA	1 encysted parasite	NA
LT-92	2020	28-Aug-20	Whale Tail	1.1	Lake Trout	641	2909	24.59	20.78	F	M	NA	NA	31	0.0072	23.372	3.246	0.715	-23.29	11.61	1.105	Whitefish, 370g	NA	NA
LT-101	2020	28-Aug-20	Whale Tail	1.1	Lake Trout	642	3205	35.91	82.42	M	M	NA	NA	40	0.0069	39.383	5.708	1.257	-22.49	12.09	1.211	NA	15 encysted parasites	NA
LT-115	2020	28-Aug-20	Whale Tail	1.2	Lake Trout	695	4096	36.63	98.1	M	M	NA	NA	36	0.007	42.528	6.075	1.338	-22.27	12.08	1.22	NA	encysted tapeworm in liver	NA
LT-106	2020	28-Aug-20	Whale Tail	1.2	Lake Trout	743	4304	46.52	59.88	F	M	NA	NA	44	0.0052	43.345	8.335	1.836	-20.72	12.9	1.049	Fish remains	NA	Previous spawn eggs present in body cavity
LT-119	2020	28-Aug-20	Whale Tail	1.2	Lake Trout	801	6040	64.09	214	M	M	NA	NA	37	0.0076	41.48	5.458	1.202	-24.15	11.92	1.175	NA	NA	NA
LT-98	2020	28-Aug-20	Whale Tail	1.1	Lake Trout	866	7410	48.35	220	M	M	NA	NA	38	0.0051	54.331	10.653	2.347	-23.84	12.56	1.141	NA	NA	Operculum frozen
LT-79	2020	24-Aug-20	Lake 8	1.2	Lake Trout	150	32.97	0.3	-	U	I	NA	NA	5	0.0034	1.285	0.378	0.083	-22.24	9.37	0.977	NA	NA	NA
LT-78	2020	24-Aug-20	Lake 8	1.2	Lake Trout	193	70.81	0.73	-	U	I	NA	NA	6	0.0035	1.148	0.328	0.072	-20.39	8.84	0.985	Invertebrates	11 encysted parasites	NA
LT-68	2020	24-Aug-20	Lake 8	1.1	Lake Trout	204	96.33	1.06	0.02	U	I	NA	NA	6	0.0043	1.999	0.465	0.102	-19.94	9.61	1.135	4 sculpin	NA	NA
LT-69	2020	24-Aug-20	Lake 8	1.1	Lake Trout	212	89.56	0.92	-	U	I	NA	NA	4	0.005	3.442	0.688	0.152	-25.63	11.03	0.94	1 sculpin, 39 mm	NA	NA
LT-67	2020	24-Aug-20	Lake 8	1.1	Lake Trout	257	173.49	1.47	0.11	U	I	NA	NA	8	0.0044	3.381	0.768	0.169	-24.76	9.45	1.022	NA	1 encysted parasite	NA
LT-64	2020	24-Aug-20	Lake 8	1.1	Lake Trout	286	236	1.73	0.41	F	I	NA	NA	8	0.0033	2.925	0.886	0.195	-26.09	10.28	1.009	NA	NA	NA
LT-65	2020	24-Aug-20	Lake 8	1.1	Lake Trout	289	246	2.59	0.48	F	I	NA	NA	9	0.0054	3.232	0.598	0.132	-20.67	10.91	1.019	NA	NA	NA
LT-66	2020	24-Aug-20	Lake 8	1.1	Lake Trout	296	260	1.98	0.44	F	I	NA	NA	8	0.0034	2.357	0.693	0.153	-24.5	9.31	1.003	NA	NA	NA
LT-76	2020	24-Aug-20	Lake 8	1.2	Lake Trout	343	383	3.77	0.6	F	I	NA	NA	10	0.006	5.004	0.834	0.184	-25.93	10.33	0.949	NA	NA	NA
LT-52	2020	24-Aug-20	Lake 8	1.1	Lake Trout	359	505	2.89	0.25	U	I	NA	NA	11	0.0046	2.528	0.55	0.121	-19.93	9.36	1.091	NA	NA	NA
LT-77	2020	24-Aug-20	Lake 8	1.2	Lake Trout	364	523	3.9	0.2	U	I	NA	NA	10	0.006	4.397	0.733	0.161	-24.15	9.86	1.084	Dipteran	NA	NA
LT-63	2020	24-Aug-20	Lake 8	1.1	Lake Trout	370	519	4.31	1.52	F	I	NA	NA	9	0.0051	3.134	0.615	0.135	-24.09	9.29	1.025	Inverterates and fish	NA	NA
LT-50	2020	24-Aug-20	Lake 8	1.1	Lake Trout	430	988	8.83	21.84	M	M	NA	NA	14	0.0043	4.151	0.965	0.213	-24.04	9.87	1.243	Invertebrates - full	NA	NA
LT-49	2020	24-Aug-20	Lake 8	1.1	Lake Trout	437	891	5.99	0.87	F	I	NA	NA	14	0.004	2.098	0.524	0.116	-20.71	9.48	1.068	NA	6 encysted parasites	NA
LT-75	2020	24-Aug-20	Lake 8	1.2	Lake Trout	451	891	8.11	22.42	M	M	NA	NA	15	0.0063	6.211	0.986	0.217	-25.33	10.25	0.971	NA	NA	NA
LT-48	2020	24-Aug-20	Lake 8	1.1	Lake Trout	458	997	5.82	0.87	M	I	NA	NA	19	0.0052	4.592	0.883	0.194	-24.6	9.62	1.038	Invertebrates	2 encysted parasites	NA
LT-60	2020	24-Aug-20	Lake 8	1.1	Lake Trout	469	1053	10.7	6.32	F	I	NA	NA	23	0.0041	5.434	1.325	0.292	-19.26	9.5	1.021	Invertebrates and fish remains	NA	NA
LT-54	2020	24-Aug-20	Lake 8	1.1	Lake Trout	473	1165	14.52	125.13	F	M	22.98	227	22	0.0036	10.656	2.96	0.652	-25.1	11.07	1.101	NA	NA	NA
LT-74	2020	24-Aug-20	Lake 8	1.2	Lake Trout	480	1266	12.33	23.85	M	M	NA	NA	21	0.0059	5.618	0.952	0.21	-17.49	8.96	1.145	Zooplankton - full	NA	NA
LT-51	2020	24-Aug-20	Lake 8	1.1	Lake Trout	482	1132	9.42	40.43	M	M	NA	NA	13	0.0048	10.791	2.248	0.495	-23.89	10.8	1.011	NA	NA	NA
LT-73	2020	24-Aug-20	Lake 8	1.2	Lake Trout	485	1143	13.08	3.04	M	I	NA	NA	26	0.004	10.377	2.594	0.571	-24.03	10.95	1.002	NA	NA	NA
LT-70	2020	24-Aug-20	Lake 8	1.2	Lake Trout	510	1290	14.52	8.07	F	I	NA	NA	19	0.0043	10.361	2.409	0.531	-22.35	11.48	0.972	Whitefish, ~160mm	NA	Developing, 2nd otolith broken, but included
LT-61	2020	24-Aug-20	Lake 8	1.1	Lake Trout	522	1282	11.93	26.45	F	I	NA	NA	39	0.0039	18.635	4.778	1.052	-24.44	11.57	0.901	NA	NA	Developing
LT-71	2020	24-Aug-20	Lake 8	1.2	Lake Trout	565	1463	8.89	1.5	M	I	NA	NA	27	0.0026	5.65	2.173	0.479	-18.99	10.91	0.811	NA	6 encysted parasites	NA
LT-72	2020	24-Aug-20	Lake 8	1.2	Lake Trout	614	1862	11.08	3.4	M	I	NA	NA	39	0.0052	24.991	4.806	1.059	-21.83	10.94	0.804	NA	NA	NA
LT-59	2020	24-Aug-20	Lake 8	1.1	Lake Trout	660	3263	26.78	32.17	M	M	NA	NA	43	0.0038	15.408	4.055	0.893	-20.97	12.4	1.135	NA	NA	NA
LT-21	2020	20-Aug-20	Lake D1	1&2/1	Lake Trout	876	9530	108.19	350	M	M	NA	NA	35	0.0059	60.548	10.262	2.26	-25.23	12.69	1.418	Lake Trout, 422mm 696g	NA	NA
LT-22	2020	20-Aug-20	Lake D1	1&2/1	Lake Trout	831	7750	66.44	305	M	M	NA	NA	37	0.0064	49.416	7.721	1.701	-23.83	12.54	1.351	NA	NA	NA
LT-23	2020	20-Aug-20	Lake D1	1&2/1	Lake Trout	835	6920	58.95	104.46	F	M	NA	NA	36	0.005	51.755	10.351	2.28	-23.92	12.05	1.189	NA	NA	NA
LT-24	2020	20-Aug-20	Lake D1	1&2/1	Lake Trout	792	5580	55.43	65.59	F	M	NA	NA	50	0.0064	44.394	6.937	1.528	-22.12	12.56	1.123	NA	NA	NA
LT-25	2020	20-Aug-20	Lake D1	1&2/1	Lake Trout	721	4295	40.61	131.6	M	M	NA	NA	33	0.0058	25.801	4.448	0.98	-22.06	12.73	1.146	NA	NA	NA
LT-26	2020	20-Aug-20	Lake D1	1&2/1	Lake Trout	592	1854	22.72	14.95	F	I	NA	NA	28	0.0047	27.886	5.933	1.307	-23.65	12.56	0.894	NA	20 encysted parasites	NA
LT-27	2020	20-Aug-20	Lake D1	1&2/1	Lake Trout	486	1051	8.7	1.34	M	I	NA	NA	13	0.0034	7.706	2.266	0.499	-25	11.22	0.916	NA	17 encysted parasites	NA
LT-28	2020	20-Aug-20	Lake D1	1&2/1	Lake Trout	375	613	8.33	1.42	M	I	NA	NA	10	0.0042	4.652	1.108	0.244	-24.61	8.78	1.162	Invertebrates	21 encysted parasites	NA
LT-29	2020	20-Aug-20	Lake D1	1&2/1	Lake Trout	435	867	7.01	1.29	M	I	NA	NA	22	0.004	6.689	1.672	0.368	-23.47	9.75	1.053	Invertebrates	42 encysted parasites	NA
LT-30	2020	20-Aug-20	Lake D1	1&2/1	Lake Trout	247	160.12	1.39	0.28	F	I	NA	NA	11	0.003	3.8	1.267	0.279	-23.8	10.31	1.063	4 eggs in coleom, mature eggs. 1 embedded in liver (see photo)	NA	NA
LT-31	2020	20-Aug-20	Lake D1	1&2/1	Lake Trout	831	5400	74.5	71.32	F	M	NA	NA	36	0.0041	31.596	7.706	1.697	-22.25	12.75	0.941	NA	NA	NA
LT-32	2020	20-Aug-20	Lake D1	1&2/1	Lake Trout	728	5886	59.12	150.4	M	M	NA	NA	27	0.0063	28.233	4.481	0.987	-22.21	12.77	1.526	NA	NA	NA
LT-33	2020	20-Aug-20	Lake D1	1&2/1	Lake Trout	853	7890	56.49	77.2	F	M	NA	NA	36	0.0038	51.053	13.435	2.959	-25.16	12.48	1.271	NA	NA	NA
LT-34	2020	20-Aug-20	Lake D1	1&2/1	Lake Trout	638	3171	47.22	22.76	F	I	NA	NA	33	0.0037	22.562	6.098	1.343	-20.65	12.47	1.221	NA	NA	NA
LT-35	2020	20-Aug-20	Lake D1	1&2/1	Lake Trout	458	895	7.9	0.52	U	I	NA	NA	13	0.0034	8.671	2.55	0.562	-24.45	11.54	0.932	NA	NA	NA
LT-36	2020	20-Aug-20	Lake D1	1&2/1	Lake Trout	422	807	7.42	18.8	M	M	NA	NA	22	0.0058	10.769	1.857	0.409	-25.35	9.7	1.074	Invertebrates	NA	NA
LT-37	2020	20-Aug-20	Lake D1	1&2/1	Lake Trout	392	666	5.33	9.02	F	I	NA	NA	19	0.0043	4.661	1.084	0.239	-24.71	9.68	1.106	Invertebrates	18 encysted parasites	NA
LT-38	2020	20-Aug-20	Lake D1	1&2/1	Lake Trout	425	865	7.1	17.68	M	M	NA	NA	20	0.0055	10.153	1.846	0.407	-25.82	10.06	1.127	NA	25 encysted parasites	NA
LT-39	2020	20-Aug-20	Lake D1	1&2/1	Lake Trout	281	261	3.19	0.49	F	I	NA	NA	10	0.0039	2.947	0.756	0.166	-24.15	9.99	1.176	NA	NA	NA
LT-40	2020	20-Aug-20	Lake D1	1&2/1	Lake Trout	367	477	3.77	1.39	F	I	NA	NA	14	0.0035	7.066	2.019	0.445	-22.85	11.02	0.965	NA	33 encysted parasites	NA
LT-41	2020	20-Aug-20	Lake D1	1&2/1	Lake Trout	322	357	2.5	0.15	U	I	NA	NA	12	0.0039	3.897	0.999	0.22	-23.82	9.69	1.069	NA	25 enysted parasites	NA
LT-42	2020	20-Aug-20	Lake D1	1&2/1	Lake Trout	311	262	2.32	0.52	F	I	NA	NA	9	0.0044	4.093	0.93	0.205	-22.95	10.71	0.871	NA	11 encysted parasites	NA
LT-43	2020	20-Aug-20	Lake D1	1&2/1	Lake Trout	226	140.33	1.16	0.26	U	I	NA	NA	11	0.004	5.656	1.414	0.311	-22.06	11.21	1.216	NA	12 encysted parasites	NA
LT-44	2020	20-Aug-20	Lake D1	1&2/1	Lake Trout	178	61.72	0.87	0.03	U	I	NA	NA	9	0.0032	2.864	0.895	0.197	-23.9	9.75	1.094	NA	14 encysted parasites	NA
LT-45	2020	20-Aug-20	Lake D1	1&2/1	Lake Trout	179	57.92	0.64	0.03	U	I	NA	NA	5	0.0033	1.804	0.547	0.12	-23.68	10.26	1.01	NA	4 encysted parasites	NA
LT-46	2020	20-Aug-20	Lake D1	1&2/1	Lake Trout	169	48.74	0.49	0.06	U	I	NA	NA	8	0.0028	2.353	0.841	0.185	-24.26	10.22	1.01	NA	9 encysted parasites	NA
LT-47	2020	20-Aug-20	Lake D1	1&2/1	Lake Trout	256	184	1.84	0.06	U	I	NA	NA	9	0.0033	3.252	0.986	0.217	-23.43	10.63	1.097	NA	9 encysted parasites	NA
LT-128	2020	30-Aug-20	Lake DS1	1	Lake Trout	269	199	2.41	0.07	U	I	NA	NA	3	0.0042	4.039	0.962	0.212	-22.82	10.82	1.022	NA	3 encysted parasites	NA
LT-132	2020	30-Aug-20	Lake DS1	2	Lake Trout	402	712	7.59	1.58	F	I	NA	NA	11	0.006	8.876	1.479	0.326	-19.89	10.62	1.096	NA	7 encysted parasites	NA
LT-121	2020	30-Aug-20	Lake DS1	1	Lake Trout	409	708	6.27	0.94	M	I	NA	NA	10	0.004	5.863	1.466	0.323	-22.61	10.47	1.035	NA	1 encysted parasite	NA
LT-122	2020	30-Aug-20	Lake DS1	1	Lake Trout	416	736	6	0.18	F	I	NA	NA	13	0.0051	9.436	1.85	0.408	-21.1	11.04	1.022	NA	NA	NA
LT-130	2020	30-Aug-20	Lake DS1	2	Lake Trout	436	852	6.99	0.5	M	I	NA	NA	11	0.0039	6.845	1.755	0.387	-25.27	13	1.028	NA	6 encysted parasites	NA
LT-131	2020	30-Aug-20	Lake DS1	2	Lake Trout	459	1071	9.62	7.19	F	I	NA	NA	12	0.0054	5.257	0.973	0.214	-25.59	11.13	1.108	NA	1 encysted parasite	NA
LT-136	2020	30-Aug-20	Lake DS1	2	Lake Trout	462	960	8.57	0.57	M	I	NA	NA	17	0.0038	6.702	1.764	0.388	-22.93	10.86	0.974	NA	NA	NA
LT-137	2020	30-Aug-20	Lake DS1	2	Lake Trout	470	1012	12.09	0.77	M	I	NA	NA	14	0.004	9.231	2.308	0.508	-24.83	11.91	0.975	NA	NA	NA
LT-134	2020	30-Aug-20	Lake DS1	2	Lake Trout	478	1216	12.39	5.61	F	I	NA	NA	14	0.0036	7.63	2.119	0.467	-24.13	10.79	1.113	NA	NA	NA
LT-142	2020	30-Aug-20	Lake DS1	2	Lake Trout	479	1055	6.91	7.75	F	I	NA	NA	22	0.0031	7.54	2.432	0.536	-25.47	10.39	0.96	NA	11 encysted parasites	NA
LT-135	2020	30-Aug-20	Lake DS1	2	Lake Trout	483	1101	9.88	0.92	M	I	NA	NA	12	0.0047	6.626	1.41	0.311	-23.89	10.78	0.977	NA	NA	NA
LT-126	2020	30-Aug-20	Lake DS1	1	Lake Trout	484	1112	9.88	18.85	M	M	NA	NA	16	0.0062	9.168	1.479	0.326	-23.09	10.63	0.981	NA	NA	NA
LT-133	2020	30-Aug-20	Lake DS1	2	Lake Trout	500	1277	11.58	23.34	M	M	NA	NA	13	0.0043	8.031	1.868	0.411	-24.76	11.65	1.022	NA	NA	NA
LT-127	2020	30-Aug-20	Lake DS1	1	Lake Trout	514	1202	8.74	0.65	M	I	NA	NA	14	0.004	9.739	2.435	0.536	-22.74	11.29	0.885	NA	6 encysted parasites	NA
LT-123	2020	30-Aug-20	Lake DS1	1	Lake Trout	518	1484	22.93	134.21	F	M	36.45	348	14	0.0044	5.899	1.341	0.295	-26.28	12.34	1.068	NA	NA	NA
LT-120	2020	30-Aug-20	Lake DS1	1	Lake Trout	545	1725	11.08	1.76	M	I	NA	NA	19	0.0039	15.331	3.931	0.866	-22.52	12.19	1.066	NA	Fluid filled tumor fused to liver and abdominal wall	NA
LT-125	2020	30-Aug-20	Lake DS1	1	Lake Trout	560	2112	16.08	35.8	M	M	NA	NA	14	0.0048	9.593	1.999	0.44	-25.77	12.28	1.203	NA	3 encysted parasites	NA
LT-138	2020	30-Aug-20	Lake DS1	2	Lake Trout	565	1994	13.01	4.75	M	M	NA	NA	28	0.0031	17.286	5.576	1.228	-20.98	11.72	1.106	NA	3 encysted parasites	NA
LT-140	2020	30-Aug-20	Lake DS1	2	Lake Trout	566	1575	10.92	15.56	F	M	NA	NA	20	0.0034	11.65	3.427	0.755	-21.34	11.2	0.869	NA	2 encysted parsites	NA
LT-124	2020	30-Aug-20	Lake DS1	1	Lake Trout	590	2352	22.66	6.04	M	M	NA	NA	30	0.0037	21.06	5.692	1.254	-22.37	12.81	1.145	NA	2 encysted parasites	NA
LT-129	2020	30-Aug-20	Lake DS1	1	Lake Trout	600	2641	38.28	334	F	M	40.09	296	26	0.0033	11.194	3.392	0.747	-20.87	10.95	1.223	NA	4 encysted parasites	NA
LT-139	2020	30-Aug-20	Lake DS1	2	Lake Trout	611	2594	19.98	2.87	M	I	NA	NA	30	0.0035	9.847	2.813	0.62	-23.16	12.17	1.137	Fish remains	NA	NA
LT-141	2020	30-Aug-20	Lake DS1	2	Lake Trout	734	3706	42.75	33.44	F	M	NA	NA	49	0.0026	38.219	14.7	3.238	-22.61	13.17	0.937	Fish remains	NA	NA
LT-143	2020	30-Aug-20	Lake DS1	2	Lake Trout	745	3340	21.62	49.09	F	M	NA	NA	30	0.0035	64.192	18.341	4.04	-24.42	12.13	0.808	Bird feathers	NA	NA
46	2015	NA	Whale Tail	NA	Lake Trout	568	1830	NA	NA	F	M	NA	NA	28	NA	NA	NA	0.59	NA	NA	0.999	NA	none	NA
47	2015	NA	Whale Tail	NA	Lake Trout	661	3110	NA	NA	M	M	NA	NA	24	NA	NA	NA	0.831	NA	NA	1.077	NA	none	NA
48	2015	NA	Whale Tail	NA	Lake Trout	581	2210	NA	NA	F	M	NA	NA	27	NA	NA	NA	0.863	NA	NA	1.127	NA	none	NA
49	2015	NA	Whale Tail	NA	Lake Trout	608	2230	NA	NA	F	M	NA	NA	26	NA	NA	NA	0.965	NA	NA	0.992	NA	none	NA
50	2015	NA	Whale Tail	NA	Lake Trout	481	1090	NA	NA	M	I	NA	NA	25	NA	NA	NA	0.474	NA	NA	0.979	NA	none	NA
52	2015	NA	Whale Tail	NA	Lake Trout	445	1130	NA	NA	M	M	NA	NA	15	NA	NA	NA	0.135	NA	NA	1.282	NA	none	NA
53	2015	NA	Whale Tail	NA	Lake Trout	472	970	NA	NA	M	I	NA	NA	18	NA	NA	NA	0.368	NA	NA	0.922	NA	none	NA
56	2015	NA	Whale Tail	NA	Lake Trout	407	775	NA	NA	M	M	NA	NA	23	NA	NA	NA	0.328	NA	NA	1.15	NA	none	NA
57	2015	NA	Whale Tail	NA	Lake Trout	388	607	NA	NA	M	M	NA	NA	13	NA	NA	NA	0.281	NA	NA	1.039	NA	none	NA
58	2015	NA	Whale Tail	NA	Lake Trout	469	987	NA	NA	M	I	NA	NA	18	NA	NA	NA	0.37	NA	NA	0.957	NA	none	NA
59	2015	NA	Whale Tail	NA	Lake Trout	380	655	NA	NA	M	M	NA	NA	12	NA	NA	NA	0.175	NA	NA	1.194	NA	none	NA
60	2015	NA	Whale Tail	NA	Lake Trout	430	687	NA	NA	F	M	NA	NA	13	NA	NA	NA	0.453	NA	NA	0.864	NA	none	NA
61	2015	NA	Whale Tail	NA	Lake Trout	860	7320	NA	NA	M	M	NA	NA	44	NA	NA	NA	2.19	NA	NA	1.151	NA	none	NA
62	2015	NA	Whale Tail	NA	Lake Trout	585	2110	NA	NA	M	M	NA	NA	26	NA	NA	NA	0.798	NA	NA	1.054	NA	none	NA
63	2015	NA	Whale Tail	NA	Lake Trout	475	1020	NA	NA	M	M	NA	NA	25	NA	NA	NA	0.486	NA	NA	0.952	NA	none	NA
64	2015	NA	Whale Tail	NA	Lake Trout	410	745	NA	NA	F	M	NA	NA	25	NA	NA	NA	0.292	NA	NA	1.081	NA	none	NA
65	2015	NA	Whale Tail	NA	Lake Trout	423	693	NA	NA	F	M	NA	NA	14	NA	NA	NA	0.306	NA	NA	0.916	NA	none	NA
66	2015	NA	Whale Tail	NA	Lake Trout	335	427	NA	NA	M	I	NA	NA	12	NA	NA	NA	0.138	NA	NA	1.136	NA	none	NA
68	2015	NA	Whale Tail	NA	Lake Trout	319	348	NA	NA	M	I	NA	NA	9	NA	NA	NA	0.158	NA	NA	1.072	NA	none	NA
69	2015	NA	Whale Tail	NA	Lake Trout	159	37.4	NA	NA	U	I	NA	NA	na	NA	NA	NA	0.0771	NA	NA	0.93	NA	none	NA
70	2015	NA	Whale Tail	NA	Lake Trout	390	672	NA	NA	F	R	NA	NA	19	NA	NA	NA	0.318	NA	NA	1.133	NA	none	NA
97	2015	NA	Mammoth	NA	Lake Trout	370	510	NA	NA	F	M	NA	NA	13	NA	NA	NA	0.227	NA	NA	1.007	NA	none	NA
98	2015	NA	Mammoth	NA	Lake Trout	369	501	NA	NA	F	M	NA	NA	13	NA	NA	NA	0.156	NA	NA	0.997	NA	none	NA
99	2015	NA	Mammoth	NA	Lake Trout	373	550	NA	NA	F	M	NA	NA	11	NA	NA	NA	0.157	NA	NA	1.06	NA	none	NA
100	2015	NA	Mammoth	NA	Lake Trout	363	542	NA	NA	M	M	NA	NA	na	NA	NA	NA	0.127	NA	NA	1.133	NA	none	NA
101	2015	NA	Mammoth	NA	Lake Trout	343	460	NA	NA	F	M	NA	NA	9	NA	NA	NA	0.136	NA	NA	1.14	NA	none	NA
102	2015	NA	Mammoth	NA	Lake Trout	353	433	NA	NA	F	M	NA	NA	10	NA	NA	NA	0.138	NA	NA	0.984	NA	none	NA
103	2015	NA	Mammoth	NA	Lake Trout	373	474	NA	NA	F	M	NA	NA	16	NA	NA	NA	0.18	NA	NA	0.913	NA	none	NA
105	2015	NA	Mammoth	NA	Lake Trout	385	612	NA	NA	F	M	NA	NA	11	NA	NA	NA	0.172	NA	NA	1.072	NA	none	NA
106	2015	NA	Mammoth	NA	Lake Trout	395	692	NA	NA	F	M	NA	NA	12	NA	NA	NA	0.268	NA	NA	1.123	NA	none	NA
108	2015	NA	Mammoth	NA	Lake Trout	351	474	NA	NA	M	M	NA	NA	na	NA	NA	NA	0.12	NA	NA	1.096	NA	none	NA
110	2015	NA	Mammoth	NA	Lake Trout	346	478	NA	NA	F	M	NA	NA	10	NA	NA	NA	0.156	NA	NA	1.154	NA	none	NA
111	2015	NA	Mammoth	NA	Lake Trout	365	504	NA	NA	M	M	NA	NA	12	NA	NA	NA	0.189	NA	NA	1.036	NA	none	NA
112	2015	NA	Mammoth	NA	Lake Trout	365	504	NA	NA	F	M	NA	NA	13	NA	NA	NA	0.175	NA	NA	1.036	NA	none	NA
114	2015	NA	Mammoth	NA	Lake Trout	590	2110	NA	NA	M	M	NA	NA	24	NA	NA	NA	0.583	NA	NA	1.027	NA	none	NA
115	2015	NA	Mammoth	NA	Lake Trout	369	511	NA	NA	M	M	NA	NA	12	NA	NA	NA	0.13	NA	NA	1.017	NA	none	NA
116	2015	NA	Mammoth	NA	Lake Trout	354	472	NA	NA	M	M	NA	NA	13	NA	NA	NA	0.187	NA	NA	1.064	NA	none	NA
117	2015	NA	Mammoth	NA	Lake Trout	366	534	NA	NA	M	I	NA	NA	13	NA	NA	NA	0.215	NA	NA	1.089	NA	none	NA
118	2015	NA	Mammoth	NA	Lake Trout	316	319	NA	NA	M	I	NA	NA	10	NA	NA	NA	0.219	NA	NA	1.011	NA	none	NA
119	2015	NA	Mammoth	NA	Lake Trout	290	269	NA	NA	M	I	NA	NA	8	NA	NA	NA	0.129	NA	NA	1.103	NA	none	NA
120	2015	NA	Mammoth	NA	Lake Trout	290	287	NA	NA	F	I	NA	NA	8	NA	NA	NA	0.122	NA	NA	1.177	NA	none	NA
121	2015	NA	Mammoth	NA	Lake Trout	285	239	NA	NA	U	I	NA	NA	8	NA	NA	NA	0.135	NA	NA	1.032	NA	none	NA
122	2015	NA	Mammoth	NA	Lake Trout	254	181	NA	NA	U	I	NA	NA	6	NA	NA	NA	0.0777	NA	NA	1.105	NA	none	NA
123	2015	NA	Mammoth	NA	Lake Trout	215	96.2	NA	NA	U	I	NA	NA	5	NA	NA	NA	0.0747	NA	NA	0.968	NA	none	NA
124	2015	NA	Mammoth	NA	Lake Trout	700	4670	NA	NA	F	M	NA	NA	37	NA	NA	NA	1.07	NA	NA	1.362	NA	none	NA
126	2015	NA	Mammoth	NA	Lake Trout	218	111	NA	NA	U	I	NA	NA	5	NA	NA	NA	0.0722	NA	NA	1.071	NA	none	NA
14241	2018	22-Aug-18	Lake 8	NA	Lake Trout	375	596	NA	NA	F	I	NA	NA	NA	0.0216	13.25	0.613	0.135	NA	NA	1.13	zooplankton	NA	NA
14242	2018	22-Aug-18	Lake 8	NA	Lake Trout	583	1980	NA	NA	M	U	NA	NA	NA	0.0197	72.48	3.679	0.81	NA	NA	0.999	empty	NA	NA
14243	2018	22-Aug-18	Lake 8	NA	Lake Trout	491	1170	NA	NA	F	U	NA	NA	NA	0.0211	21.62	1.025	0.226	NA	NA	0.988	zooplankton	NA	NA
14244	2018	22-Aug-18	Lake 8	NA	Lake Trout	490	1320	NA	NA	M	M	NA	NA	NA	0.0227	53.2	2.343	0.516	NA	NA	1.122	zooplankton	NA	NA
14245	2018	22-Aug-18	Lake 8	NA	Lake Trout	480	1210	NA	NA	F	M	NA	NA	NA	0.0214	32.22	1.506	0.332	NA	NA	1.094	zooplankton	NA	NA
14246	2018	22-Aug-18	Lake 8	NA	Lake Trout	582	1410	NA	NA	F	U	NA	NA	NA	0.0193	101.94	5.282	1.163	NA	NA	0.715	empty	NA	NA
14247	2018	22-Aug-18	Lake 8	NA	Lake Trout	204	83.3	NA	NA	M	I	NA	NA	NA	0.0224	8.57	0.383	0.084	NA	NA	0.981	zooplankton	NA	NA
14248	2018	22-Aug-18	Lake 8	NA	Lake Trout	246	134.7	NA	NA	M	I	NA	NA	NA	0.0192	14.15	0.737	0.162	NA	NA	0.905	empty	NA	NA
1000-13	2018	10-Aug-18	Whale Tail	NA	Lake Trout	390	600	3.9	NA	M	I	NA	NA	NA	0.0205	35.95	1.754	0.386	NA	NA	1.011	0	NA	NA
1002-10	2018	10-Aug-18	Whale Tail	NA	Lake Trout	490	1350	22.4	14.3	F	M	NA	NA	NA	0.0234	27.03	1.155	0.254	NA	NA	1.147	bivalves	NA	NA
1003-2	2018	11-Aug-18	Whale Tail	NA	Lake Trout	395	600	6	3.4	F	M	NA	NA	NA	0.0218	33.92	1.556	0.343	NA	NA	0.974	0	NA	NA
1005-9	2018	11-Aug-18	Whale Tail	NA	Lake Trout	304	300	2.6	0.2	F	I	NA	NA	NA	0.0213	26.36	1.237	0.273	NA	NA	1.068	0	NA	NA
1009a-1	2018	14-Aug-18	Whale Tail	NA	Lake Trout	570	1900	26.9	NA	M	M	NA	NA	NA	0.0215	48.65	2.263	0.498	NA	NA	1.026	0	NA	NA
500a-18	2018	13-Aug-18	Whale Tail	NA	Lake Trout	225	150	1.5	NA	M	I	NA	NA	NA	0.0196	6.23	0.318	0.07	NA	NA	1.317	inverts	NA	NA
500a-7	2018	13-Aug-18	Whale Tail	NA	Lake Trout	260	200	2.2	NA	M	I	NA	NA	NA	0.0199	10.12	0.508	0.112	NA	NA	1.138	inverts	NA	NA
500b-27	2018	13-Aug-18	Whale Tail	NA	Lake Trout	375	600	5.7	4.9	F	M	NA	NA	NA	0.0228	24.21	1.062	0.234	NA	NA	1.138	inverts	NA	NA
500b-3	2018	13-Aug-18	Whale Tail	NA	Lake Trout	295	300	3.3	NA	F	I	NA	NA	NA	0.0215	13.67	0.636	0.14	NA	NA	1.169	inverts	NA	NA
501a-12	2018	13-Aug-18	Whale Tail	NA	Lake Trout	272	250	2.8	NA	M	I	NA	NA	NA	0.0219	19.37	0.885	0.195	NA	NA	1.242	inverts	NA	NA
501a-19	2018	13-Aug-18	Whale Tail	NA	Lake Trout	390	825	4.7	NA	M	M	NA	NA	NA	0.0203	29.18	1.437	0.317	NA	NA	1.391	inverts	NA	NA
501b-15	2018	13-Aug-18	Whale Tail	NA	Lake Trout	312	375	3.8	2.6	F	M	NA	NA	NA	0.021	19.37	0.922	0.203	NA	NA	1.235	inverts	NA	NA
502a-11	2018	13-Aug-18	Whale Tail	NA	Lake Trout	403	800	8.6	NA	M	M	NA	NA	NA	0.022	15.03	0.683	0.15	NA	NA	1.222	mollusks	NA	NA
502b-5	2018	13-Aug-18	Whale Tail	NA	Lake Trout	300	250	3.4	NA	F	I	NA	NA	NA	0.0262	28.39	1.083	0.239	NA	NA	0.926	unidentified fish	NA	NA
531b-2	2018	20-Aug-18	Whale Tail	NA	Lake Trout	836	5600	NA	NA	F	M	NA	NA	NA	0.0181	280.61	15.504	3.415	NA	NA	0.958	NA	NA	NA

Notes:

[1] M = Mature; I = Immature; U = Unknown.

DELTs = Deformities, erosion, lesions, or tumours.

NA = No data available.

U = Unknown.

APPENDIX C2

SMALL-BODIED FISH DATABASE

Notes: NSSB = Ninespine Stickleback; SLSC = Slimy Sculpin

Year	Sample ID	Lake	Date	Species	Fork Length (mm)	Field Weight (g)	Liver Collected?	Otoliths Collected?	Sample Weight (g)	Total Mercury in fish tissue			Stable Isotopes		Stomach Contents	Notes
										THg (ng)	THg (ppm)	THg (ppm ww)	C13	N15		
2018	14012	WTS	26-Jul-18	NSSB	38	0.40	Y	Y	0.0076	1.7864	0.2351	0.051775	-24.38	8.59	Clams, Amphipods	NA
2018	14014	WTS	26-Jul-18	NSSB	38	0.40	Y	Y	0.0075	1.8696	0.2493	0.054908	-26.83	8.48	Empty	NA
2018	14017	WTS	26-Jul-18	NSSB	45	0.60	Y	Y	0.0093	3.1585	0.3396	0.074807	-25.64	8.75	Clams, Inverts (No ID)	NA
2018	14018	WTS	26-Jul-18	NSSB	34	0.30	N	Y	0.0103	2.6163	0.254	0.055949	-24.43	9.32	Clams, Amphipods	NA
2018	14019	WTS	26-Jul-18	NSSB	48	0.70	Y	Y	0.0084	1.7311	0.2061	0.045393	-24.73	8.69	Clams	NA
2018	14022	WTS	26-Jul-18	NSSB	41	0.60	Y	Y	0.0084	2.4296	0.2892	0.063708	-25.73	8.98	Clams	NA
2018	14023	WTS	26-Jul-18	NSSB	46	0.60	Y	Y	0.0078	1.4356	0.184	0.040539	-24.11	8.33	Empty	NA
2018	14031	WTS	28-Jul-18	NSSB	43	0.50	Y	Y	0.0072	1.2258	0.1703	0.037501	-23.78	8.74	Inverts (No ID)	NA
2018	14041	MAM	29-Jul-18	NSSB	49	0.70	Y	Y	0.0082	1.0442	0.1273	0.02805	-26.48	8.83	Empty	NA
2018	14044	MAM	29-Jul-18	SLSC	36	0.40	Y	Y	0.007	0.943	0.1347	0.029673	-23.71	6.65	Empty	NA
2018	14045	MAM	29-Jul-18	SLSC	30	0.20	Y	Y	0.0066	1.0657	0.1615	0.035566	-23.71	7.71	Chironomids	NA
2018	14049	MAM	29-Jul-18	SLSC	33	0.30	Y	Y	0.0073	0.9586	0.1313	0.028923	-23.41	6.28	Inverts (No ID)	NA
2018	14053	MAM	29-Jul-18	SLSC	29	0.30	N	Y	0.0072	1.3551	0.1882	0.041456	-23.57	6.51	Empty	NA
2018	14059	MAM	29-Jul-18	SLSC	32	0.30	Y	N	0.0083	1.3394	0.1614	0.035545	-23.58	7.19	Inverts (No ID)	NA
2018	14099	WTS	30-Jul-18	SLSC	37	0.40	Y	Y	0.0078	1.4591	0.1871	0.041205	-25.36	7.52	Chironomids	NA
2018	14100	WTS	30-Jul-18	SLSC	30	0.30	Y	N	0.0086	1.2787	0.1487	0.03275	-23.12	6.47	Empty	NA
2018	14106	WTS	30-Jul-18	SLSC	35	0.30	Y	Y	0.0093	1.6659	0.1791	0.039456	-23.53	7.39	Chironomids	NA
2018	14109	WTS	30-Jul-18	SLSC	34	0.40	Y	Y	0.0086	1.5496	0.1802	0.039689	-25.09	7.56	Chironomids	NA
2018	14115	WTS	30-Jul-18	SLSC	32	0.30	Y	N	0.0087	1.2885	0.1481	0.032621	-21.44	7.24	Inverts (No ID)	NA
2018	14126	A65	31-Jul-18	SLSC	36	0.40	Y	Y	0.0083	1.6462	0.1983	0.043687	-23.37	7.92	Clams	NA
2018	14129	A65	31-Jul-18	SLSC	39	0.60	Y	Y	0.0067	1.0403	0.1553	0.034202	-23.07	7.14	Chironomids	NA
2018	14131	A65	31-Jul-18	SLSC	38	0.40	Y	N	0.0074	1.0988	0.1485	0.032708	-22.96	7.6	Empty	NA
2018	14132	A65	31-Jul-18	SLSC	33	0.30	Y	Y	0.0083	1.3826	0.1666	0.03669	-21.05	6.91	Chironomids	NA
2018	14156	A65	31-Jul-18	SLSC	37	0.50	Y	Y	0.0088	1.5437	0.1754	0.038639	-23.05	7.79	Chironomids; Inverts (No ID)	NA
2018	14161	A20	31-Jul-18	NSSB	45	0.60	Y	Y	0.0094	1.4768	0.1571	0.034606	-24.61	8.52	Inverts (No ID)	NA
2018	14162	A20	31-Jul-18	NSSB	42	0.50	Y	Y	0.0069	1.2063	0.1748	0.038507	-25.42	8.23	Inverts (No ID)	NA
2018	14166	A20	01-Aug-18	SLSC	29	0.20	Y	Y	0.0107	2.1717	0.203	0.044706	-21.04	6.63	Amphipods	NA
2018	14177	A20	01-Aug-18	SLSC	30	0.30	Y	Y	0.0076	1.5457	0.2034	0.044798	-22.09	7.01	Inverts (No ID)	NA
2018	14181	A20	01-Aug-18	SLSC	32	0.30	Y	Y	0.0087	1.312	0.1508	0.033216	-21.15	6.86	Empty	NA
2018	14183	A20	01-Aug-18	SLSC	34	0.30	Y	Y	0.0075	0.8691	0.1159	0.025525	-18.83	5.89	Inverts (No ID)	NA
2018	14186	A20	01-Aug-18	SLSC	33	0.20	Y	Y	0.0095	1.2513	0.1317	0.029012	-19.7	6.33	Clams; Inverts (No ID)	Tail broken- could not confirm FL
2018	14200	LK8	02-Aug-18	SLSC	30	0.30	Y	Y	0.0075	0.8769	0.1169	0.025753	-24	7.22	Chironomids	NA
2018	14201	LK8	02-Aug-18	SLSC	29	0.30	Y	N	0.0106	1.1164	0.1053	0.023199	-22.36	6.56	Clams; Inverts (No ID)	NA
2018	14204	LK8	02-Aug-18	SLSC	36	0.20	N	Y	0.0083	1.265	0.1524	0.03357	-21.97	6.87	Empty	Fork length wrong- fish was 27 mm
2018	14206	LK8	02-Aug-18	SLSC	28	0.20	Y	Y	0.0081	0.9119	0.1126	0.024797	-19.99	6.21	Chironomids	NA
2018	14208	LK8	02-Aug-18	SLSC	32	0.30	Y	Y	0.0067	0.5748	0.0858	0.018896	-21.51	7.89	Chironomids; Inverts (No ID)	NA
2019	14262	A44	18-Aug-19	SLSC	36	0.32	Y	Y	0.0085	0.9197	0.1082	0.023832	-20.26	6.51	Empty	NA
2019	14266	A44	18-Aug-19	SLSC	34	0.30	N	Y	0.0089	1.2669	0.1424	0.031355	-22.17	6.63	Inverts (No ID)	NA
2019	14269	A44	18-Aug-19	SLSC	31	0.20	Y	Y	0.0088	1.5792	0.1795	0.039527	NA	NA	Clams; Inverts (No ID)	NA

Notes: NSSB = Ninespine Stickleback; SLSC = Slimy Sculpin

Year	Sample ID	Lake	Date	Species	Fork Length (mm)	Field Weight (g)	Liver Collected?	Otoliths Collected?	Sample Weight (g)	Total Mercury in fish tissue			Stable Isotopes		Stomach Contents	Notes
										THg (ng)	THg (ppm)	THg (ppm ww)	C13	N15		
2019	14270	A44	18-Aug-19	SLSC	33	0.27	Y	Y	0.0091	1.2708	0.1397	0.030761	NA	NA	Inverts (No ID)	NA
2019	14283	A44	18-Aug-19	SLSC	37	0.35	Y	Y	0.0073	0.8458	0.1159	0.025522	-19.18	6.36	Clams; Inverts (No ID)	Tail broken- could not confirm FL
2019	14297	A65	19-Aug-19	NSSB	31	0.22	Y	Y	0.0087	1.1594	0.1333	0.029353	-25.18	6.91	Clams	NA
2019	14299	A65	19-Aug-19	NSSB	35	0.27	N	Y	0.0098	1.5674	0.1599	0.035228	-26.84	7.63	Clams	NA
2019	14304	A65	19-Aug-19	NSSB	48	0.79	Y	Y	0.0105	2.4296	0.2314	0.050966	-25.91	7.92	Empty	NA
2019	14305	A65	19-Aug-19	NSSB	42	0.57	Y	Y	0.0068	1.2826	0.1886	0.041545	-26.57	8.55	Empty	NA
2019	14330	A65	19-Aug-19	NSSB	33	0.24	Y	Y	0.0095	1.4415	0.1517	0.033421	-25.76	7.52	Winged bug; Clams; Amphipods	NA
2019	14334	A65	19-Aug-19	NSSB	47	0.88	Y	Y	0.0086	1.735	0.2017	0.044438	NA	NA	Amphipods; Inverts (No ID)	NA
2019	14337	A65	19-Aug-19	NSSB	32	0.26	Y	Y	0.0063	0.8672	0.1376	0.030319	-26.03	6.85	Clams	NA
2019	14338	A65	19-Aug-19	NSSB	43	0.67	Y	Y	0.0075	1.2826	0.171	0.037668	-26.34	8.29	Empty	NA
2019	14339	A65	19-Aug-19	NSSB	45	0.85	Y	Y	0.0062	1.1281	0.182	0.040078	-25.45	8.27	Empty	NA
2019	14346	A65	19-Aug-19	NSSB	30	0.19	Y	Y	0.009	1.6068	0.1785	0.039324	-25.28	6.4	Amphipods; Clams; Inverts (No ID)	NA
2019	14351	WTS	20-Aug-19	NSSB	31	0.22	Y	Y	0.0092	2.4015	0.261	0.057497	-26.01	7.85	Empty	NA
2019	14361	WTS	20-Aug-19	NSSB	32	0.21	Y	Y	0.009	1.3885	0.1543	0.033981	-27.68	7.12	Empty	NA
2019	14363	WTS	20-Aug-19	NSSB	35	0.14	Y	Y	0.0106	1.662	0.1568	0.034535	-26	7.18	Empty	Fork length wrong- fish was 25 mm
2019	14369	WTS	20-Aug-19	NSSB	42	0.70	Y	Y	0.0078	1.7311	0.2219	0.048884	-25.52	8.45	Empty	NA
2019	14372	WTS	20-Aug-19	NSSB	34	0.29	Y	Y	0.0089	1.0092	0.1134	0.024976	-27.97	8.27	Empty	NA
2019	14378	WTS	20-Aug-19	SLSC	36	0.47	Y	Y	0.0057	1.5359	0.2694	0.05935	-26.46	8.19	Clams, Inverts (No ID)	NA
2019	14379	WTS	20-Aug-19	SLSC	32	0.32	Y	Y	0.009	1.0033	0.1115	0.024555	-23.25	8.75	Inverts (No ID)	NA
2019	14380	WTS	20-Aug-19	SLSC	38	0.50	Y	Y	0.0087	1.1985	0.1378	0.030342	-27.29	8.68	Empty	NA
2019	14384	WTS	20-Aug-19	SLSC	37	0.45	Y	Y	0.0094	1.8339	0.1951	0.042974	-26.22	7.33	Clams	NA
2019	14386	WTS	20-Aug-19	SLSC	34	0.38	Y	Y	0.0067	3.7562	0.5606	0.123487	-28.06	7.81	Chironomids	NA
2019	14418	WTS	20-Aug-19	NSSB	37	0.40	Y	Y	0.0076	1.1437	0.1505	0.033148	-28.74	10.32	Inverts (No ID)	NA
2019	14464	A20	21-Aug-19	NSSB	45	0.78	Y	Y	0.0093	1.824	0.1961	0.043201	NA	NA	Empty	NA
2019	14465	A20	21-Aug-19	NSSB	44	0.52	Y	Y	0.0077	1.5142	0.1967	0.043315	-24.9	7.57	Empty	NA
2019	14466	A20	21-Aug-19	NSSB	43	0.53	Y	Y	0.0099	2.0184	0.2039	0.044908	-24.51	7.01	Empty	NA
2019	14470	A20	21-Aug-19	NSSB	38	0.31	Y	Y	0.0065	1.5949	0.2454	0.054047	-29.43	6.69	Clams	NA
2019	14477	A20	21-Aug-19	NSSB	33	0.23	Y	Y	0.0082	1.4886	0.1815	0.039987	-27.58	6.39	Empty	NA
2019	14481	A20	21-Aug-19	NSSB	48	0.78	Y	Y	0.0065	1.7489	0.2691	0.059264	-24.93	8.18	Empty	NA
2019	14485	A20	21-Aug-19	NSSB	43	0.51	Y	Y	0.0074	1.5595	0.2107	0.046418	-23.9	7.2	Empty	NA
2019	14495	A20	21-Aug-19	NSSB	35	0.24	Y	Y	0.0083	1.3826	0.1666	0.03669	-27.09	5.98	Clams	NA
2019	14497	A20	21-Aug-19	NSSB	36	0.32	N	Y	0.006	1.2258	0.2043	0.045001	-25.45	7.17	Empty	NA
2019	14498	A20	21-Aug-19	NSSB	31	0.25	Y	Y	0.0087	2.102	0.2416	0.053217	-24.25	7.35	Clams	NA
2019	14503	MAM	22-Aug-19	SLSC	36	0.42	Y	Y	0.0068	1.0306	0.1516	0.033383	-20	7.83	Clams, Amphipods, Inverts (No ID)	NA
2019	14506	MAM	22-Aug-19	SLSC	38	0.45	Y	Y	0.0088	1.2395	0.1409	0.031025	-21.98	8.29	Inverts (No ID)	NA
2019	14508	MAM	22-Aug-19	SLSC	36	0.37	Y	Y	0.007	1.3394	0.1913	0.042146	-21.91	8.07	Empty	NA
2019	14532	MAM	22-Aug-19	SLSC	39	0.42	Y	Y	0.0082	1.5339	0.1871	0.041202	-22.37	7.99	Clams, Inverts (No ID)	NA
2019	14534	MAM	22-Aug-19	SLSC	40	0.45	Y	Y	0.0066	1.0462	0.1585	0.034915	-22.54	7.63	Empty	NA

Notes: NSSB = Ninespine Stickleback; SLSC = Slimy Sculpin

Year	Sample ID	Lake	Date	Species	Fork Length (mm)	Field Weight (g)	Liver Collected?	Otoliths Collected?	Sample Weight (g)	Total Mercury in fish tissue			Stable Isotopes		Stomach Contents	Notes
										THg (ng)	THg (ppm)	THg (ppm ww)	C13	N15		
2019	14535	MAM	22-Aug-19	NSSB	43	0.51	Y	Y	0.0081	1.1125	0.1373	0.030253	-26.53	9.77	Empty	NA
2019	14536	MAM	22-Aug-19	NSSB	49	0.76	Y	Y	0.008	1.4218	0.1777	0.039147	-25.91	9.33	Empty	NA
2020	14546	MAM	21-Aug-20	SLSC	37	0.42	Y	Y	0.0111	1.3237	0.1193	0.026268	-19.58	8.02	Inverts (No ID)	NA
2020	14550	MAM	21-Aug-20	NSSB	30	0.19	N	Y	0.0084	0.9099	0.1083	0.02386	-24.54	6.86	Empty	NA
2020	14551	MAM	21-Aug-20	NSSB	40	0.44	Y	Y	0.0076	0.8536	0.1123	0.024739	-23.67	7.69	Amphipods	NA
2020	14562	MAM	21-Aug-20	SLSC	37	0.36	Y	Y	0.0089	1.0442	0.1173	0.025844	-20.78	7.84	Empty	NA
2020	14565	MAM	21-Aug-20	SLSC	38	0.45	Y	Y	0.0084	2.3215	0.2764	0.060873	-24.62	6.66	Empty	NA
2020	14577	MAM	21-Aug-20	SLSC	38	0.46	Y	Y	0.0073	0.7024	0.0962	0.021193	-18.25	7.44	Inverts (No ID)	Tail broken- could not confirm FL
2020	14578	MAM	21-Aug-20	SLSC	35	0.36	Y	Y	0.0068	0.7159	0.1053	0.02319	-20.94	7.21	Inverts (No ID)	NA
2020	14580	MAM	21-Aug-20	NSSB	34	0.25	N	Y	0.0066	0.6482	0.0982	0.021633	-26.52	7.72	Empty	NA
2020	14604	LK1	22-Aug-20	SLSC	39	0.68	Y	Y	0.0083	2.6505	0.3193	0.070339	-24.8	8.08	Inverts (No ID)	NA
2020	14607	LK1	22-Aug-20	SLSC	35	0.41	Y	Y	0.0064	2.4576	0.384	0.084583	-25.78	7.83	Clams; Inverts (No ID)	NA
2020	14608	LK1	22-Aug-20	SLSC	34	0.51	Y	Y	0.007	2.2475	0.3211	0.070721	-25.38	7.59	Empty	NA
2020	14613	LK1	22-Aug-20	SLSC	34	0.34	Y	Y	0.0067	2.2036	0.3289	0.072445	-24.22	7.34	Empty	NA
2020	14614	LK1	22-Aug-20	SLSC	35	0.56	Y	Y	0.0072	0.978	0.1358	0.02992	-23.1	5.94	Inverts (No ID)	NA
2020	14622	LK8	23-Aug-20	SLSC	35	0.39	Y	Y	0.0077	0.8827	0.1146	0.025251	-17.31	6.09	Inverts (No ID)	NA
2020	14628	LK8	23-Aug-20	SLSC	34	0.29	N	Y	0.008	1.1184	0.1398	0.030792	-21.64	6.37	Chironomids; Inverts (No ID)	NA
2020	14634	LK8	23-Aug-20	SLSC	31	0.27	Y	Y	0.0086	0.8614	0.1002	0.022061	-17.78	6.12	Chironomids	NA
2020	14637	LK8	23-Aug-20	SLSC	27	0.22	Y	Y	0.0077	1.3885	0.1803	0.039718	-21.09	7.21	Inverts (No ID)	NA
2020	14647	LK8	23-Aug-20	SLSC	30	0.27	Y	Y	0.0071	0.9605	0.1353	0.029798	-18.8	6.78	Inverts (No ID)	NA
2020	14655	MAM	25-Aug-20	NSSB	41	0.45	Y	Y	0.0077	0.8128	0.1056	0.023252	-26.18	8.17	Empty	NA
2020	14657	WTS	26-Aug-20	NSSB	38	0.34	Y	Y	0.0081	12.6177	1.5577	0.343114	-30.57	8.68	Amphipods	NA
2020	14660	WTS	26-Aug-20	NSSB	36	0.29	Y	Y	0.0085	13.3327	1.5686	0.345497	-30.02	8.62	Empty	NA
2020	14661	WTS	26-Aug-20	NSSB	39	0.43	Y	Y	0.0054	8.2439	1.5266	0.336264	-29.49	8.32	Clams	NA
2020	14671	WTS	26-Aug-20	NSSB	45	0.62	Y	Y	0.0063	10.4611	1.6605	0.365746	-30.27	8.87	Empty	NA
2020	14672	WTS	26-Aug-20	NSSB	41	0.42	Y	Y	0.0085	11.2648	1.3253	0.291909	-30.19	8.25	Clams, Inverts (No ID)	NA
2020	14673	WTS	26-Aug-20	NSSB	47	0.67	Y	Y	0.0086	11.8386	1.3766	0.303211	-31.38	9.23	Empty	NA
2020	14675	WTS	26-Aug-20	NSSB	44	0.56	Y	Y	0.0085	13.3663	1.5725	0.346366	-31.29	7.8	Clams, Inverts (No ID)	NA
2020	14676	WTS	26-Aug-20	NSSB	42	0.54	Y	Y	0.0078	12.5721	1.6118	0.355025	-31.23	8.02	Clams, Inverts (No ID)	NA
2020	14677	WTS	26-Aug-20	NSSB	31	0.22	Y	Y	0.0074	10.2912	1.3907	0.306323	-28.85	8.28	Clams, Inverts (No ID)	NA
2020	14687	WTS	26-Aug-20	NSSB	34	0.30	Y	Y	0.0061	6.4462	1.0567	0.232764	-26.56	10.13	Empty	NA
2020	17000	WTS	26-Aug-20	SLSC	37	0.52	Y	Y	0.0076	10.5979	1.3945	0.307151	-28.05	7.79	Empty	NA
2020	17014	WTS	26-Aug-20	SLSC	40	0.58	Y	Y	0.0081	8.3486	1.0307	0.227024	-27.91	7.37	Chironomids	NA
2020	17019	WTS	26-Aug-20	SLSC	45	0.71	Y	Y	0.0095	13.0937	1.3783	0.303588	-28.29	7.82	Clams	NA
2020	17020	WTS	26-Aug-20	SLSC	43	0.64	Y	Y	0.0054	6.6869	1.2383	0.272759	-27.87	7.53	Clams	NA
2020	17021	WTS	26-Aug-20	SLSC	41	0.59	Y	Y	0.0061	9.0217	1.479	0.325765	-28.09	8.18	Clams, Inverts (No ID)	NA
2020	17023	A20	27-Aug-20	NSSB	44	0.58	Y	Y	0.0069	3.8821	0.5626	0.123924	-28.46	7.02	Empty	NA
2020	17028	A20	27-Aug-20	NSSB	32	0.21	Y	Y	0.0075	2.4215	0.3229	0.071117	-27.29	7.06	Amphipods	NA

Notes: NSSB = Ninespine Stickleback; SLSC = Slimy Sculpin

Year	Sample ID	Lake	Date	Species	Fork Length (mm)	Field Weight (g)	Liver Collected?	Otoliths Collected?	Sample Weight (g)	Total Mercury in fish tissue			Stable Isotopes		Stomach Contents	Notes
										THg (ng)	THg (ppm)	THg (ppm ww)	C13	N15		
2020	17029	A20	27-Aug-20	NSSB	31	0.22	N	Y	0.0071	2.7937	0.3935	0.086668	-26.75	7.18	Empty	NA
2020	17031	A20	27-Aug-20	NSSB	41	0.46	Y	Y	0.0069	9.8803	1.4319	0.315402	-27.72	7.25	Empty	NA
2020	17039	A20	27-Aug-20	NSSB	35	0.28	Y	Y	0.0079	18.2887	2.315	0.509918	-28.88	7.36	Empty	NA
2020	17041	A20	27-Aug-20	NSSB	37	0.35	Y	Y	0.0072	8.6758	1.205	0.265412	-27.42	6.63	Inverts (No ID)	NA
2020	17045	A20	27-Aug-20	NSSB	42	0.55	Y	Y	0.0077	3.3113	0.43	0.094722	-29.39	7.59	Empty	NA
2020	17047	A20	27-Aug-20	NSSB	40	0.43	Y	Y	0.0066	6.4614	0.979	0.21564	-25.88	6.61	Clams; Inverts (No ID)	NA
2020	17050	A20	27-Aug-20	NSSB	43	0.44	Y	Y	0.0079	4.6063	0.5831	0.128431	-28.18	7.36	Empty	NA
2020	17051	A20	27-Aug-20	NSSB	39	0.33	Y	Y	0.0055	5.682	1.0331	0.227554	-27.42	6.27	Clams; Inverts (No ID)	NA
2020	17063	A20	27-Aug-20	SLSC	37	0.46	Y	Y	0.0059	5.2015	0.8816	0.194189	-24.18	5.75	Chironomids; Inverts (No ID)	NA
2020	17064	A20	27-Aug-20	SLSC	36	0.36	Y	Y	0.0072	1.8498	0.2569	0.056589	-24.05	5.15	Clams; Inverts (No ID)	NA
2020	17065	A20	27-Aug-20	SLSC	35	0.35	Y	Y	0.0078	4.4367	0.5688	0.125289	-24.68	4.93	Chironomids	NA
2020	17073	A20	27-Aug-20	SLSC	31	0.33	Y	Y	0.0062	2.2076	0.3561	0.078429	-22.29	5.39	Clams	NA
2020	17079	A20	27-Aug-20	SLSC	32	0.35	N	Y	0.0061	1.6758	0.2747	0.060511	-21.2	4.74	Clams	NA
2020	17097	A65	27-Aug-20	NSSB	35	0.34	Y	Y	0.0055	5.8799	1.0691	0.23548	-28.52	7.28	Empty	NA
2020	17099	A65	27-Aug-20	NSSB	38	0.39	Y	Y	0.0072	2.8644	0.3978	0.087628	-26.81	7.45	Clams	NA
2020	17102	A65	27-Aug-20	NSSB	36	0.40	Y	Y	0.0063	3.7604	0.5969	0.131472	-26.71	7.18	Clams	NA
2020	17103	A65	27-Aug-20	NSSB	46	0.81	Y	Y	0.0061	4.3887	0.7195	0.158471	-28.22	7.38	Empty	NA
2020	17105	A65	27-Aug-20	NSSB	33	0.26	Y	Y	0.0067	8.4856	1.2665	0.278965	-29.45	7.96	Clams; Inverts (No ID)	NA
2020	17108	A65	27-Aug-20	NSSB	45	0.58	Y	Y	0.005	4.4681	0.8936	0.196833	-28.85	7.46	Empty	NA
2020	17110	A65	27-Aug-20	NSSB	43	0.57	Y	Y	0.0069	10.0746	1.4601	0.321604	-30.52	8.4	Empty	NA
2020	17124	A65	27-Aug-20	NSSB	42	0.45	Y	Y	0.005	3.7398	0.748	0.164747	-26.12	7.47	Empty	NA
2020	17125	A65	27-Aug-20	NSSB	41	0.41	Y	Y	0.0058	4.1119	0.7089	0.156155	-28.83	8.06	Inverts (No ID)	NA
2020	17127	A65	27-Aug-20	NSSB	31	0.20	Y	Y	0.0074	3.5897	0.4851	0.106848	-25.91	8.35	Empty	NA
2020	17138	A65	27-Aug-20	SLSC	42	0.88	Y	Y	0.0063	4.0393	0.6412	0.141224	-26.1	6.44	Chironomids; Inverts (No ID)	NA
2020	17141	A65	27-Aug-20	SLSC	44	0.80	Y	Y	0.006	3.9709	0.6618	0.145776	-28.33	6.07	Chironomids	NA
2020	17142	A65	27-Aug-20	SLSC	42	0.87	Y	Y	0.0069	4.2199	0.6116	0.134709	-26.3	7.45	Chironomids	NA
2020	17144	A65	27-Aug-20	SLSC	45	1.03	Y	Y	0.0078	4.9347	0.6326	0.13935	-27.59	7.3	Chironomids	NA
2020	17159	A65	27-Aug-20	SLSC	45	0.76	Y	Y	0.0057	3.4503	0.6053	0.133329	-26.33	7.2	Chironomids	NA
2020	17172	A44	29-Aug-20	SLSC	33	0.33	Y	Y	0.0069	1.173	0.17	0.037446	-19.06	6.58	Empty	NA
2020	17181	A44	29-Aug-20	SLSC	36	0.38	Y	Y	0.0063	1.5024	0.2385	0.052528	-21.15	6.48	Clams	NA
2020	17187	A44	29-Aug-20	SLSC	32	0.45	Y	Y	0.0051	0.8439	0.1655	0.036447	-20.83	6.5	Empty	NA
2020	17190	A44	29-Aug-20	SLSC	35	0.39	Y	Y	0.0057	1.0111	0.1774	0.039073	-20.98	7.01	Empty	NA
2020	17196	A44	29-Aug-20	SLSC	35	0.34	Y	Y	0.0053	1.0111	0.1908	0.042022	-20.52	5.95	Clams; Inverts (No ID)	NA
2020	17200	A44	29-Aug-20	NSSB	45	0.52	Y	Y	0.0058	1.0988	0.1895	0.04173	-27.21	8.78	Empty	NA
2020	17201	B03	29-Aug-20	SLSC	34	0.34	Y	Y	0.0069	0.6617	0.0959	0.021124	-18.99	4.72	Chironomids	NA
2020	17203	B03	29-Aug-20	SLSC	37	0.42	Y	Y	0.0058	0.6463	0.1114	0.024543	-21.95	6.75	Empty	NA
2020	17206	B03	29-Aug-20	SLSC	39	0.46	Y	Y	0.0073	1.4277	0.1956	0.043079	-22.74	6.53	Inverts (No ID)	NA
2020	17223	B03	29-Aug-20	SLSC	38	0.51	Y	Y	0.007	0.7605	0.1086	0.02393	-20.17	5.73	Chironomids	NA

Notes: NSSB = Ninespine Stickleback; SLSC = Slimy Sculpin

Year	Sample ID	Lake	Date	Species	Fork Length (mm)	Field Weight (g)	Liver Collected?	Otoliths Collected?	Sample Weight (g)	Total Mercury in fish tissue			Stable Isotopes		Stomach Contents	Notes
										THg (ng)	THg (ppm)	THg (ppm ww)	C13	N15		
2020	17224	B03	29-Aug-20	SLSC	37	0.53	Y	Y	0.0075	1.7252	0.23	0.050666	-20.19	5.53	Clams	NA
2020	17235	B03	29-Aug-20	NSSB	45	0.60	Y	Y	0.005	0.4128	0.0826	0.018186	-28.09	8.33	Empty	NA

APPENDIX D

LENGTH-MERCURY RELATIONSHIPS FOR LARGE-BODIED FISH

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D.1. INTRODUCTION

The MMP is designed based on the assumption that catch is similar across the fish size distribution for a given species at each location/year combination. However, there are often discrepancies in size distributions that would affect the analysis if they were based on mean mercury concentrations for each location/event combination. Modelling length-mercury relationships facilitates removing potential bias related to catching larger or smaller fish relative to other locations/year sampled. While length-mercury relationships are characterized across the full size range of fish sampled, numerical presentation of results is simplified by focusing on one or more key sizes (sometimes referred to as *standardized* sizes[1]).

As described in **Section 4** of the main report, the fish mercury dataset is comprised of fish mercury results for Lake Trout caught in Whale Tail study area lakes over a number of sampling events in years 2015, 2018 and 2020. The following sections present details on the methods and results of statistical analyses conducted to estimate fish mercury concentrations for 550 mm Lake Trout in Whale Tail study area lakes in 2020.

Initial stages of the data analysis involved ensuring that there were no outliers in the fish tissue chemistry data. Outliers were identified by first plotting the data. Any data that appeared to be outside the general pattern observed in the plot were double checked for verification. At this stage, any outliers were flagged and identified in subsequent steps of the data analysis. For example, any outliers were highlighted in a given plot if identified. This approach provides flexibility for future detailed statistical analyses to be completed.

[1] Historically, fish mercury data were often simplified to means per location-year of interest. The major limitation of that approach is that tissue mercury concentrations are often positively correlated to fish size, so random differences in the size of fish caught can bias the mean. The potential bias was overcome by using the length-mercury relationship to estimate mercury concentrations for a specific sized fish. The *standardized* size (i.e., size 550-mm for Lake Trout) was used to allow comparisons both within and among studies. The main limitation of using a single size to represent tissue concentrations for a species is that information about other size classes is lost. Consequently, we try to use more than one size class (up to four or five) to provide a more complete understanding of fish mercury concentrations.

D.1.1 Length-Mercury Relationship Modelling

Temporal-spatial models were used to determine patterns in the data that needed to be considered for characterizing before-impact and after-impact conditions. This included models that focused on temporal and spatial trends as follows:

1. Temporal trends – this focused on looking at data at all locations over time to determine if tissue mercury concentrations were different across sampling years.
2. Spatial trends – this focused on looking at data for a specific time period (i.e., during which no temporal patterns were identified) to determine if tissue mercury concentrations differed among sampling areas.

The general process for the statistical analysis for the model types followed the following steps:

- Variables – the following primary variables were included in the various model fits:
  - Mercury (Hg; FishHg in model fits) – measured total mercury concentrations in fish muscle tissue (ppm ww); it is generally assumed that all the total mercury present in a fish sample is in the form of methylmercury.
  - Length – fish length (fork length) was used to help account for the known influence of fish size on tissue mercury concentrations. Length was *centered* (LC) on the standardized size of 550-mm for Lake Trout, which allows direct interpretation of the regression coefficients from the output.
  - Area (see above) - this was included to account for variability related to area-specific factors.
  - Year – based on the sampling year (Year in model fits).
- **Transformation** – Length-mercury data were plotted using various transformations to determine which was most suitable.
- **Model Fitting** – A set of six models were used to fit the data used to assess temporal-spatial trends in the dataset (**Table D-1**); these models ranged from simple fish mercury/length-specific intercepts through linear forms (with and without length-year/area/period interaction terms). From a size-mercury relationship characterization perspective, this array of models covers the spectrum from general size-dependent relationships (fit 1) to more complex models capable of characterizing more site-specific relationships. In our experience, no single model form adequately characterizes fish mercury relationships across all species and conditions. Each of the model forms included have been used to describe fish length-mercury relationships.
- **Model Selection** – A variant of Akaike's Information Criterion (AIC), corrected for bias in small sample sizes (AICc), was used to compare models (Burnham and Anderson 2002). Models with the lowest AICc values were considered first, by examining model coefficients, plotting the fit

along with the data and viewing model diagnostics (e.g., residuals, Q-Q plot, Cook's distance, and residual distribution).

- **Outlier Identification** – Formal assessment of outliers was conducted for selected models. This involved identifying data that were clear outliers (studentized residuals > 4) or had high leverage (Cook's distance > 0.5) values. For simplicity, these are collectively referred to as *outliers* hereafter, but any instances are documented along with the driver for their categorization. The models were run with and without outliers, where applicable, but only results with outliers removed are reported. No outliers were identified in the fish mercury dataset.
- **Mercury Concentration Estimates and Confidence Limits** – Selected models were used to estimate mercury concentrations, and associated confidence intervals, for 550-mm fish size for each year/area modelled.

D.1.2 Temporal-Spatial Assessment

The temporal assessment was conducted to determine whether there were any changes in the length-mercury relationship for Lake Trout across sampling years. The analysis was limited to data from three years (2015, 2018 and 2020) with 8 or more samples (see **Section 4**, **Table 4-1** of the main report).

Key information on the modelling and associated results were as follows:

- Transformations – Total mercury concentrations in fish tissue were log-transformed.
- Initial Model Selection – The suite of temporal-spatial models (**Table D-1**) was initially run with all the data. Fit 5 had the lowest AICc value and was selected for the analysis (**Table D-2**). Fit 5 was a linear model with area/year-specific intercepts and slopes (FishHg ~ Area + LC + LC:Area + Year + LC:Year).
- Outliers/High Leverage Data – Formal outlier assessment of the fit5 run (with all data) identified no outliers, therefore, all data were retained in the dataset for analysis.
- Final Model Selection – Since there were no outliers, the model fit 5, which had the lowest AICc score, was selected to characterize the length-mercury relationship.
- Fitted length-mercury Relationships – Final model results are shown in **Figure D-1** and summarized in **Table D-3**. The model fits generally show strong positive relationships between length and mercury concentrations. Model residuals were visually examined and indicated that the fit was good. The model had an adjusted R2 of 0.88. There were no statistical differences among year-size combinations.

Predicted Mercury Concentrations for Standard Sized Fish by Year and Area – Using the length mercury model shown above, tissue mercury concentrations were estimated for a 550 mm size Lake Trout. The predictions (and their 95% confidence limits) were used to compare fish tissue mercury concentrations among years (see **Figure 4-4** in main report). The results show that Lake Trout mercury concentrations were similar in 2020 compared to 2015 and 2018 in Whale Tail area lakes.

D.2. REFERENCES

Burnham, K.P. and Anderson, D.R., 2002. A practical information-theoretic approach. Model selection and multimodel inference, 2, pp.70-71.

TABLES

Table D-1. List of model fits and descriptions for the temporal-spatial assessment of length-mercury relationships for Lake Trout.

Fit	Model[1]	Comments
fit1	FishHg ~ LC	linear - all periods same
fit2	FishHg ~ Area + LC	linear - Area-specific intercepts
fit3	FishHg ~ Area + LC + LC:Area	linear - Area-specific intercepts/slopes
fit4	FishHg ~ Area + LC + LC:Area + Year	linear - Area/Year-specific intercepts & Area-specific slopes
fit5	FishHg ~ Area + LC + LC:Area + Year + LC:Year	linear - Area/Year-specific intercepts & slopes
fit6	FishHg ~ Area + LC + LC:Area + Year + Area:Year	linear - Area*Year-specific intercepts & Area-specific slopes

[1] LC=length centered on standard length (varies by species).

Table D-2. Comparison of model fit results for the temporal-spatial assessment of length-mercury relationships for Lake Trout.

Fit	Model[1]	Df	AICc	Delta
fit5	FishHg ~ Area + LC + LC:Area + Year + LC:Year	15	130.1	0
fit3	FishHg ~ Area + LC + LC:Area	11	130.4	0.3
fit6	FishHg ~ Area + LC + LC:Area + Year + Area:Year	15	131.9	1.7
fit4	FishHg ~ Area + LC + LC:Area + Year	13	132	1.9
fit2	FishHg ~ Area + LC	7	147.3	17.2
fit1	FishHg ~ LC	3	188.1	57.9

Notes

[1] LC=length centered on standard size.

Df = Degrees of freedom.

AICc = Akaike's Information Criterion (AIC), corrected for bias in small sample sizes (AICc).

Table D-3. Model results for the temporal-spatial assessment of Lake Trout fish mercury concentrations.

Predictor	Estimate	95% CI[1]	p-value
Intercept	-0.5496	-0.6926, -0.4066	<0.001
Area			
Whale Tail	-	-	-
Mammoth	-0.1933	-0.3461, -0.0405	0.013
Lake DS1	0.1744	-0.0033, 0.3522	0.054
Lake D1	0.1208	-0.0477, 0.2894	0.2
Lake 8	-0.1161	-0.3083, 0.0761	0.2
LC	0.0045	0.0037, 0.0053	<0.001
Year			
2015	-	-	
2018	0.0863	-0.1576, 0.3303	0.5
2020	0.0188	-0.1473, 0.1848	0.8
Area * LC			
Mammoth * LC	0.0013	0.0005, 0.0020	0.002
Lake DS1 * LC	0.0024	0.0010, 0.0038	0.001
Lake D1 * LC	0	-0.0009, 0.0008	>0.9
Lake 8 * LC	0.001	0.0000, 0.0020	0.041
LC * Year			
LC * 2018	0.0006	-0.0007, 0.0018	0.4
LC * 2020	-0.0007	-0.0015, 0.0002	0.14

Notes

Model: FishHg ~ Area + LC + LC:Area + Year + LC:Year

Overall Results: $F(13,187)=109$; Adjusted $R^2 = 0.88$; N = 201

[1] CI = Confidence Interval

LC=length centered on standard size

"-" = Not applicable

FIGURES

Figure D-1. Model fit results for temporal-spatial assessment of Lake Trout mercury concentrations in Whale Tail area lakes, 2015, 2018, and 2020.