Sharing Knowledge and Honouring Our Past, Present, and Our Future

2024 Diavik Diamond Mine Aquatic Effects Monitoring Program and Traditional Knowledge Study

Prepared by:

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Cover Photo:

Back (L to R): Cody Drygeese, Ethan Kadlun, Tara Marchiori, Anton Jitnikovitch, Ed Henri, Zhanayii Drygeese, Mark Nelson, Karson Mercredi, Edward Mercredi, Rainie Sharpe, Kyla Gray, Justin Macek, Maureen Van Overliw.

Front (L to R): Charlie Apples, Mary Ann Jeremick'ca, Nancy Kadlun, Mary Jane Drygeese, Lena Drygeese, Emelie Saunders, Celine Marlowe, Marie Adele Football, Gordon Cumming, James Algona, Allison McCabe, Rebecca Huang.

Absent from photo but in attendance at the camp: Sweetgrass Casaway, Lawrence Mercredi, Duncan Sangris, John Sangris

Executive Summary

This report outlines the activities, results, and observations associated with the 2024 Diavik Diamond Mines Traditional Knowledge Aquatic Effects Monitoring Program (AEMP) Traditional Knowledge (TK) Study. Representatives from Diavik's 5 Participation Agreement (PA) communities graciously volunteered their time and knowledge to the program through 3 engagement sessions – a planning session, the Traditional Knowledge Camp, and a verification session.

The primary objective of the AEMP TK Camp program is to provide a space for Elders from Diavik's PA communities to observe and share feedback and TK relating to Ek'ati (Lac de Gras) large bodied fish, e.g., Lake trout (*Salvelinus namaycush*), taste, texture, and general condition and health. Participants are also invited to share their knowledge and experience of the water of Ek'ati (Lac de Gras) through water tasting (fresh, boiled, boiled with tea). Each of these activities, and the TK shared during them, have been documented thoroughly and incorporated into this final report prepared by the facilitation team.

Additionally, the TK Camp provides an opportunity for TK holders and biologists to exchange knowledge related to the Ek'ati (Lac de Gras) ecosystem. The TK holders provide critical qualitative data to the DDMI team, and its consultants, which supports a better understanding of the environment and any observable changes, as well as contribute to required AEMP reporting.

The AEMP TK Camp has been designed and adapted over many years through recommendations by past participants which has resulted in the structure followed in 2024.

Prior to the AEMP TK Camp, participants were invited to Diavik to partake in a Planning Session hosted by the facilitation team. This session took place on July 2-4, 2024. The intent of the Planning Session is to review TK collection methodology from previous camps, adapt it to fit the needs of the 2024 participants, discuss logistics, and plan activities. The Planning Session is an important part of the AEMP TK Camp structure as it provides an opportunity for participants to meet or reconnect with one another. It is a time for participants to share feedback on how they would like to see the Camp conducted and to get to know the facilitation team.

The AEMP TK Camp took place from August 8 to 13, 2024 and included programming at both the Ek'ati (Lac de Gras) TK Camp as well as Diavik's main accommodations. It was the intention of the facilitation team to ensure the participants were as comfortable as possible and felt that their opinions were being heard and recorded.

Following the TK Camp, a Verification Session was held in which participants were able to review a draft version of this report, including a culmination of results from the TK Camp and interview transcriptions. Participants spent the two-day session creating their biographies, verifying their interview transcripts, reviewing the data provided in the report tables, reflecting on the Camp experience, and developing a title for the report. DDMI and WSP representatives also presented the scientific results of the AEMP TK Camp at the Verification Session as well as information that was requested by participants at the end of the TK Camp.

Participant Biographies

Lena Drygeese

Born and raised at T'e?ehdaa (Dettah). Went to Fort Smith Breynat Hall Residential School for 7 years, returning to Yellowknife for further schooling. I come from a large family who all still live at T'e?ehdaa, with a few living elsewhere. My siblings love to gather for cookouts, game nights, outdoor activities and just keeping each other company.

I have always wanted to see our land by boat, planes, or just driving around, so this was an opportunity for me as I trained slowly over the years to interpret for YKDFN members, at the same time relearning my Wìlìideh language. This TK info and scientific info collected will be very useful for the next generations to work on, and to learn by.

I'm very hopeful that our youth can "hear" and "see" how important it is the take care of the land – no matter where you are or where you go, listen to others speaking in the Wiiliideh language just like I did to learn how to speak and how I'm a self-taught interpreter (which I'm proud of). Mahsi Cho!

Marie Adele Football

I'm from Wekweètì, NWT. I'm married to Charles Football and have two sons, and adopted two boys and two girls, so all together I have six children. I'm very interested in reading bible and learning more about our land and water. My hobbies are picking berries, walking in nature, sewing, making dry meat and dry fish, and being on the land.

I want to be here to learn more about the water, fish, plants, and the changes after the closing of the mine. I also just love being on the land to learn about how it is now and how it will be for our youth that are coming after us.

I'm a mother, grandma, and friend to anybody that comes my way. I love my grandchild and pray that they will become a good person and have a good life. I love to learn and help others.

Celine Marlowe

I was born in Snowdrift River – now the name is Lutselk'e. I have lived there all my life, and I worked there as a classroom assistant for 20 years. After that, I took my training as a language teacher. I worked at Fort Smith for 2 years as a language teacher and the rest in Lutselk'e. In all, I worked for 39 years teaching, before retiring in 2014. My hobbies include working on moose hides and sewing.

I wanted to participant in this camp because I want to know more about how they plan on being on the land and how they are going to plan to close the mine. That is why I want to learn more about the TK Camp and to have a plan for the younger people.

It will be good if more youth come to the TK camp and stayed all through the meetings.

Mary Jane Drygeese

I was born at Enodah June 1st1941. I was raised there until I went to Fort Resolution Residential School in

Autumn, 1951. I went up to Grade 10 there, then I went back home to Enodah. Got married in 1969 and raised 7 girls and 2 boys. My favourite past-time activities are beading and sewing clothing. I was taught by my parents to do all kinds of survival skills.

I was asked to participate in the TK Camp by YKDFN Lands staff and I happily accepted. I like looking at the land and observing animal movements. I know the stories told to me by parents on the barren lands, and I finally got to see it with my own eyes.

I like to travel and see different places and people. In my travels, I observed how people did their cultural/traditional ways – especially in Arizona, the *Dina* people who say some words similar to our own way of talking.

Charlie Apples

From Behchokǫ̀.I would visit since I don't have anything to do, sometimes I would work around my house. Since a couple years ago, I can't do much – I am 87 years old. Because of that, I like to participate in meetings so I can help my people with my experience.

I want to see for myself how they are testing the fish and the water. Since I was to go out on the land, I have done that, so I would like to share that with the people.

Mary Ann Jeremick'ca

From Whati. I like translating, sewing, and going out on the land by boat, canoe and skidoo.

I was a translator for an elder, and to help my Tłı̨chǫ people to fully understand what is done on their land and in their community. I love doing this kind of work so my elders, and even young people, can understand how they are treated.

Emelie Saunders

Emelie is an Elder and Lutselk'e Band Member, raised by grandparents around Taltheilei Narrows, NWT. Born and raised in a tent and raised on land, so very familiar with the land and how to protect the water, animals, and land. I went to Fort Resolution when I was 5 or 6 years old, to attend St Joseph School. Years later returned to Lutselk'e and have 4 children, 2 boy and a set of twin girls. Now I have 14 grandchildren and two great grandchildren.

I have great interest in the land, water, animals, our medicines – it is our livelihood. Over all our Elders always remind us of taking care of our land, water, etc. Always interested if these mining companies really look after our land.

I always wished the youth and young people got more involved with Elder's teaching, as it's very valuable teachings. Always proud to see young people involved in anything to do with the land. And thank you Grandson Cody – very proud of you.

James Algona

From Kugluktuk, Nunavut. I am a Traditional Knowledge person, I love teaching TK, such as hunting and

fishing. I wanted to teach TK at the camp and also learn the fish's parts that I did not know – the science parts of it.

Ethan Kadlun

From Kugluktuk, NU. I have a common law and 2 daughters. I enjoy fishing, hunting, and camping.

The reason I wanted to participate in the TK camp was because both my parents were part of the past TK camps. I wanted to learn more about environmental impacts that the mines have on the land.

Nancy Nanegoak Kadlun

From Arctic Sound Lifting, Kugluktuk, 30 years. I have three girls and three boys, and nine grandchildren.

I wanted to participate in the TK Camp because the future is important to all my children and others. We need our water and air to be fresh.

Ed Mercredi

Born in Yellowknife and a member of NSMA. I have worked in the mining sector for many years – Canada, USA, in the Arctic from east to west, lots of travel all over the world. I love golfing and travel.

I have interest in the health of the land and water, if companies – mining and other – are respecting the land and water as they said. I will continue working for our NSMA group and keep them informed of what is coming in the future.

Lawrence Mercredi

Member of NSMA and a Yellowknife resident for 65+ years. Harvesting and bring home food from the land. I come from a large family that enjoys life. I love hockey, travelling, meeting new people, hunting and fishing. Go Habs go!

I'm concerned about the environment in which we live. I wanted to be an active participant to ensure my children, grandchildren, and great-grandchildren will enjoy this land as I've been privileged to grow up in. As an active Metis participant, I hopefully can influence how decisions are made that affect the land and environment.

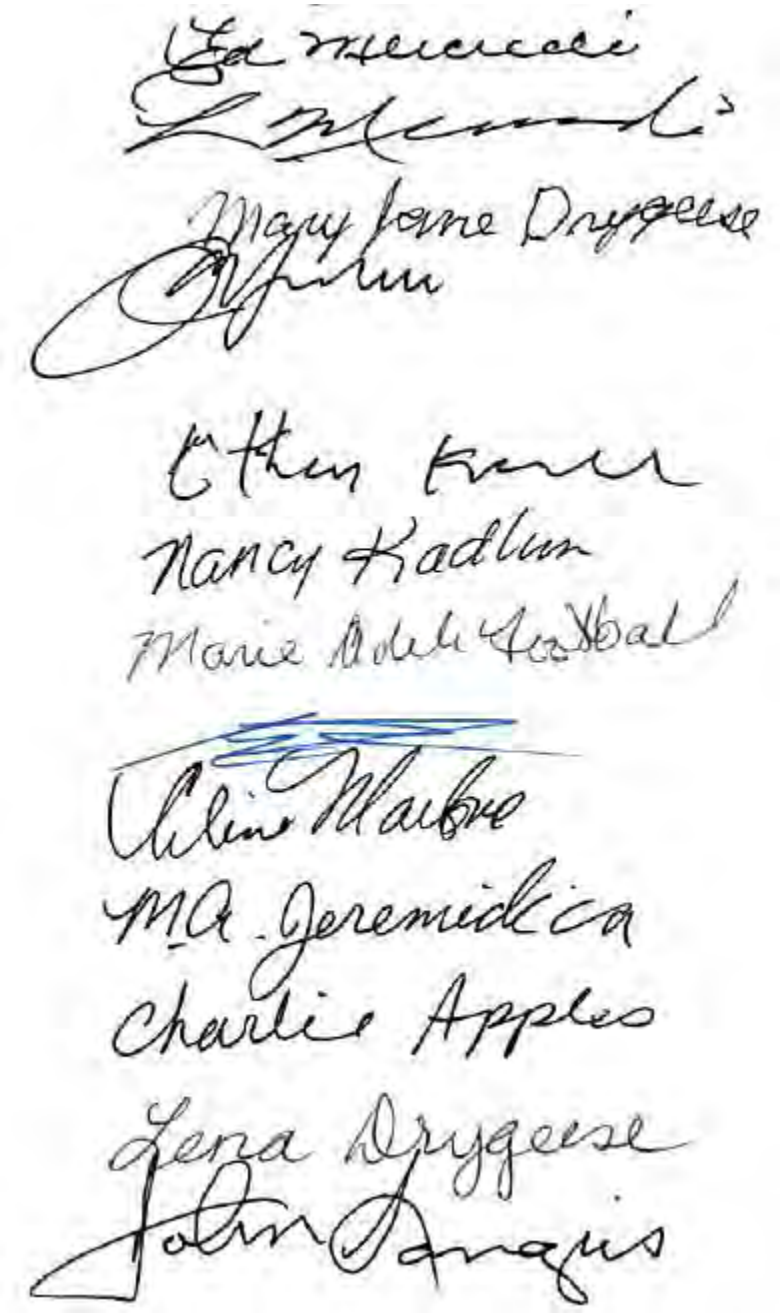
John Sangris

I went fishing all the time in the area from about 10 or 12. I still go fishing on my own and bring fish to my family in the summer and winter time. My hobby is hockey, and I used to play with the Dettah Chiefs in 1989. I'm a big Edmonton Oilers fan.

I have a lot of fishing experience – I can tell if the fish is good or not just by looking at it. I used to be able to clean 60 fish in an hour. I worked with DFO for 3 summers, cutting and gutting fish. I used to bag it in chemicals to preserve it. I used to count female eggs for whitefish and trout in a trailer next to Winks. Usually there were 3000-7000 eggs for whitefish and 1500-2000 for trout. I still go out on the land, I can't resist!

Author Signature Page

We, the undersigned are proud to present our words, wisdom, and observations before, during and after the Diavik Aquatic Effects Monitoring Program Traditional Knowledge Camp on Ek'ati (Lac de Gras) from August 8 to August 13, 2024. We present this report to affirm our shared knowledge for ourselves, our community, and our youth.



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List of Acronyms and Abbreviations

Acronym / Abbreviation	Definition
AEMP	Aquatic Effects Monitoring Program
DCE	Det'on Cho Environmental
DDMI	Diavik Diamond Mines Inc.
DFO	Department of Fisheries and Oceans
Diavik	Diavik Diamond Mine
EA	Environmental Assessment
EMAB	Environmental Monitoring Advisory Board
KIA	Kitikmeot Inuit Association
LKDFN	Łutsel K'e Dene First Nation
NSMA	North Slave Métis Alliance
PA	Participation Agreement
TG or Tłıchǫ	Tłı̨chǫ̀ Government
TK	Traditional Knowledge
YKDFN	Yellowknives Dene First Nation

1.0 Introduction

1.1 Background

The Diavik Diamond Mine (Diavik) is located on Ek'ati (Lac de Gras), about 300 km northeast of Yellowknife, Northwest Territories and operated by Rio Tinto. For generations, Indigenous peoples have used the Ek'ati (Lac de Gras) area for subsistence fishing, among other traditional land uses. During the Environmental Assessment (EA) for Diavik, and documented in the Comprehensive Study Report, concern was expressed by Indigenous groups that in-lake mining activities may adversely affect the texture and taste of fish in Ek'ati (Lac de Gras).

Diavik Diamond Mine Inc. (DDMI) and Indigenous representatives from the five Participation Agreement (PA) communities developed a fish palatability and texture study on Ek'ati (Lac de Gras). In conjunction with this study, fish tissue samples have been collected for fish health monitoring. The study was conducted each year between 2003 and 2007, and again during 2009, 2012, 2015, 2018, and 2021 with Elders and youth from each of the five parties to DDMI's Environmental Agreement (Kitikmeot Inuit Association; Łutsel K'e Dene First Nation; North Slave Metis Alliance; Tłı̨chǫ Government; and Yellowknives Dene First Nation).

The 2024 Aquatics Affects Monitoring Program (AEMP) Traditional Knowledge (TK) Camp (AEMP TK Camp or "the Camp") was the final camp to take place during the Diavik's operational phase.

1.2 Objectives

> *"As guardians of your ancestorial lands, you can see with your own eyes and teach your youth how to monitor the water, the fish and the land around the mine using both traditional knowledge and* western knowledge." –Maureen Van Overliw, Facilitator

The primary objective of the AEMP TK Camp program is to provide a space for Elders from Diavik's PA communities to observe and share feedback and TK relating to Ek'ati (Lac de Gras) large bodied fish, e.g., Lake trout (*Salvelinus namaycush*), taste, texture, and general condition and health. Participants are also invited to share their knowledge and experience of the water of Ek'ati (Lac de Gras) through water tasting (fresh, boiled, boiled with tea). Each of these activities, and the TK shared during them, have been documented thoroughly and incorporated into this final report prepared by the facilitation team.

Additionally, the TK Camp provides an opportunity for TK holders and biologists to exchange knowledge related to the Ek'ati (Lac de Gras) ecosystem. The TK holders provide critical qualitative data to the DDMI team, and its consultants, which supports a better understanding of the environment and any observable changes, as well as contribute to required AEMP reporting.

The AEMP TK Camp has been designed and adapted over many years through recommendations by past participants which has resulted in the structure followed in 2024. The process includes three main phases with their relevant objectives outlined below:

- Planning Session:
    - To review the previous AEMP TK Camp and determine lessons learned including how best to adapt the present program's agenda.

    - To provide an opportunity for participants and scientists to discuss the AEMP and any related questions.
    - To adapt the data collection forms to include TK requested by community members.
    - To facilitate an opportunity for participants to tour the Diavik mine site, ask questions, and share concerns or comments.
- AEMP TK Camp
    - To share, collect, and document TK on fish health, fish taste, water quality, and water taste in Ek'ati (Lac de Gras).
    - To facilitate the transfer of knowledge from TK holders to youth participants.
    - To provide an opportunity for participants to share their knowledge and cultural experience of the area.
- Verification Session
    - To review the draft report and verify the TK collected and presented.
    - To hear the results of the scientific sampling.

1.3 Indigenous Group Participation

Youths and Elders from the following five Participation Agreement communities attended the camp:

- Kitikmeot Inuit Association (KIA)
    - Nancy Kadlun
    - James Algona
    - Ethan Kadlun
- Łutsel K'e Dene First Nation (LKDFN)
    - Celine Marlowe
    - Emelie Saunders
    - Sweetgrass Casaway
- North Slave Métis Alliance (NSMA)
    - Edward Mercredi
    - Lawrence Mercredi
    - Karson Mercredi
- Tłı̨chǫ Government (TG or Tłı̨chǫ̀)
    - Mary Ann Jeremick'ca
    - Marie-Adele Football
    - Charlie Apples
- Yellowknives Dene First Nation (YKDFN)
    - Mary Jane Drygeese
    - John Sangris
    - Lena Drygeese
    - Duncan Sangris

Stephanie Beaverho (TG), James Rabesca (TG), and Adrien D'hont (NSMA) attended the Planning Session but were not available to attend the AEMP TK Camp.

1.3.1 Other Attendees

The TK Camp was facilitated by Det'on Cho Environmental and Leadership Labs Consulting. The facilitation team include:

- Maureen Van Overliw, Lead Facilitator (Leadership Labs Consulting)
- Cody Drygeese, Co-Facilitator (Det'on Cho Environmental)
- Zhanayii Drygeese, Notetaker (Det'on Cho Environmental)

DDMI provided a number of staff to support the AEMP TK Camp including:

- Tara Marchiori
- Mark Nelson
- Gordon Cumming
- Kyla Gray
- Anton Jitnikovitch
- Ed Henri
- Justin Macek
- Rebecca Huang
- Tina Burke

Additional attendees included:

- Allison McCabe (Environmental Monitoring Advisory Board)
- Rainie Sharpe (WSP - Fish Biologist)
- Paul Vecsei (Tłı̨chǫ Government – Fish Biologist) - Planning Session and Verification Session only

1.4 Indigenous Terminology

There were several important place names and terms for fish parts in each Indigenous language (Table 1).

Table 1 Important Place Names and Fish Part Names

Fish Part	Indigenous Dialect			
	Inuinnaqtun (old spelling / new spelling)	Wıìlıìdeh Yatıì	Tłı̨chǫ Yatıì	Dené Sǫłıné
Gills	mahik	łıwek'aà	łıwek'aà	łuek'ẽs
Heart	omat (uummat)	łıwek'aà	łıwedzeè	łuezıé
Livers	tingok (tinguk)	łıwewò	łıwewò	łueddhër
Fin	huluk	łıwet'aà	łıwet'aà	łuegháyé
Gall Baldders	hongak (hungaq)	łıwetł'òò	łıwetł'òò	łuetł'ézé
Pylorus	nigvik	łıwets'ıì	łıwets'ıì	łue ts'ı
Stomach	akiagok (aqiaruq)	łıwebò	łıwebò	łuebẽr
Guts	hunagak (hunagaq)	łıwets'ı̨ı̨	łıwets'ıì	łuechane
Scales	kapihi	łıwet'ıì	łıwet'ıì	łuegǫ́dhé
Eggs	hovak (huvak)	łıwek'ı̨ı̨	łıwek'ı̨ı̨	łuek'uné
Head	niaquq	łıwekwì	łıwekwì	łuetthí
Kidney	taktonak (taqtuk)	łıwets'oo	łıwets'oo	łuéts'ézé
Swim Bladder	mamingoyak	łıwet'ahsò	łıwet'ahsò	n/a

Intestine	ingaloak (ingaluaq)	łıwets’ì	łıwets’ıì	łuéts'ıé
Muscle	nokik (nukik)	łıwekwǫ̀	łıwekwǫ̀	łuett'ı
Skin	Amik (amiraq)	łıwet’ìì	łıwet’ìì	łuedhé̋th
Anus	Itik (itiq)	łıwetsǫ̀	łıwetsǫ̀	łuetthël

Note: Terms borrowed from the 2018 AEMP TK Camp Report. Terms originally provided by interpreters during the December 2015 Verification Session (Thorpe Consulting Services, 2019).

Original Reviewers: Inuinnaqtun by Gwen Angulalik and Margo Kadlun; Wìılìideh Yatıì by Maro Sundberg; Tłı̨cho̜ Yatıì by Margaret Mackenzie and Dené Soɂıné by Bertha Catholique.

Although spellings differ in various sources, names for Lac de Gras include:
• Ekatı or ʔek’adı, in Tłı̨cho̜ Yatıì (Dogrib)
• Ek’atı in Wıìlıìdeh Yatıì
• Ek’a Tua in or Dënesųłiné / Dené Soɂıné (Chipewyan)
• Emakyoak / Imaryuaq in Inuinnaqtun

2.0 Approach and Methods

2.1 Overview

The AEMP TK Camp began in 2002 based on direction from Elders and TK holders. The Camp focused on fish palatability and texture initially before shifting to include water quality. The Camp was conducted annually between 2002 and 2007, then every three years beginning in 2009. The 2024 camp represents the final camp during production at Diavik as it is slated to halt production in 2026.

Through the years, the Camp's structure has changed to match the recommendations, needs, and constraints of the participants, mine site, and external events. For example, the 2021 AEMP TK Camp was conducted differently than previous years to accommodate COVID-19 restrictions. In 2024, AEMP TK Camp participants and facilitators were challenged with helicopter constraints due to machines being redirected to fight forest fires elsewhere in the Northwest Territories.

2.1.1 AEMP TK Program Phases Overview

The AEMP TK Camp Program as a whole is comprised of three stages: the Planning Session, the AEMP TK Camp, and the Verification Session.

2.2 Planning Session

Prior to the AEMP TK Camp, participants were invited to Diavik to partake in a Planning Session hosted by the facilitation team. This session took place on July 2-4, 2024. The intent of the Planning Session is to review TK collection methodology from previous camps, adapt it to fit the needs of the 2024 participants, discuss logistics, and plan activities. The Planning Session is an important part of the AEMP TK Camp structure as it provides an opportunity for participants to meet or reconnect with one another. It is a time for participants to share feedback on how they would like to see the Camp conducted and to get to know the facilitation team.

During the session, participants were informed by Diavik staff that the typical arrangements for the AEMP TK Camp would have to be adjusted for this year. Unlike previous years, the 2024 TK AEMP Camp participants did not stay at the Ek'ati (Lac de Gras) camp overnight during the August camp. A number of reasons were provided and are further outlined in **Section 2.3.1.**

The Planning Session began with an opening prayer and a review of the agenda (Appendix A) followed by a presentation from Rainie Sharpe, a consultant fish biologist from WSP working for DDMI on the AEMP. Sharpe outlined DDMI's AEMP and took questions from those in attendance. Questions included:

- How long data has been collected
- If data was collected before the mine went into operation
- If photos or reports exist from studies done in early mine life
- Request to see a grab sample of the bottom of Ek'ati (Lac de Gras)
- Which fish is most abundant in Ek'ati (Lac de Gras)
- If plankton levels have shifted in Ek'ati (Lac de Gras) in the same way they have shifted in Great Slave Lake.
- If dust from the mine affects the lake bottom and ocean bottom near Diavik
- The effect on bugs in the lake from dust fall

- What might cause a fish to have cysts
- Request to have more photos of the site and roads in the winter
- How is waste managed along the winter road.

Following this discussion, participants reviewed the 2021 camp and a discussion around the observed fish health concerns ensued. Some participants from the 2021 Camp were in attendance, but many were new. Paul Vecsei, a fish biologist for the Tłı̨chǫ Government was in attendance and provided information on the health concerns observed by the 2021 participants, sharing information that could explain why participants were observing cysts and parasites in the fish of Ek'ati (Lac de Gras).

Participants were then invited to review the draft TK forms (Appendix B) created by the facilitation team based on previous AEMP TK Camps. As each Camp involves a different set of participants, it is expected that there will be requested edits and changes made to the forms from previous years. In this instance, participants request several updates which included room for additional details, more concise language, and visuals of fish for labelling, among other revisions.

Following the session, the facilitation team took these requests and generated a Change Tracking Table (Table 2). The updated forms with the request incorporated were then created and utilized during the AEMP TK Camp in August. These updated versions can be found in Appendix C.

During the Planning Session, participants reviewed and completed an Informed Consent Form. A copy of this form and the completed versions can be found in Appendix E and F respectively.

Additionally, as part of the Planning Session, participants were taken on a site tour via bus visiting the following locations at Diavik:

- Solar farm
- Processed Kimberlite Containment Facility (PKCF)
- North Country Rock Pile (NCRP)
- Boat dock
- Blessing of the water/land
- Windfarm

Table 2 Traditional Knowledge Form – Requested Revisions from Planning Session

Form Section	Current Status	Proposed Change	Comments
Fish Internal Form			
Deformities Section	Currently titled "Deformities" and has words selected to describe what is being seen	Change the heading to "Observations" and give a space in the box for the participants to describe what they are seeing	N/A
Overall Determination Section	Currently has check boxes to rate whether you would eat the fish	Add some lines for comments to describe the Elders decisions	N/A
Intestine Section	“Intestine”	“Stomach Contents”	N/A
Tissue & Odour Section	"Tissue"	Heading to be changed to "Meat"	Group discussion led to the decision to remove Tissue/Meat & Odour box and make it a subcategory under "Overall Determination" and make sure that there is room for comments to determine their choice in Overall Determination.
Fish Internal Description Box	"Recorder Name, Community Group, Date, Location, Fish ID, Fork Length, Total Length, Weight"	Remove box as it is also included on the Fish External Form	Determined it would be redundant to be on both forms
Checklist of Other Indicator Box	Heart, Kidney, Liver, Gall Bladder - included underneath a check box for the condition and size of each organ	Include a legend of a fish indicating where the following body parts will be found inside the fish	N/A
Checklist of Other Indicator Box cont.	**Heart, Kidney, Liver and Gall Bladder** currently have a condition and size section with check boxes. The condition choices being Poor, good, or average, and the Size choices being Too small, Average, and Too big.	**Heart:** Strike condition, and replace with Heart colour and a checklist including "Dark red, Light red, Pink, White" **Kidney**: Strike condition replace with Kidney colour and a checklist saying "Dark red, Light red, Pink, White" **Liver**: Strike condition, replace with Liver colour and a checklist saying "Reddish brown (Healthy), Pale (Less healthy)" **Gall Bladder**: Strike condition and replace with Gall Bladder colour and a checklist saying "Dark red, Light Red, Pink, White"	N/A
Eggs Box	Check boxes for Eggs Present or Not present	Add a description line for size of eggs, also add fattiness of meat under eggs description	Edward had asked if the colour of the eggs indicates anything about their health, Rainie said the colour can indicate how far along the eggs are. Also, including the fattiness of meat under the egg’s description. The Tissue section does not indicate anything about the fat

			content of the fish, which is important context when studying Lake Trout.
Water Quality Form			
New section	N/A	Add a section for "Light Conditions"	N/A
Colour Section	"Murky Yellow"	"Yellow"	N/A
Temperature/Depth Section	Check boxes for Depth being "Deep, Avg, Shallow" Temperature being "Cold, Avg, Warm"	Remove Average Temperature option, and remove the Depth section due to it being captured at the beginning of the form	N/A
Wind Speed and Direction	Added to the beginning of the Form to help inform water movement	Wind speed and direction could be gathered by calling the airport	N/A
Water Tasting Form			
Water Sample Holder	Water Sample holder	Water does not leave the sight of the Elders, to be sure samples are not being changed out with different water.	Have had concerns about the potential for the water sample to be changed out with different water. There is a concern that the data was being manipulated by whoever was holding the water.
Water Sample Collected	N/A	N/A	Water collected on the surface appeared clear, while mid-depth had small black bugs. Paul informed that this is natural and often changes throughout the day and is a good indicator of water health.
Water Treatment Plant	N/A	N/A	Explanation of the process of the Water Treatment Plant discharge water was requested by participants.
Water Tasting Seasons	Every 3 years/Summer months	Different Seasons	John A. requested that there be water tastings in different seasons to see what the difference is and to compare the taste to the 2024 Fish Camp.
Water Boiling Procedures	Fire	Propane stoves	The group stated that previous tastings indicated that there was a smoky aftertaste. Diavik confirmed there will be propane stoves to boil the water.

The following participants in attendance at the AEMP TK Camp were not in attendance at the Planning Session. Youth were not included in the Planning Session as it was assumed that many would be unavailable due to school. Others listed below were replacements for participants from the Planning Session who were unavailable for the AEMP TK Camp in August.

- Kitikmeot Inuit Association (KIA)
    - Ethan Kadlun
- Łutsel K'e Dene First Nation (LKDFN)
    - Emelie Saunders
    - Sweetgrass Casaway
- North Slave Métis Alliance (NSMA)
    - Lawrence Mercredi
    - Karsen Mercredi
- Tłı̀chǫ Government (TG or Tłı̨chǫ̀)
    - Mary Ann Jeremick'ca
    - Charlie Apples
- Yellowknives Dene First Nation (YKDFN)
    - Duncan Sangris

A copy of the Planning Session agenda can be found in Appendix A. The meeting notes from the Planning Session are located in Appendix D.

2.3 AEMP TK Camp

The AEMP TK Camp took place from August 8 to 13, 2024 and included programming at both the Ek'ati (Lac de Gras) TK Camp as well as Diavik's main accommodations. It was the intention of the facilitation team to ensure the participants were as comfortable as possible and felt that their opinions were being heard and recorded. The first day began with a feeding the fire ceremony and included drumming and prayer. Each day also began and ended with a prayer, and feeding the land or water was accommodated wherever requested. A copy of the agenda for the AEMP TK Camp can be found in Appendix G.

Figure 1 Photos from Ek'ati (Lac de Gras) Camp

Additional photos from the AEMP TK Camp can be found in Appendix S.

2.3.1 Overview

In previous years, the AEMP TK Camp has been conducted entirely at the Ek'ati (Lac de Gras) camp with participants, facilitators, and staff spending all day and night at the camp. For the 2024 camp, several logistical challenges led to the decision to have all participants sleep at Diavik's main accommodations and instead travel to the Ek'ati (Lac de Gras) camp each day by either boat or helicopter. During the planning session, and at the beginning of the AEMP TK Camp, Diavik staff explained the rationale behind this decision, including the following:

- Safety and emergency response constraints
- Comfort
- Weather exposure
- Increased access to information when requested by participants

The change in plans allowed for a more comfortable experience for the participants; however, it was noted by participants that a lot of time was spent waiting to be transported to and from the Ek'ati (Lac de Gras) camp.

DDMI had arranged for a large helicopter (Bell 212) to transport up to 12 people at a time however, it was pulled into duty to support wildfire efforts in Alberta and the only machine available to support the camp was a Bell 206, which could only transport 4 passengers at a time. This unfortunately resulted in longer wait times and less time spent at the camp as shuttling back to Diavik began earlier than planned.

As a result, TK data collection was done as efficiently as possible.

The schedule for the AEMP TK Camp was designed based on feedback from participants at the planning session and worked to optimize the time available due to the change in logistics. There was a concern that the sense of community and connection made possible in previous camps as a result of participants staying at the Ek'ati (Lac de Gras) camp together might be lost. The agenda was therefore designed to include activities that would allow participants to connect in the evening, even once the work was completed for the day. Evening bingo, a hand games demonstration, and beading supplies were prepared as evening activities to promote connection amongst participants.

Copies of the revised TK collection forms used during the TK Camp are included in Appendices I and J.

2.3.2 Checking and Tasting Fish

Fish were retrieved from Ek'ati (Lac de Gras) either by net or by rod. Tables 3 and 4 below provide information of the gill netting and angling efforts. The nets used for this were 100 ft long with 5.5-inch sized mesh. Participants chose locations to set nets based on lake depth, currents, shoreline, net locations from previous camps, and weather prior to setting and are shown in Figure 2.

From August 9-11, nets were set in the evening while returning from the camp and collected early the next morning. Camp members and DDMI together made the decision to set the nets overnight to increase the likelihood of catching fish, and to avoid logistical constraints with limited time at the camp. Nets were set

as late and collected as early as possible to limit the time that fish were caught in the net, and to maximize the amount of time available to process the caught fish during the day.

To improve processing capacity, a second processing station was built prior to this camp. Each station included an Elder and a recorder, either a youth or a facilitator, to assist in documenting the observations of the Elder and filling out the TK forms (Table 8 and 9). Any Elder or youth could observe the fish under examination; however, each fish was typically examined by one Elder and has one corresponding TK form. Each station was overseen by a DDMI staff member who supported the biologist to collect and record scientific data (Appendix P).

Additionally, two fish were selected for palatability. Lake Trout #10 and Lake Trout #15 were selected, and fish palatability TK forms were filled out for these fish (Section 3.1.3).

Once retrieved, fish were examined by participants for internal and external characteristics from a traditional knowledge perspective including:

- External characteristics
    - Species
    - Sex
    - Fork length
    - Total length
    - Gill colour
    - Tissue firmness
    - Shape
    - Weight
    - Any other indicators of health or deformities
- Internal characteristics
    - Tissue
    - Odour
    - Organ health
    - Eggs
    - Signs of abnormalities
    - Presence of parasites

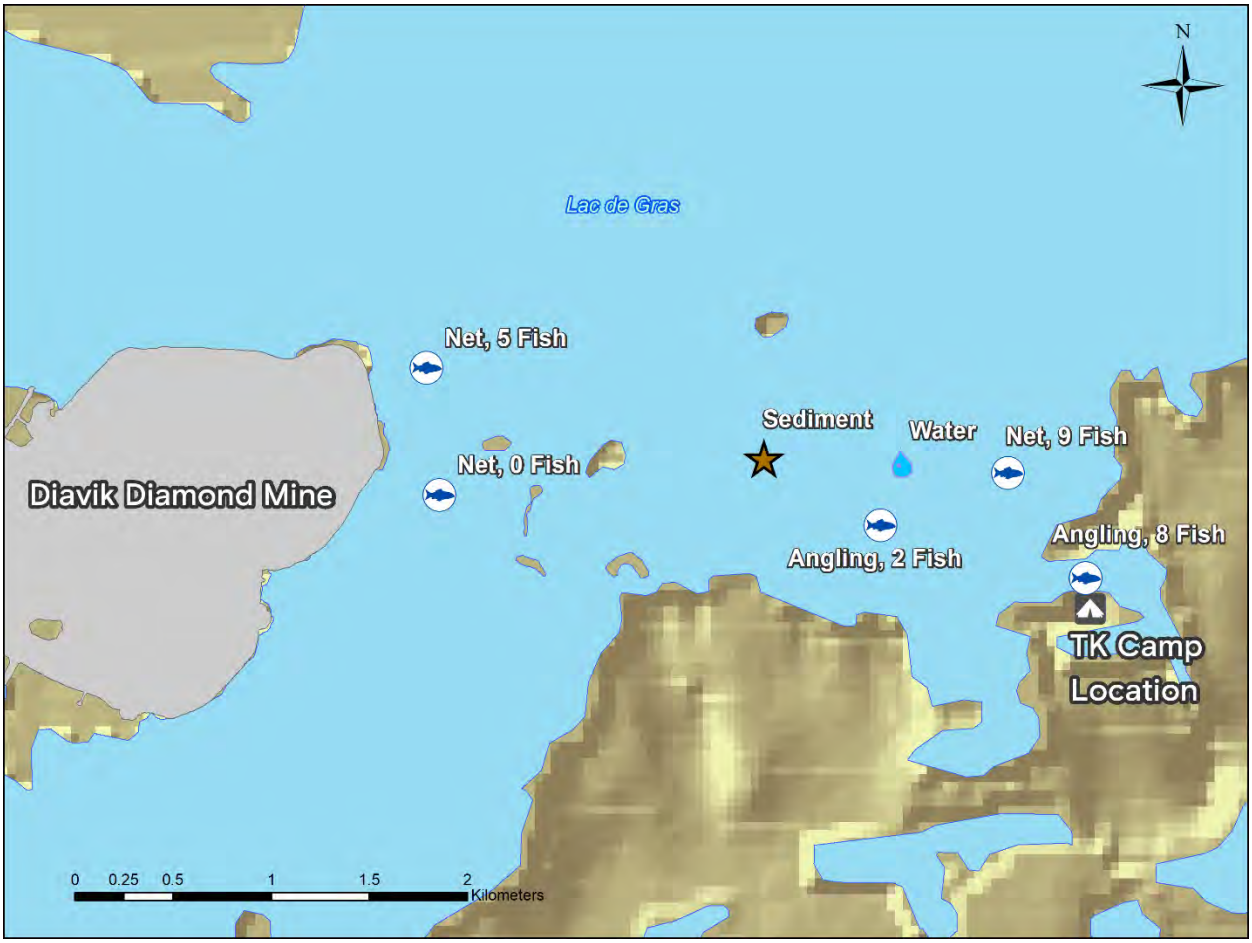

Figure 2 Locations of net sets, angling, and water and sediment sample locations with amount of fish caught at each location.

The WSP fish biologist provided a scientific demonstration on the first day of fishing. She demonstrated how to:

- Measure fish length and weight
- Dissect fish for ease of internal analysis
- Collect muscle tissue samples for metals analysis, including mercury content
- Collect otolith samples from the inner ear of the fish for aging
- Collect fin clips as an alternative method for aging
- Identify presence of parasites in the fish and collect samples for identification
- Determine sex of the fish
- Examine organs for health

Scientific data was collected while the participants recorded TK data on the same fish. In total, 24 fish were caught during the camp, including 8 retrieved by fishing off the dock and 2 caught while trolling with the boat (Table 3 & 4). 15 fish were processed for TK and scientific analysis and 1 was returned to the lake alive. 7 fish were not analysed due to time constraints. On August 11, 17 fish were caught throughout the day, then high temperatures forced some participants to return to Diavik early to escape the heat, further impacting available processing time. The 7 non-analyzed fish were filleted, and all usable meat was frozen

at Diavik for participants to take home to avoid waste. Fillets were taken home by DDMI staff after participants indicated they did not wish to bring any home at the end of the camp. All fish caught were Lake Trout (*Salvelinus namaycush*).

Table 3 Net Setting and Retrieval

Set/Retrieve	Date (Time)	Location	Participants	Details
Net Set 1	Aug 9, 2024 (5:00pm)	NAD83, UTM Zone 12 537669m E, 7153112m N	James Algona, Duncan Sangris, Sweetgrass Casaway, Zhanayii Drygeese	-
Net Retrieval 1	Aug 10, 2024 (9:45am)	NAD83, UTM Zone 12 537669m E, 7153112m N	James Algona, Duncan Sangris, Sweetgrass Casaway, Zhanayii Drygeese	4 Lake trout kept for processing, 1 frozen whole. 5 fish were caught in total.
Net Set 2	Aug 10, 2024 (10:00am)	NAD83, UTM Zone 12 537791m E, 7152723m N	James Algona, Duncan Sangris, Sweetgrass Casaway, Zhanayii Drygeese	-
Net Retrieval 2	Aug 10, 2024 (2:00pm)	NAD83, UTM Zone 12 537791m E, 7152723m N	Duncan Sangris, James Algona, Karson Mercredi, Zhanayii Drygeese	0 fish were caught in this net.
Net Set 3	Aug 10, 2024 (5:00pm)	NAD83, UTM Zone 12, 540689m E, 7152834m N	Charlie Apples, Mary Ann Jeremick'ca, Sweetgrass Casaway, Zhanayii Drygeese	-
Net Retrieval 3	Aug 11, 2024 (9:15am)	NAD83, UTM Zone 12, 540689m E, 7152834m N	Karsen Mercredi, Lawrence Mercredi, Zhanayii Drygeese	5 Lake trout processed, 4 filleted after processing time ran out to avoid waste, not included in TK or Scientific analysis. 9 fish were caught in total.

Table 4 Fishing Rod Effort

Rod Effort	Date (Time)	Location	Description
1	Aug 10, 2024 (1:00 - 3:00pm*)	NAD83, UTM Zone 12 541085m E, 7152298m N, Dock at TK camp	4 rods, 2 Lake trout caught.
2	Aug 11, 2024 (11:15am-12:15pm)	NAD83, UTM Zone 12 541085m E, 7152298m N, Dock at TK camp	4 rods, 6 Lake trout caught. 5 fish processed, 1 not processed due to time constraints
3	Aug 11, 2024 (2:00-2:20pm)	NAD83, UTM Zone 12 540040m E, 7152568m N, Trolling in large bay in front of TK camp	3 rods, trolling, 2 Lake trout caught, 1 kept and processed, 1 landed and returned to lake alive

Note: *Time was estimated

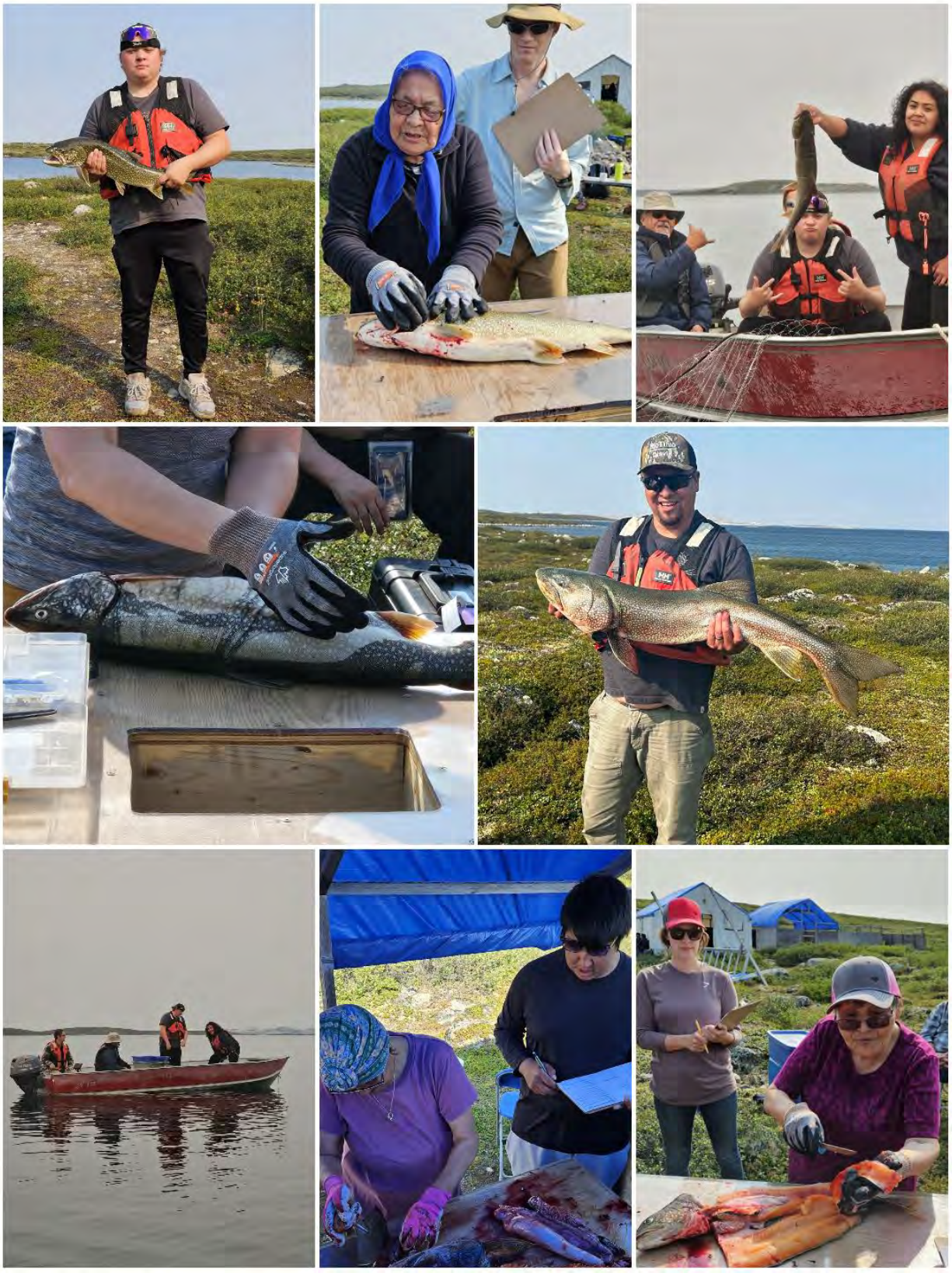

Figure 3 Fish Sampling at Ek'ati (Lac de Gras) Camp

2.3.3 Checking and Tasting Water

During the Planning Session it was requested that more information be provided regarding how the Water Treatment Plant functions. As a results, participants were provided with the opportunity to visit Diavik's Water Treatment Plant during the TK Camp. This visit occurred on the first day of the camp. As the Water Treatment Plant can be a challenging place for anyone with mobility issues, participants could opt to stay in the Training Room and watch a presentation and video tour of the Water Treatment Plant instead.

The Water Treatment Plant adds chemicals to the mine water to reduce the amount of suspended particles in the water so that it is safe to discharge into Ek'ati (Lac de Gras). All mine water is pumped to the North Inlet where it is stored, from there the water to be treated goes into the Water Treatment Plant. A flocculant chemical is added to the water to make the suspended particles start to form in the water, then a coagulant chemical is added to make the particles stick together and get bigger. The big particles are then allowed to settle in the clarifier tanks while the clear, treated water is discharged into Ek'ati (Lac de Gras) as treated effluent. The settled particles are deposited into the North Inlet. Diavik has a very strict set of effluent quality criteria (EQC) that are defined by Diavik's Water Licence that the treated water going into Ek'ati (Lac de Gras) must meet.

On August 9, water samples were collected for TK and scientific analysis. The sampling locations for water and sediment were determined by participants in the morning planning meeting (Table 5 and Figure 2).

Table 5 Water and sediment sample collection

Site	Date (Time)	Location	Participants	Details
TK-1 (-T, -M, -B) (water chemistry analysis sampling)	August 9, 2024 (1:15 pm)	NAD 83 UTM Zone 12 540150m E, 7152888m N	Sweetgrass Casaway, Karson Mercredi, Duncan Sangris, Ethan Kadlun, Nancy Kadlun, James Algona, Gordon Cumming, Anton Jitnikovitch	3 samples taken at 2m, 7m, and 12m depth. Maximum water depth was 14.29m
TK-2 (sediment chemistry analysis Sampling)	August 11, 2024 (1 :25 pm)	NAD 83 UTM Zone 12 539444m E, 7152910m N	Duncan Sangris, Lawrence Mercredi, Edward Mercredi, Karson Mercredi, Gordon Cumming, Anton Jitnikovitch	Sample of top 1cm from 3 sediment cores. Water depth was 14.2m

Two boats with elders, youth, Diavik staff and a facilitator travelled to the sampling point in the morning to complete the collection. Diavik Environment team members Gordon Cumming and Anton Jitnikovitch led capacity building lessons on scientific water quality sampling techniques that Diavik uses as part of its Aquatic Effects Monitoring Program (AEMP) to monitor water quality in Ek'ati (Lac de Gras). Table 6 summarizes the requirements of the AEMP and the sampling methods that were demonstrated on August 9.

Water samples were collected at the top, middle, and bottom of the lake following standard AEMP sample collection procedures using a Van Dorn Beta Bottle. 10L containers of water were collected at each depth for tasting. Scientific water samples were sent for chemical analysis at an external laboratory after the camp. Sediment sampling using an Ekman grab and a Sediment Corer was demonstrated alongside the collection of water samples. Ekman-collected sediment was saved in a bucket and a sediment core was capped and both were saved for viewing by participants.

The water and sediment samples were then brought back to the Ek'ati (Lac de Gras) camp where Elders were invited to participate in the water tasting and view the sediment samples. Data on the sediment are included in Section 3.3.2, Table 16. Three separate water tastings occurred, including fresh water, water that had been boiled then cooled, and boiled water that was steeped using Red Rose tea bags. Youth and facilitators recorded elder's comments on water quality analysis forms. At the request of participants, all water boiling was conducted over propane stoves rather than over an open flame as there was concern the smoke from the fire may impact the taste. The results of the tasting are included in Section 3.3, Table 13.

At a meeting later that day, a participant requested that a sediment sample be collected and analysed for chemistry at a location that is not normally tested as part of the AEMP. The requested sediment sample was collected on August 11 in the bay outside the TK camp and sent for analysis at an external laboratory for sediment chemistry. The results are included in Table 16.

Table 6 Annual AEMP Sampling Summary

Analysis Required	Demonstrated or discussed?	Sample Method	Timeline
Biophysical profile	Demonstrated and Collected Aug 9, 2024	YSI probes collecting Temperature, pH (acidity), conductivity (ability of water to conduct electricity), dissolved oxygen, turbidity (clarity of water) throughout water column	2x yearly, under ice in spring and in late summer, every month in lake near the effluent diffuser
Light penetration	Demonstrated and recorded Aug 9, 2024	Secchi Disk to estimate light penetration	Every year in summer
Water Quality	Demonstrated and collected Aug 9, 2024	Water samples at various depths with the Van Dorn Beta Bottle.	2x yearly, under ice in spring and in late summer, every month in lake near the effluent diffuser
Nutrients Chlorophyll *a* Phytoplankton Species (Taxonomy)	Discussed Aug 9, 2024	Composite (mixed), depth integrated from top 10m of water column, throughout depth where sunlight reaches;	2x yearly, under ice in spring and in late summer, nutrients every month in lake near the effluent diffuser using Beta Bottle
Zooplankton – quantity (biomass) and species (taxonomy)	Demonstrated Aug 9, 2024, not collected for lab analysis	Plankton net pulled up from 1m off the lake bottom.	Every year in summer
Benthic Invertebrates	Demonstrated Aug 9, 2024, not collected for lab analysis	1 Composite of 6 grabs using Ekman Grab.	Every 3 years in summer
Sediment Chemistry (Lake Bottom)	Demonstrated Aug 9, 2024, collected Aug 11, 2024	1 composite of 3 sediment cores using the top 1cm of each core. And composite of 6 Ekman grabs using top 5 cm of Ekman grab sediment.	Every 3 years in summer
Fish Health	Discussed Aug 9, 2024	Slimy Sculpin small bodied fish survey	Every 3 years in summer

Figure 4 Water Sampling and Tasting

2.3.4 Interviews

Interviews were conducted by the facilitation team on the final day of the TK AEMP Camp with each individual Elder.

Interview questions included:

- Before coming to the AEMP TK Camp, what beliefs did you already have about the water quality and the fish's health at Ek’ati (Lac de Gras)?
- While at the AEMP TK Camp this week, describe what you observed about the water quality.
- While you were at the AEMP TK Camp this week, describe what you observed about the health of the fish.
- Can Diavik provide any further information or data to help you better understand the quality of the water or the health of the fish?
- Do you have any other comments you'd like to offer?

Response to these questions have been used in the following Observations section (Section 3) and are included in Appendix L.

2.3.5 Evaluation

Feedback from participants was solicited informally throughout the Camp through conversations and sharing circles with the facilitators and Diavik staff, as well as formally through Evaluation Forms and interview questions.

On the final day of the TK AEMP Camp, participants were asked to complete an Evaluation Form to assess how they felt the camp went. Copies of these evaluations can be found in Appendix H.

During the interviews, participants were also asked if there was additional information or data Diavik could provide to help participants better understand the quality of the water or the health of the fish. They were then asked if there were any other comments they’d like to offer. Responses to these questions can be found in Section 4.

Figure 5 TK Camp Daily Life

3.0 Observations

The information presented in the following sections is based on feedback shared by participants through the completion of the TK forms, participation in one-on-one interviews, through conversations around the Camp, or during closing remarks.

3.1 Fish Observations

Specific fish were selected by participants for examination for several reasons including random selection, how the fish was caught (rod or net), freshness, size, smell, and overall appearance. Additionally, all fish were photographed externally and internally. These photos can be found in Appendix V. Table 7 breaks down which fish were assessed internally, externally, and for palatability.

Fish observed on Day 1 were labelled #1-6 while fish observed on Day 2 were labelled #10-18.

Table 7 Fish Selected by Observations

Fish ID	Assessed Internally?	Assessed Externally?	Assessed by Cooking and Tasting?
LT #1	-	X	-
LT #2	X	X	-
LT #3	X	X	-
LT #4	X	X	-
LT #5	X	X	-
LT #6	X	X	-
LT #10	X	X	X
LT #11	X	X	-
LT #12	X	X	-
LT #13	X	X	-
LT #14	X	X	-
LT #15	X	X	X
LT #16	X	X	-
LT #17	X	X	-
LT #18	X	X	-

3.1.1 External Inspections

- Some shared that trout seem to have overtaken whitefish populations compared to past years, and that this may be due to food scarcity and the trout eating the whitefish.
- Cysts, parasites, and worms were noted by participants who completed the internal fish evaluations. These observations were made for nearly all fish.
- Most participants observed that the outsides of the fish were healthy and looked good. It was shared that scales turn white from the heat and that white gills can indicate an old fish or a fish that has been left out too long.
- Observations of the gills included pinkish/pale (4 responses), light red (8 responses), and dark red (2 responses).
- LT #3 and #6 were observed to have a large head but a skinny body whereas LT #2 was observed to have a small head and a large body. All other fish examined were observed to have average sized heads and bodies.

"When I first came here, I was looking forward to the whitefish - I was hoping to catch whitefish. But now I know, all the trout are eating all the whitefish. It's got to be the water. Either the water or the ground underwater, there's something wrong there. They're not getting their food. They're starving – like the way we checked their stomach, there's hardly anything in there in some of them." – John Sangris, YKDFN

"There was only one good trout. One out of seventeen – that's so sad." – John Sangris, YKDFN

"It seems to me that only trout was caught. In previous years, there was different species, but the last two times I was here there's only trout." – Lena Drygeese, YKDFN

"I was reminded by my spouse and other Elders, 'don't drink water and don't eat the fish,' that's what they told me before I came." – Mary Ann Jeremick'ca, TG

"In some aspect, I won't be convinced. The reason why I'm saying that is that all these people that are doing the testing, the scientists – they will not personally go down to the lake and take a cup of water and drink it. Everyday, like we would do when we go hunting. And they are not going to catch fish everyday and eat it. The amount that we eat, on a daily basis, they're not going to eat it. This is our food. So, if it makes you sick, taking a little bit everyday, eventually it will get worse over time. But them, they'll eat it once just to convince us that it's good. So, nothing that they say will convince me that it's healthy, and that the water is clean." – Charlie Apples, TG

Table 8 breaks down participant responses to the TK External Fish Forms.

Table 8 TK External Fish Form Participant Responses

Recorder Name	Community Group/Elder	Date	Location	Fish ID #	Species	Sex	Fork Length (millimetres)	Total Length (millimetres)	Gills	What can you teach us about the outside of the fish?	Is there anything unusual about this fish?	Why was this fish selected?	Firmness	Other indicators/Deformities	Shape	Scale	Other	Girth
Lena Drygeese	YKDFN - Mary Jane Drygeese	11-Aug-24	Ek'ati (Lac de Gras)	LT #11	Lake Trout	Unknown/not recorded	552 mm	713 mm	Dark Red	Kinda hard (bouncy)	No	Not too heavy too handle	Typical Rebound	None	Average body/average head	8 lbs	N/A	Average
Zhanayii Drygeese	LKDFN - Emelie Saunders	11-Aug-24	Ek'ati (Lac de Gras)	LT #16	Lake Trout	Female	647.7 mm	723.9 mm	Pinkish/Pale at the tips of the gills	N/A	Pale colour at the tip of the fish gills	Random Selection	Typical Rebound	None	Average body/average head	N/A	N/A	Average
Zhanayii Drygeese	LKDFN - Emelie Saunders	11-Aug-24	Ek'ati (Lac de Gras)	LT #10	Lake Trout	Male	580 mm	610 mm	Light Red	N/A	The cysts, worms, parasite, and swollen heart (aorta)	It looked like a healthy fish, just by looking at it.	Typical Rebound	Parasites, worms, internal (on organs)	Average body/average head	N/A	N/A	Fat
Maureen Van Overliw	LKDFN - Emelie Saunders	10-Aug-24	Ek'ati (Lac de Gras)	LT # 2	Lake Trout	Unknown/not recorded	N/A	N/A	Light Red, pale (dead since this morning)	N/A	Was caught this morning and its colour has changed. Smaller head than usual. Looks like it was bit near its tail.	Because it has a nice smell	Typical Rebound	Bitten tail	Fat body/small head	8.3 lbs	N/A	Average
Maureen Van Overliw	TG - Marie Adele Football	11-Aug-24	Ek'ati (Lac de Gras)	LT #17	Lake Trout	Unknown/not recorded	780 mm	850 mm	Light Red, pink, healthy, looks good	The fins look good	No	Because I'm so tiny and I wanted a bigger fish	Typical Rebound	None	Average body/average head	10 lbs	N/A	Skinny/Average
Zhanayii Drygeese	TG - Mary Jane Jeremick'ca	11-Aug-24	Ek'ati (Lac de Gras)	LT #18	Lake Trout	Unknown/not recorded	680 mm	710 mm	Light Red, fins = good condition	It looks good, by feeling it, it's not soft	No	Cause it was fresh	Typical Rebound	None	Average body/average head	N/A	N/A	Average
Cody Drygeese	TG - Marie Adele Football	10-Aug-24	Ek'ati (Lac de Gras)	LT #4	Lake Trout	Male	660 mm	700 mm	Pink, been out of the water too long	Looks good, skin feels good	Small bump on tail	Not too big or long, Marie Adele prefers medium size fish	Typical Rebound, Marie Adele compares fish to fish at home, feels firm	Multiple cysts on stomach, 4 on 1 side, 2 on the other meat tissue	Average body/average head	8.5 lbs	N/A	Average
Ethan Kadlun	KIA - Nancy Kadlun	11-Aug-24	Ek'ati (Lac de Gras)	LT #12	Lake Trout	Unknown/not recorded	540 mm	590 mm	Light Red	Fish seems healthy, looks fat	No	Looks healthy	Typical Rebound	2 cysts on right fillet, 4 worms on left fillet	Average body/average head	N/A	N/A	Average

Recorder Name	Community Group/Elder	Date	Location	Fish ID #	Species	Sex	Fork Length (millimetres)	Total Length (millimetres)	Gills	What can you teach us about the outside of the fish?	Is there anything unusual about this fish?	Why was this fish selected?	Firmness	Other indicators/Deformities	Shape	Scale	Other	Girth
Maureen Van Overliw	KIA - James Algona	11-Aug-24	Ek'ati (Lac de Gras)	LT # 15	Lake Trout	Unknown/not recorded	650 mm	680 mm	Light Red, they look good	Pretty good firmness. If it's soggy it's not good.	No, it all looks good. Healthy looking.	Only one left in the bucket	Typical Rebound	None	Average body/average head	N/A	N/A	Average
Zhanayii Drygeese	KIA - James Algona	11-Aug-24	Ek'ati (Lac de Gras)	LT #13	Lake Trout	Male	725 mm	780 mm	Pale	Gills are good. If it's old fish the gills are white.	No	Random Selection	Typical Rebound	None	Average body/average head	N/A	N/A	Fat
Cody Drygeese	KIA - Nancy Kadlun	11-Aug-24	Ek'ati (Lac de Gras)	LT #14	Lake Trout	Female	640 mm	685 mm	Light Red	White looking scales is from the heat, its supposed to be dark.	No, looks good	Because it looks great	Typical Rebound	None	Average body/average head	6 lbs	N/A	Average
Ethan Kadlun	KIA - Nancy Kadlun	10-Aug-24	Ek'ati (Lac de Gras)	LT #3	Lake Trout	Unknown/not recorded	690 mm	740 mm	Light Red	The outside of the fish looks good, just skinny.	No	Caught by rod	Typical Rebound	Parasites on filet (cysts)	Skinny body/big head	N/A	N/A	Skinny
Ethan Kadoun	KIA - Nancy Kadlun	10-Aug-24	Ek'ati (Lac de Gras)	LT #6	Lake Trout	Unknown/not recorded	950 mm	1003 mm	Dark Red	N/A	Big head, skinny body	Big fish, skinny	Slow Rebound	Cysts on stomach, 2 of them	Skinny body/big head	13 lbs	N/A	Skinny
Ethan Kadoun	KIA - Nancy Kadlun	10-Aug-24	Ek'ati (Lac de Gras)	LT #5	Lake Trout	Unknown/not recorded	655 mm	692 mm	Light Red	Looks good.	No	Caught in net	Slow rebound Due to delayed processing	Parasites	Average body/average head	Scales look good	N/A	Average

3.1.2 Internal Inspections

- Participants expressed that some of the fish were less fatty while others were observed to have an appropriate amount of fat.
- Most participants were surprised by the number of parasites seen in the fish. A few suspected that the fish are starving, due to the lack of contents in the stomach when cut open.
- A few participants commented on the organ size or colour of the fish, stating that organs were smaller than normal, or strangely coloured, compared to healthy fish back home.
- Charlie noted that there are veins visible on the liver and gonads of the fish caught, which isn't seen in healthy fish.
- When examining the fish internally, of the twelve responses to the prompt "would you eat this fish?", 5 indicated that they would eat the fish they were examining, while 7 indicated that they would not.
- The fish odour was primarily indicated as normal or having no odour.
- Two participants noted that their fish was too firm. All other participants described the tissue rebound as normal.
- Though worms were observed in the fillet meat by both Marie Adele and Nancy, both indicated that they would eat the fish after the worms were removed. Marie Adele specified that she would eat the fish if there were only 2 or 3 worms removed; if any more than that were present, she would not eat it. All other fish, except LT #15 and #5 were observed to presence of worms, parasites, or cysts within the fish tissue.
- Marie Adele noted that the gallbladder can be dried, ground up and then used for medicine.
- Stomach contents were observed to include small fish, bugs, worms, gravel, and plants. Some fish were noted as having empty stomachs some of which had cysts present on the stomach.
- Observations regarding fat content ranged from not enough fat to too much fat on the organs.
- Charlie Apples mentioned that when he goes out on the land to fish, he notices that he finds cysts and worms on the fish and other animals getting sick, not only around the mines, and is wondering if the mines are affecting everywhere else.
- While examining LT # 2, Emelie noted that the fish looked good on the outside, and that the meat looked good too but that she would not eat it because there were eggs present in the organs and on the meat.
- It was noted that the "Dene way" is to add dish soap to the corners of the fish nets. As a result, this method was used on Friday afternoon.

"Look at the bubbles, the fish are attracted to it, they like the smell of dish soap" -Duncan Sangris, YKDFN

"*From my knowledge of the fish, from my area compared to this, this one here is very unhealthy due to the parasites being found in there. I found some in there. The size of the heart and the liver, there's a big difference there. There's a big difference compared to the East Arm, Great Slave Lake fish."* – Emelie Saunders, LKDFN

"In Whati, you see the cysts and worms in the flesh during the spring and summer, not in the fall or winter." - Mary Anne Jeremick'ca, TG

"*We never really checked inside, I now know the parasites and worms that are in the fish, we don't get that back home, I learned a lot yesterday. I found it really interesting that everyone was sharing knowledge, and I want to say thank you, Mahsi C*ho" - Emelie Saunders, LKDFN

Table 9 breaks down participant responses to the TK Internal Fish Forms. There were numerous questions related to each fish, as a result, the table has been divided into three parts to accommodate all the information provided by participants

Table 9 TK Internal Fish Form Participant Responses

Recorder Name	Community Group	Date	Location	Fish ID #	Species	Sex	Fork Length (millimeter)	Total Length (millimeter)	Overall Determination	Tissue	Odour	Notes
Lena Drygeese	YKDFN - Mary Jane Drygeese	11-Aug-24	Ek'ati (Lac de Gras)	LT #11	Lake Trout	N/A	552 mm	713 mm	Would not eat this fish	Too firm	No	Worms (on meat) Cysts (on stomach)
Zhanayii Drygeese	LKDFN - Emelie Saunders	11-Aug-24	Ek'ati (Lac de Gras)	LT #16	Lake Trout	Female	647.7 mm	723.9 mm	Would not eat this fish	Typical	None	N/A
Zhanayii Drygeese	LKDFN - Emelie Saunders	11-Aug-24	Ek'ati (Lac de Gras)	LT #10	Lake Trout	Male	580 mm	610 mm	Would not eat this fish	Typical	No odour	N/A
Maureen Van Overliw	LKDFN - Emelie Saunders	10-Aug-24	Ek'ati (Lac de Gras)	LT #2	Lake Trout	N/A	N/A	N/A	Would not eat this fish	Too firm	N/A	N/A
Maureen Van Overliw	TG - Marie Adele Football	11-Aug-24	Ek'ati (Lac de Gras)	LT #17	Lake Trout	N/A	780 mm	850 mm	Would eat this fish	Typical	N/A	It's good, hard, not soft
Zhanayii Drygeese	TG - Mary Anne Jeremick'ca	11-Aug-24	Ek'ati (Lac de Gras)	LT #18	Lake Trout	N/A	680 mm	710 mm	Would eat this fish	Typical	None (normal)	N/A
Cody Drygeese	TG - Marie Adele Football	10-Aug-24	Ek'ati (Lac de Gras)	LT #4	Lake Trout	Male	660 mm	700 mm	Would eat this fish	Typical	"None, smells like fish	Marie Adele would eat this fish after cutting worms out of fillet meat
Ethan Kadlun	KIA - Nancy Kadlun	11-Aug-24	Ek'ati (Lac de Gras)	LT #12	Lake Trout	Female	540 mm	590 mm	Would eat this fish	Typical	None	N/A
Maureen Van Overliw	KIA - James Algona	11-Aug-24	Ek'ati (Lac de Gras)	LT #15	Lake Trout	Adult Male	650 mm	680 mm	N/A	Typical	N/A	"Nice fish" Fillet on right looks great
Zhanayii Drygeese	KIA - James Algona	11-Aug-24	Ek'ati (Lac de Gras)	LT #13	Lake Trout	Male	725 mm	780 mm	N/A	Typical	None	N/A

Cody Drygeese	KIA - Nancy Kadlun	11-Aug-24	Ek'ati (Lac de Gras)	LT #14	Lake Trout	Female	640 mm	685 mm	Would eat this fish	Typical	N/A	1 worm on right side Nancy would eat after worms are removed Good, bright, orange colour
Ethan Kadlun	KIA - Nancy Kadlun	10-Aug-24	Ek'ati (Lac de Gras)	LT #3	Lake Trout	N/A	690 mm	740 mm	Would not eat this fish	Typical	N/A	N/A
Ethan Kadlun	KIA - Nancy Kadlun	10-Aug-24	Ek'ati (Lac de Gras)	LT #6	Lake Trout	N/A	950 mm	1003 mm	Would not eat this fish	Typical	None	Male fish
Ethan Kadlun	KIA - Nancy Kadlun	10-Aug-24	Ek'ati (Lac de Gras)	LT #5	Lake Trout	N/A	655 mm	692 mm	Would not eat this fish	Too firm	None	Male fish - adult

Continued

Recorder Name	Community Group	Date	Location	Fish ID #	Stomach Contents	Heart	Kidney	Liver	Gall Bladder	Eggs	Eggs Description	Meat Fattiness
Lena Drygeese	YKDFN - Mary Jane Drygeese	11-Aug-24	Ek'ati (Lac de Gras)	LT #11	Colour: Pale Contents: Small fish and black bugs (4)	Colour: light red Size: too small	Colour: dark red Size: too big	Colour: pale (less healthy) Size: average	Colour: dark Size: average	Not present	N/A	Fattiness on organs
Zhanayii Drygeese	LKDFN - Emelie Saunders	11-Aug-24	Ek'ati (Lac de Gras)	LT #16	Colour: Pale Contents: Mucus, worms, digestive leftovers	Inflamed Aorta Colour: light red Size: average	Colour: dark red Size: N/A	Colour: reddish brown, pale (patches of both) Size: too big	Colour: dark red Size: average	Presents	Large, yellowish red	Not too fat
Zhanayii Drygeese	LKDFN - Emelie Saunders	11-Aug-24	Ek'ati (Lac de Gras)	LT #10	Colour: Not right, darker, should be a light colour Contents:	Colour: light red Size: too small	Colour: dark red Size: average	Colour: reddish brown Size: too small	Colour: dark red Size: average	Not present	N/A	A bit of fat, fatty head

Recorder Name	Community Group	Date	Location	Fish ID #	Stomach Contents	Heart	Kidney	Liver	Gall Bladder	Eggs	Eggs Description	Meat Fattiness
					gravel, green plants, bugs							
Maureen Van Overliw	LKDFN - Emelie Saunders	10-Aug-24	Ek'ati (Lac de Gras)	LT #2	Colour: N/A Contents: N/A	Colour: too pale Size: N/A	Colour: N/A Size: N/A	Colour: reddish brown Size: average	Colour: N/A Size: N/A	Not present	N/A	Looks good but too many cysts
Maureen Van Overliw	TG - Marie Adele Football	11-Aug-24	Ek'ati (Lac de Gras)	LT #17	Colour: Green Contents: Some yellowish cysts (two in total)	Colour: dark red Size: too big soft on it one side	Colour: dark red Size: average	Colour: reddish brown Size: too big	Colour: green Size: too big	Not present	Male	Good and fat "finger licking good"
Zhanayii Drygeese	TG - Mary Anne Jeremick'ca	11-Aug-24	Ek'ati (Lac de Gras)	LT #18	Colour: light pink "(good colour)" Contents: Some cysts on stomach on the outside, about 7 or 8	Colour: dark red Size: average	Colour: dark red Size: average	Colour: reddish brown Size: average	Colour: turquoise Size: average	Not present	N/A	Average, not too fat, "it is right on"
Cody Drygeese	TG - Marie Adele Football	10-Aug-24	Ek'ati (Lac de Gras)	LT #4	Colour: pale, yellowish Contents: empty, no bugs, nothing	Colour: pink Size: average	Colour: dark red Size: average	Colour: reddish brown Size: average	Colour: dark red Size: average	Not present	No eggs	On the guts there is usually a lot of fat, but there is no fat present
Ethan Kadlun	KIA - Nancy Kadlun	11-Aug-24	Ek'ati (Lac de Gras)	LT #12	Colour: pink Contents: little bugs, full	Colour: dark red Size: average	Colour: dark red Size: average	Colour: reddish brown Size: too small	Colour: dark red Size: average	Present	Has eggs	N/A
Maureen Van Overliw	KIA - James Algona	11-Aug-24	Ek'ati (Lac de Gras)	LT #15	Colour: White Contents: cysts on stomach. Nothing in stomach but fat	Colour: N/A Size: average	Colour: N/A Size: N/A	Colour: Pale (looks healthy) Size: average	Colour: dark brown Size: average	Not present	N/A	Average, not too fatty

Recorder Name	Community Group	Date	Location	Fish ID #	Stomach Contents	Heart	Kidney	Liver	Gall Bladder	Eggs	Eggs Description	Meat Fattiness
Zhanayii Drygeese	KIA - James Algona	11-Aug-24	Ek'ati (Lac de Gras)	LT #13	Colour: Pale Contents: two small fish	Colour: dark red Size: average	Colour: dark brown Size: N/A	Colour: reddish brown Size: average	Colour: dark red Size: average	Not present	N/A	No fat
Cody Drygeese	KIA - Nancy Kadlun	11-Aug-24	Ek'ati (Lac de Gras)	LT #14	Colour: pink Contents: 1 whole small fish and one spine	Colour: light red Size: too small	Colour: dark red Size: too small	Colour: Pale Size: too small	Colour: pink Size: average	Present	N/A	Some fat on the belly
Ethan Kadlun	KIA - Nancy Kadlun	10-Aug-24	Ek'ati (Lac de Gras)	LT #3	Colour: pale, white Contents: small fish about 3 inches	Colour: light red Size: average	Colour: dark red Size: average	Colour: reddish brown Size: too small	Colour: light red Size: average	Not present	Male fish, no eggs	A bit fatty, 50/50
Ethan Kadlun	KIA - Nancy Kadlun	10-Aug-24	Ek'ati (Lac de Gras)	LT #6	Colour: pinkish white Contents: 6 inch fish in stomach	Colour: light red Size: too small	Colour: dark red Size: too small	Colour: reddish brown Size: too small	Colour: dark red Size: average	Not present	Male	Firm
Ethan Kadlun	KIA - Nancy Kadlun	10-Aug-24	Ek'ati (Lac de Gras)	LT #5	Colour: white, pale Contents: empty stomach	Colour: light red Size: too small	Colour: dark red Size: too small	Colour: reddish brown Size: too small	Colour: dark red Size: too big	Not present	Male	No fat

Continued

Recorder Name	Community Group	Date	Location	Fish ID #	Why was this fish selected?	Is there anything unusual about this fish?	Other/Notes	Deformities on the fish
Lena Drygeese	YKDFN - Mary Jane Drygeese	11-Aug-24	Ek'ati (Lac de Gras)	LT #11	N/A	N/A	The heart looked small but looks healthy	N/A
Zhanayii Drygeese	LKDFN - Emelie Saunders	11-Aug-24	Ek'ati (Lac de Gras)	LT #16	N/A	N/A	N/A	N/A

Zhanayii Drygeese	LKDFN - Emelie Saunders	11-Aug-24	Ek'ati (Lac de Gras)	LT #10	N/A	N/A	N/A	N/A
Maureen Van Overliw	LKDFN - Emelie Saunders	10-Aug-24	Ek'ati (Lac de Gras)	LT #2	N/A	Cysts	Nice and red but no good because of cysts	Looked good on outside and meat looked good but would not eat it because of eggs present in organs and meat
Maureen Van Overliw	TG - Marie Adele Football	11-Aug-24	Ek'ati (Lac de Gras)	LT #17	N/A	N/A	N/A	N/A
Zhanayii Drygeese	TG - Mary Anne Jeremick'ca	11-Aug-24	Ek'ati (Lac de Gras)	LT #18	"Because it's fresh"	Nothing unusual	"No other comments"	N/A
Cody Drygeese	TG - Marie Adele Football	10-Aug-24	Ek'ati (Lac de Gras)	LT #4	N/A	N/A	N/A	Bump/old wound likely an old wound from an altercation with another fish
Ethan Kadlun	KIA - Nancy Kadlun	11-Aug-24	Ek'ati (Lac de Gras)	LT #12	Looks healthy	N/A	Female fish, 6 pounds, cysts on liver, 27 gram liver, 105.61 grams gonads	N/A
Maureen Van Overliw	KIA - James Algona	11-Aug-24	Ek'ati (Lac de Gras)	LT #15	Last one in bucket	No, healthy fish	N/A	N/A
Zhanayii Drygeese	KIA - James Algona	11-Aug-24	Ek'ati (Lac de Gras)	LT #13	N/A	N/A	N/A	N/A
Cody Drygeese	KIA - Nancy Kadlun	11-Aug-24	Ek'ati (Lac de Gras)	LT #14	N/A	N/A	Overall healthy	N/A
Ethan Kadlun	KIA - Nancy Kadlun	10-Aug-24	Ek'ati (Lac de Gras)	LT #3	Caught by rod	Skinny, has cysts on fillets	107.3 grams - gonads 24.6 grams - liver Had a small fish and 2 minnows Fish dumped due to parasites	N/A
Ethan Kadlun	KIA - Nancy Kadlun	10-Aug-24	Ek'ati (Lac de Gras)	LT #6	N/A	Just old and skinny	705 grams - liver 429.4 grams - gonads Male fish	N/A

Ethan Kadlun	KIA - Nancy Kadlun	10-Aug-24	L Ek'ati (Lac de Gras)	LT #5	Caught in nets	None	1 cyst. 2.5 kg fish. 341 grams - liver, 147.3 grams - gonads	N/A

3.1.3 Palatability

Two fish were selected for tasting, LT #10 and LT #15 and were grilled over the fire. Palatability tests were completed and assessed by each community rather than as individuals. Not all communities opted to eat the fish. Participants who ate the fish, were asked to assess the taste of the fish against the following categories:

- 1 - This fish tastes excellent and tasted better than what we usually eat.
- 2 - This fish tastes good and tastes similar to fish we usually eat.
- 3 - This fish tastes alright but does not taste as good as fish we usually eat.
- 4 - This fish does not taste good and tastes much worse than the fish we usually eat.
- 5 - We did not eat this fish.

LT #10 and #15 received the following scoring:

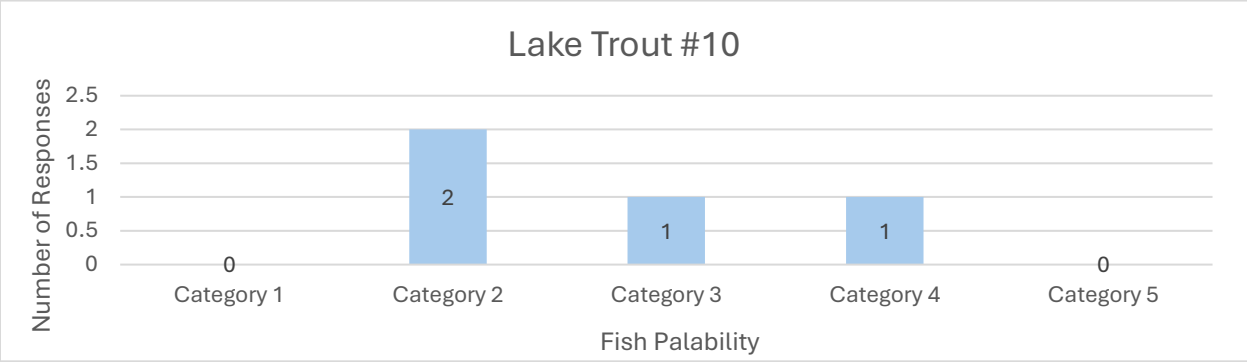

Figure 6 Palatability Scoring – Lake Trout #10

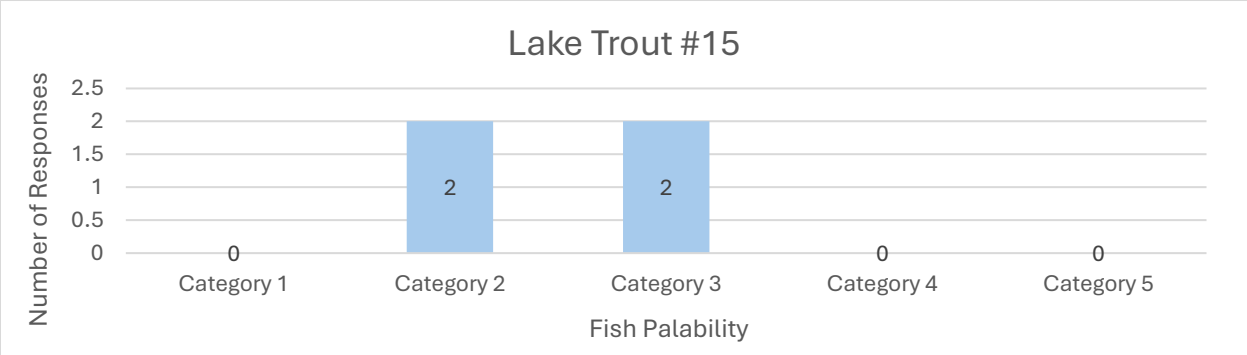

Figure 7 Palatability Scoring – Lake Trout #15

Some participants felt the fish tasted “normal”, “okay”, or “good” while others described the fish as “bland” or “overcooked”. One participant noted that LT #10 “tastes like home”. Another participant responded that the fish would have been juicier had it been cooked directly over the fire rather than in tin foil.

Celine was hoping to cook fish on the fire for Saturday, but she didn’t like how she saw cysts and worms on the organs. As a result, participants from LKDFN did not partake in the fish tasting exercise.

"*The highlight of my day yesterday was the fish sampling, one thing that surprised me was the amount of parasites on the fish, because back home we don't get anything in our fish*" - Ethan Kadlun, KIA

"*I was quite disturbed to see how many parasites were in the fish*" - Edward Mercredi, NSMA

Table 10 includes participant responses on the TK form for the Fish Tasting exercise.

Table 10 Fish Tasting Observations

Date	Type	Cooking Method	Community Group	Recorder Name	Fish Sample Number	Observations During Eating	Comments
August 11, 2024	Lake trout	Grilled (fire)	NSMA	Karson Mercredi	LT #15	This fish tastes good and tastes similar to fish we usually eat.	Good fish, tastes very good.
August 11, 2024	Lake trout	Grilled (fire)	NSMA	Karson Mercredi	LT #10	This fish tastes alright but does not taste as good as fish we usually eat.	Overcooked
August 11, 2024	Lake trout	Grilled (fire)	KIA	Ethan Kadlun	LT #10	This fish tastes good and tastes similar to fish we usually eat.	Fish smells okay, taste is okay, not too fatty. Texture is okay.
August 11, 2024	Lake trout	Grilled (fire)	KIA	Ethan Kadlun	LT #15	This fish tastes good and tastes similar to fish we usually eat.	Smells like regular lake trout, taste normal, not too fatty, texture is okay.
August 11, 2024	Lake trout	Grilled (fire)	YKDFN	Cody Drygeese	LT #15	This fish tastes alright but does not taste as good as fish we usually eat.	It's not like Great Slave Lake trout, the texture is hard. It tastes bland and doesn't have that distinct lake trout taste. "Too small piece for me" "I can't taste the fat, it's not juicy."
August 11, 2024	Lake trout	Grilled (fire)	YKDFN	Cody Drygeese	LT #10	This fish does not taste good and tastes much worse than fish we usually eat.	"It's too bland, no fat." "When I first bit it, I tasted the spice but not the fish."
August 11, 2024	Lake trout	Grilled (fire)	TG	Zhanayii Drygeese	LT #10	This fish tastes good and tastes similar to fish we usually eat.	"It tastes like home."
August 11, 2024	Lake trout	Grilled (fire)	TG	Zhanayii Drygeese	LT #15	This fish tastes alright but does not taste as good as fish we usually eat	"They cooked it in the tin foil, not over the fire, it would have been juicy and good."

3.2.2 Summary of Fish Tissue Laboratory Analysis

A total of 15 Lake trout were assessed for fish health during the 2024 TK camp. All fish were processed with the collection of tissue and aging structures. The ages of fish captured from 2024 ranged from 5 to 33 years old. The fish had fork lengths between 540 and 950 millimeters and weighed between 2381 and 5890 grams. Three of the processed Lake trout were female, the other 12 were male. All fish captured were adults. In addition to the collection of information on the weight and length of the Lake trout, information on their organs, including weight and size, was also collected.

Lake trout are the species typically tested for metal content because they are at the top of the food chain in Ek'ati (Lac de Gras). As such, their potential for accumulating some metals, such as mercury, is the greatest and makes them the best species to test.

DDMI sends a subset (10 fish minimum) of the fish captured during the AEMP TK program to external laboratories for scientific analysis. The ten fish minimum is a requirement of the approved AEMP Design Plan for the collection of data at the AEMP TK program. In 2024, all 15 fish had tissues collected for metals analysis and otoliths (Figure 7) or fin rays (Figure 8) collected and analyzed for aging. The otolith is an ear bone from the fish that develops rings as the fish ages, like trees, and because of this it is commonly used to determine age by counting the numbers of rings. A single year is represented as a ring in the otolith bone. The biological data for each of the fish sampled for science are outlined in Table 11 and a copy of the full metals analysis is presented in Appendix O.

3.2.2.1 Age

Seven individual fish otoliths and eight fin rays were analyzed to determine fish age. The oldest fish was 33 years old (LT #6) and was noted to have a large head, below average girth, and parasites on its stomach. The youngest fish was 5 years old (LK #2). It was the shortest in length (540mm) and the fattest fish by ratio of length to weight (total length / weight in grams). The average age of the 15 analyzed fish was 17 with 10 out of the 15 fish being older than 15 years old. The oldest fish were typically the largest and had the highest levels of mercury (Figure 10).

Fish Age Analysis data can be found in Appendix T.

Table 11 Scientific data collected for the processed fish, including species, age, size, weight, sex, observations and other parameters.

Date	Capture Method	Fish #	Species	Fork Length (mm)	Total Length (mm)	Total Weight (g)	Aging Structure Collected	Age	Muscle Sample Weight (g)	Stage	Sex	Stomach Contents %	Gonad Weight (g)	Liver Weight (g)	Observations
2024-08-10	Net	LT #1	Lake Trout	636	686	2381	Otoliths	21	20.4, 25.4	Adult	M	0%	89.51	23.39	External good, stomach cysts (expected to be tapeworm), tapeworm in flesh. Parasite collected for analysis
2024-08-10	Net	LT #2	Lake Trout	540	580	3750	Fin Rays	5	Collected right side of fish	Adult	M	0%	93.3	18.4	Digestive track cysts, liver cyst. Cysts collected for analysis.
2024-08-10	Angling	LT #3	Lake Trout	690	740	3500	Otoliths	23	Sample collected, weight not recorded	Adult	M	100%	107.3	24.6	Healthy, slightly skinny. Reddish brown liver. 9 parasites in right fillet, 4 in left. Stomach contents: 1x 3" fish, 2x minnows.
2024-08-10	Net	LT #4	Lake Trout	660	700	3850	Fin Rays	14	20	Adult	M	0%	141.14	20.4	Firm flesh, pink gills, no deformities, right eye slightly damaged. Heart appears normal, red liver. Worms in fillet.
2024-08-10	Net	LT #5	Lake Trout	655	692	2500	Fin Rays	18	Over 20 g	Adult	M	0%	147.3	34.1	Light pink gills, average size, slow rebound on flesh. Single cyst near head, small heart, not especially fatty.
2024-08-10	Angling	LT #6	Lake Trout	950	1003	5890	Otoliths	32	Sample collected, weight not recorded	Adult	M	90%	42.94	70.58	Skinny body with big head. No cysts on muscle, 3 cysts on stomach. Stomach contents: 1 fish.
2024-08-11	Net	LT #10	Lake Trout	580	610	2835	Fin Rays, Pectoral Fin	16	Sample collected, weight not recorded	Adult	M	0%	121.92	14.56	Worm on liver, cysts on pipe, fatty, heart contained bulbous connective tissue ("normal"), worm on heart. No cysts on fillets. Fillet and head collected for tasting.
2024-08-11	Angling	LT #11	Lake Trout	552	713	3630	Fin Rays	15	Sample collected, weight not recorded	Adult	M	40%	111.22	18.88	Dark red gills, fairly firm flesh, no deformities. Dark gallbladder, pale brown/red liver, cyst on stomach, small fish in stomach. Stomach contents: small fish
2024-08-11	Net	LT #12	Lake Trout	540	590	2720	Fin Rays	10	Sample collected, weight not recorded	Adult	F	50%	105.61	34.31	2 cysts on right fillet, 4 cysts in left fillet, 1 cyst on bladder. Cysts cut out of fillets and kept for eating. Stomach contents: bugs.
2024-08-11	Angling	LT #13	Lake Trout	725	780	3630	Otoliths	24	Sample collected, weight not recorded	Adult	M	100%	9.86	28.68	Pale gills, firm flesh, normal body, no deformities. Liver cyst/worm, worm on fillet collected for analysis. Skip spawn gonad, cysts on digestive tract, heart appears normal. Stomach contents: 2 whitefish.
2024-08-11	Net	LT #14	Lake Trout	640	685	2720	Otoliths	15	Sample collected, weight not recorded	Adult	F	50%	27.1	30.08	1 cyst on each fillet, connective tissue in heart ("normal"), L+R fillets kept for eating after cysts removed. Stomach contents: 2 fish.
2024-08-11	Angling	LT #15	Lake Trout	650	680	3630	Otoliths	13	Sample collected, weight not recorded	Adult	M	0%	2.15	28.4	Firm flesh, good colour, light red gills, no deformities. Cysts on outside of digestive tract. Chosen for palatability. Heart collected for analysis.
2024-08-11	Net	LT #16	Lake Trout	648	724	2950	Otoliths	11	Sample collected, weight not recorded	Adult	F	0%	263.71	54.85	Dead for hours. Lots of eggs, stomach parasite collected. No cysts/parasites in fillets.
2024-08-11	Net	LT #17	Lake Trout	780	580	4540	Fin Rays	19	Sample collected, weight not recorded	Adult	M	40%	36.3	6.7	Pink gills, no deformities, firm, normal body/head. White lines in heart, big/healthy liver, cysts on outside of digestive tract, firm muscle. Stomach contents: bugs.
2024-08-11	Net	LT #18	Lake Trout	680	710	3175	Otoliths	19	Sample collected, weight not recorded	Adult	M	No data	113.4	20.27	Good colour on fins and gills, firm muscle, "average, good size". 7-8 cysts on stomach, 1 gonad larger than other, 2x cysts on both left and right fillets. Muscle tissue bright orange.

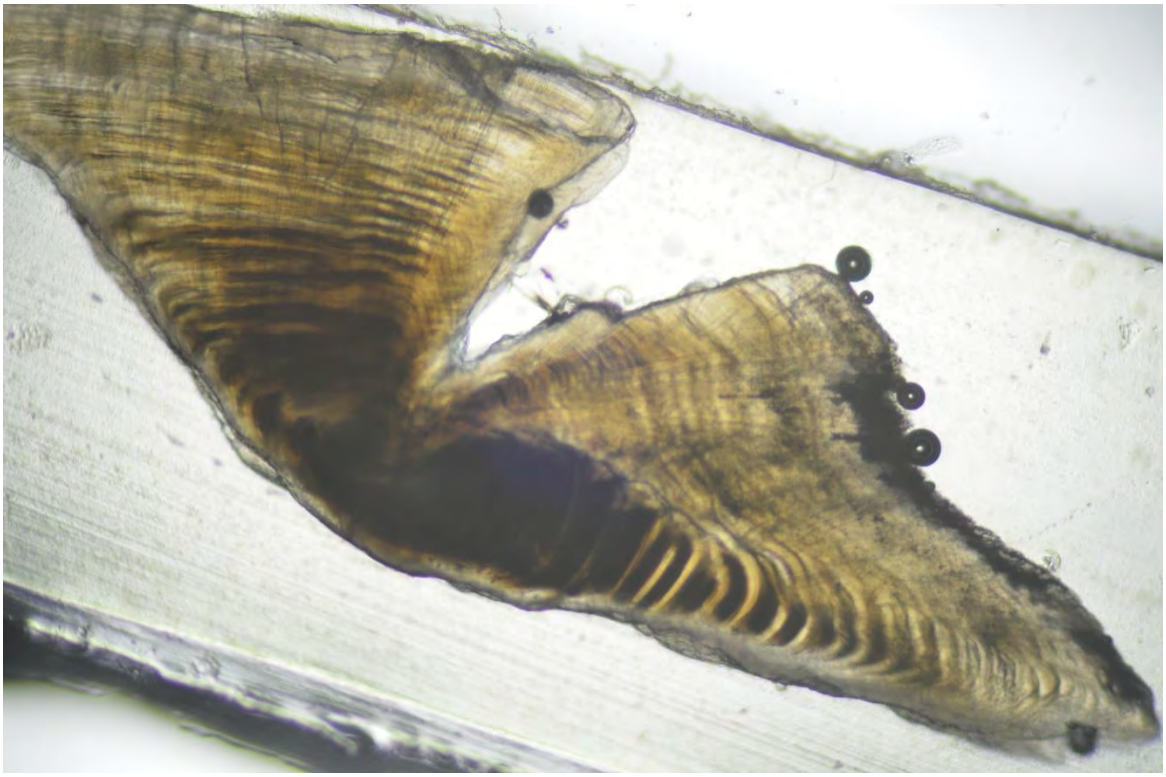

Figure 9 Microscopic Image of an Otolith from a Lake Trout (LT #6)

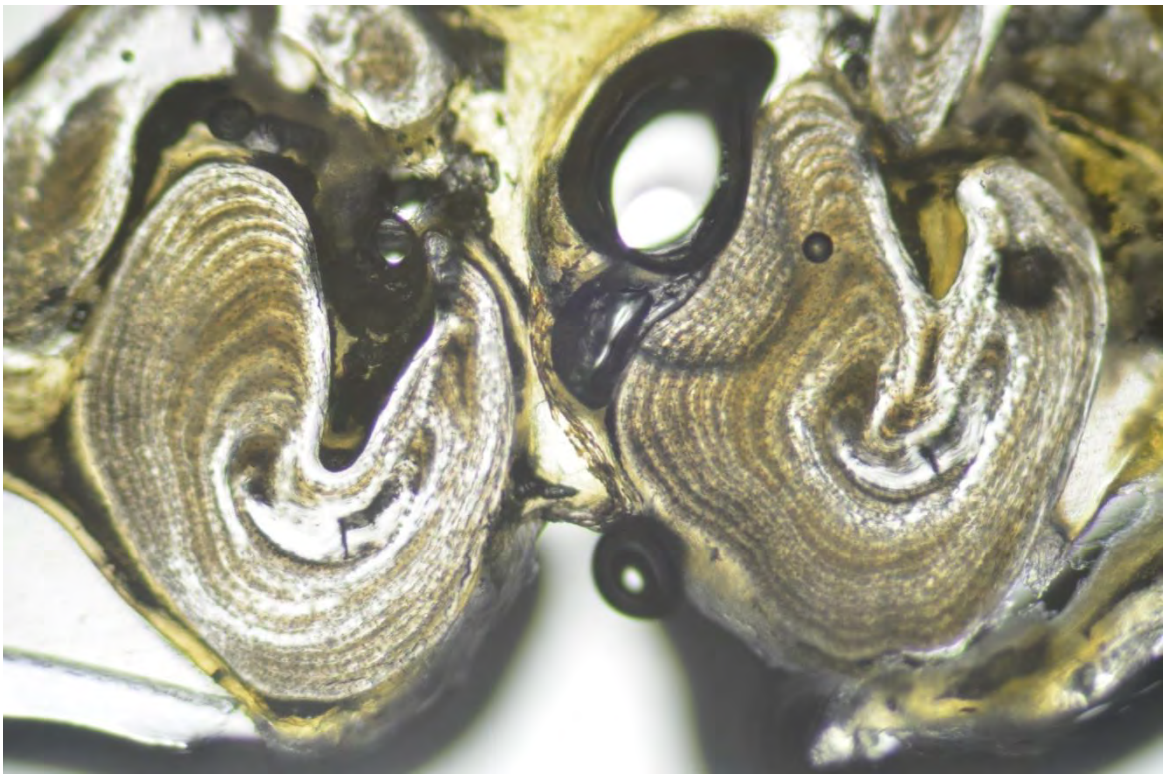

Figure 9 Microscopic Image of a Fin Ray form a Lake Trout (LT #4)

3.2.2.2 Mercury

Mercury is found naturally in the environment but also can be introduced from human activity and industrial processes, increasing global concern. Increased levels have been noted in the past in small fish in Ek'ati (Lac de Gras) (DDMI 2008), as well as in other lakes within the Northwest Territories (GNWT, n.d.).

Mercury levels in Ek'ati (Lac de Gras) fish occur naturally. The effluent from the Diavik Diamond Mine is not a source of mercury input into the lake as confirmed by frequent sampling of the effluent at the point of discharge.

Mercury levels are used as one of the main health indicators for the fish palatability study because it will bioaccumulate (increase in amount over time) within both fish and humans through the food web. Additionally, Lake trout are at the top of the food chain in the lake and typically will show increased levels compared to different fish species in the lake because of bioaccumulation. Figure 9 below displays a comparison of fish age, size and mercury level for the fish analyzed from the camp. A copy of the complete lab results for each fish analyzed is presented in Appendix O.

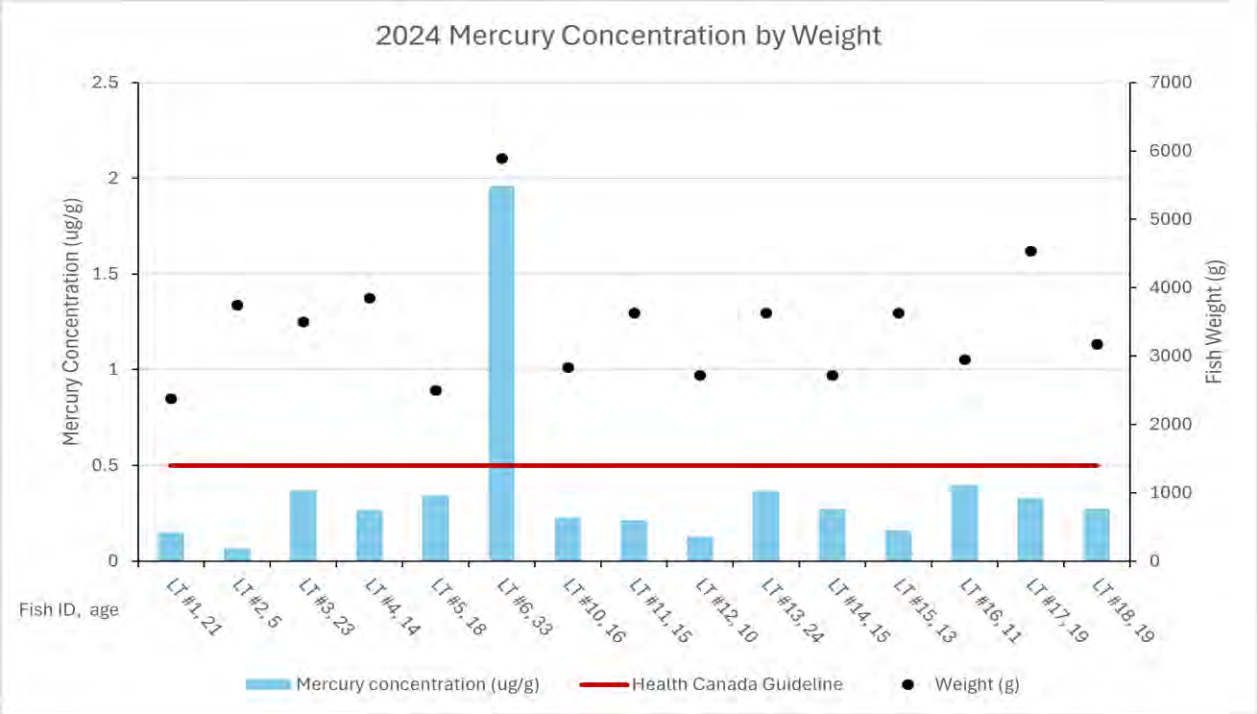

Figure 10 Mercury (Hg) Levels for Fish based on Age and Weight

The mercury results show one fish (LT#6) had mercury concentrations higher (1.46 micrograms per gram higher) than the Health Canada Guideline for fish consumption. LT #6 was the largest and oldest fish captured at 5.89kg and 33 years old. Due to bioaccumulation, larger and older fish normally have higher concentrations of mercury.

3.2.2.3 Parasites and Cysts

In large numbers, parasites have the capacity to affect fish health. Parasites are seen by community members as indicators of fish health, it is important to document them. In previous TK camps, some

community members commented that in their home communities, they would choose not to eat fish that had parasites in their bodies. These fish would typically be fed to dogs, disposed, or burned. The prevalence of parasites at previous camps has been inconsistent since 2002 and is documented below in Table 12.

Parasites were observed in or on at least one organ (i.e., the gill, stomach, heart, muscle, liver) or within the body cavity of all Lake trout captured in 2024. Some representative samples found in the fish were collected, preserved, and shipped to a laboratory, Biologica Environmental Services Ltd. (Biologica) to determine the identity of the parasites (Appendix N). Based on the parasite identification work completed, the main parasites observed in the fish collected from the 2024 TK camp are as follows:

- *Diphyllobothrium sp.*, which create orange-coloured cysts that are lumpy in appearance. These were found in the flesh and the liver or digestive tract.
- *Proteocephalus sp.*, which are tape worms of varying size. These were collected from the stomach.
- *Triaenophorus sp.*, which are large and short, white-coloured worms. These were collected from the flesh and stomach.
- One sample was not clearly identifiable, but according to the lab looked similar to a sample from the 2021 TK camp that was identified as *Icthyocotylurus sp.*, which are small, flat worms. These were collected from the heart tissue, same as the 2021 sample.

It is important to highlight that the parasites encountered at the camp, or in northern waters, are not detrimental to human health and the presence of parasites in lake trout in Ek'ati (Lac de Gras) has been observed for years both pre and post development. DFO describes the occurrence of and types of organisms that may be found in fish in their brochure "Common Parasites, Diseases and Injuries of Freshwater Fishes in the Northwest Territories and Nunavut." (Stewart & Bernier, 1999).

Table 12 History of Cysts / Parasites in Fish Collected for the AEMP TK Program since 2002*

Year	# Fish Inspected	# Fish with Cysts	Percentage
2002	15	10	67
2003	12	8	67
2005	41	28	68
2009	19	19	100
2012	12	10	83
2015	8	7	88
2018	22	7	32
2021	19	19	100
2024	15	15	100
Average	**18**	**14**	**78**

**These percentage have been determined based on the fish biologist's observations and laboratory results.*

3.3 Water Observations

- Most participants noticed that the water was darker than normal, or darker than it had been when they last visited the area.
- When the water was sampled from the three different layers, the top layer (surface) was very dark. Several participants noted dust was visible in the air, and the dust/debris, or contaminants from the mine were hitting the surface of the water and staying there, causing this layer to be worse quality than the rest of the water column.
- A few participants found the water to look fine and taste fine. Lawrence and Edward noted that the water tasted delicious.
- The YKDFN participants did not take part in the water tasting. Mary Jane said her decision was based on the conditions of the sediment core sample. She feels the bottom has solidified and there is no food for the fish. Lena and John indicated that they agreed with Mary Jane and did not want to taste the water out of fear of getting sick.

"I was informed, beforehand and years ago, from prior testing of water and fish that it was okay – drinkable and edible." – Edward Mercredi, NSMA

"I'd like to see the test results from the lab on water and the fish. That's the most I'm concerned about, because we get our water from Coppermine River from here." – James Algona, KIA

"I tasted it at the shore on our first day - I walked down and sat in the sun, and I took some water – scooped it in with my hand – and I had a little taste, but it was on shore and there was some vegetation there. So, I wasn't too concerned about it, but going out into the lake, I filled up my water bottle there." – Lawrence Mercredi, NSMA

"If the water was clean, it would be nice and blue colour, when you make tea it would be a nice orangey-red colour, but it wasn't like that. Everything is so different, it went from good to bad since the last time I was here in 2021. That's what I think." – Lena Drygeese, YKDFN

"Years ago, people were telling me that the water is clean, clear, looking kind of white-blueish, but when I saw the water here, it was dark, and I was immediately surprised at that." – Mary Jane Drygeese, YKDFN (through an interpreter)

"*I drank all the [boiled] water and tea, and I'm still here*" - Mary Adele Football, TG

Table 13 includes the data collected through the TK Water Tasting Forms. Data is shown here as written on the forms. Added words for clarification in quotation marks. Table 14 includes the data collected through the TK Water Observation Forms.

Table 13 Water Tasting

Recorder Name	Community Group	Location/ Depth	Cold Water Test	How does the tea/water taste?	How is the aftertaste ?	How is the clarity?	Is there residue?	Tea Test	How does the tea/water taste?	How is the aftertaste ?	How is the clarity?	Is there residue?	Boiled Water without Tea Test	How does the tea/water taste?	How is the aftertaste ?	How is the clarity?	Is there residue?
Ethan Kadlun	KIA - Nancy Kadlun	Ek'ati (Lac de Gras), Top	Good Water	N/A	No – "no aftertaste"	Dark from tea bag. Water was clear	No	N/A	N/A	N/A	N/A	N/A	No	N/A	N/A	N/A	N/A
Ethan Kadlun	KIA - Nancy Kadlun	Ek'ati (Lac de Gras), Middle	Average Water	Taste like grass/sediment	No – "no aftertaste"	Dark from tea bag. Water was clear	No	N/A	N/A	N/A	N/A	N/A	No	N/A	N/A	N/A	N/A
Ethan Kadlun	KIA - Nancy Kadlun	Ek'ati (Lac de Gras), Bottom	Average Water	Taste sediment/like grass	Light taste of grass	Dark from tea bag. Water was clear	No	N/A	N/A	N/A	N/A	N/A	No	N/A	N/A	N/A	N/A
Ethan Kadlun	KIA - Nancy Kadlun	Ek'ati (Lac de Gras) Top	N/A	Good	No – "no aftertaste"	Dark from tea bag. Water was clear	No residue	Average	Good, no taste	No	Clear water	N/A	No residue	Average Tea - 11 meters	Good, no taste	No aftertaste	Clear water
Sweetgrass Casaway	LKDFN - Emelie Saunders Celine Marlowe	Ek'ati (Lac de Gras), Middle	Average Water	Normal water	No – "no aftertaste"	Clear - lighter colour	No	N/A	N/A	N/A	N/A	N/A	No	N/A	N/A	N/A	N/A

Recorder Name	Community Group	Location/ Depth	Cold Water Test	How does the tea/water taste?	How is the aftertaste?	How is the clarity?	Is there residue?	Tea Test	How does the tea/water taste?	How is the aftertaste?	How is the clarity?	Is there residue?	Boiled Water without Tea Test	How does the tea/water taste?	How is the aftertaste?	How is the clarity?	Is there residue?
Sweetgrass Casaway	LKDFN - Celine Marlowe	Ek'ati (Lac de Gras), Top	N/A	Warmer than middle/bottom	No – "no aftertaste"	The colour is more darker not like regular tea colour	A little residue ring around cup	N/A	N/A	N/A	N/A	N/A	A little residue ring around cup	N/A	N/A	N/A	N/A
Sweetgrass Casaway	LKDFN - Celine Marlowe	Ek'ati (Lac de Gras), Middle	Average Water	Still good as bottom & top, not as warm as top.	No – "no aftertaste"	Looks more like tea colour (normal colour)	Just a bit	N/A	N/A	N/A	N/A	N/A	Just a bit	N/A	N/A	N/A	N/A
Sweetgrass Casaway	LKDFN - Celine Marlowe	Ek'ati (Lac de Gras), Bottom	Good Water	Refrigerator water	No – "no aftertaste"	Clear and lighter in colour	A little bit of black floaties	N/A	N/A	N/A	N/A	N/A	A little bit of black floaties	N/A	N/A	N/A	N/A
Sweetgrass Casaway	LKDFN - Emelie Saunders	Ek'ati (Lac de Gras), Bottom	Average Water	Taste like water, nice and good	No – "no aftertaste"	Lighter in colour	Black floaties (dust)	N/A	N/A	N/A	N/A	N/A	Black floaties (dust)	N/A	N/A	N/A	N/A
Sweetgrass Casaway	LKDFN - Emelie Saunders	Ek'ati (Lac de Gras), Middle	Average Water	Taste okay	No – "no aftertaste"	Clear	No residue, such as floaties	N/A	N/A	N/A	N/A	N/A	No residue, such as floaties	N/A	N/A	N/A	N/A

Recorder Name	Community Group	Location/ Depth	Cold Water Test	How does the tea/water taste?	How is the aftertaste ?	How is the clarity?	Is there residue?	Tea Test	How does the tea/water taste?	How is the aftertaste ?	How is the clarity?	Is there residue?	Boiled Water without Tea Test	How does the tea/water taste?	How is the aftertaste ?	How is the clarity?	Is there residue?
Sweetgrass Casaway	LKDFN - Emelie Saunders	Ek'ati (Lac de Gras), Top	Average Water	Warmer than bottom	No – "no aftertaste"	Discolouration darker at Lac de Gras, Lutselke has lighter colour, camp is much lighter as well	Had floaties in bottom. Top make's a light residue ring around cup and little puddle forming	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Karsen Mercredi	NSMA - Lawrence Mercredi Edward Mercredi	Ek'ati (Lac de Gras), Middle	Good Water	Very good	No – "no aftertaste"	Clean	Nothing	Average Water	Different taste	Hard to say	Clean	Nothing	Nothing	Average Water	Different taste	Hard to say	Clean
Duncan Sangris	YKDFN - John Sangris Lena Drygeese Mary Jane Drygeese	Ek'ati (Lac de Gras), Bottom	I ask our Elders if they want to taste the fish or drink the water. They all said "No" because from past TK visits past years, now today the Elders are sick or got some form of cancer.														
Zhanayii Drygeese	YKDFN - John Sangris Lena Drygeese Mary Jane Drygeese	Ek'ati (Lac de Gras)	From top collection - boiled. Collected boiled water tea = darker, boiled tea from Diavik. John noticed that the water brought to camp was lighter compared to the collected water that was boiled with tea. Lena denied taking part in any water tasting. She wants to see how the fish looks. Mary Jane denied taking part in the water tasting based on the conditions of the sediment core sample. She believes that the bottom has solidified, that there is no food for the fish. She believes the fish isn't healthy. She's worried she might get sick. John Sangris declined to do the water tasting, he shares the same beliefs with Lena and Mary Jane.													
Allison McCabe	TG - Marie Adele Football	9-Aug-24	I don't want to drink water at this time that I don't trust. I don't know what chemicals could be in the water from the start of the mine till now. Maybe next time.														

Recorder Name	Community Group	Location/ Depth	Cold Water Test	How does the tea/water taste?	How is the aftertaste ?	How is the clarity?	Is there residue?	Tea Test	How does the tea/water taste?	How is the aftertaste ?	How is the clarity?	Is there residue?	Boiled Water without Tea Test	How does the tea/water taste?	How is the aftertaste ?	How is the clarity?	Is there residue?
Allison McCabe	TG - Charlie Apples, Mary Ann Jeremick'ca	9-Aug-24	I don't trust any water that's near the mine, particles from the mine fall into the water. Charlie was part of the Rayrock mine. Caught a jackfish, he said it looked healthy, but they cooked it, but he didn't want to eat. Another young guy tried it and now he has Alzheimer's, and most family also had Alzheimer's symptoms. So he doesn't trust. Mary Ann first said Charlie said exact same thing as her, but he had more to add. - Last year I brought caribou from winter road to McKay Lake (2 hind legs) - Thawed out - let it sit overnight - to make dry meat -meat was very dark = showed husband = said to throw it out														
Allison McCabe	TG - Charlie Apples	9-Aug-24	Trapping on a lake, found a carcass, were going to eat but uncle told him not too. The dogs ate it and were all dead the next morning (near a mine). Most people who worked around Ray Rock died of unnatural causes, Ray Rock - job was to cut wood around the mine, was lots of cross-contamination. No one knew anything about chemicals then, only later did people realize how bad the chemicals were.														

Table 14 Water Observations

Recorder Name	Community Group	Date	Location/Depth	Sample #	Colour	Movement	Clarity	Temperature/Wind Direction	Light Conditions	What can you teach us about the quality of this water?	Other/ Notes
Ethan Kadlun	KIA	9-Aug-24	Ek'ati (Lac de Gras), Top	1	Blue	Some movement	See bottom of water	Warm, Moderate, W	Sunny, clear skies	Water taste good, clear, smooth	N/A
Ethan Kadlun	KIA	9-Aug-24	Ek'ati (Lac de Gras), Middle	2	Blue	Some movement	See bottom of water	Warm, Moderate, W	Sunny, clear	Good, clean water	N/A
Ethan Kadlun	KIA	9-Aug-24	Ek'ati (Lac de Gras), Bottom	3	Blue	Some movement	See bottom of water	Warm, Moderate, W	Sunny, clear skies	Clear water	N/A
Sweetgrass Casaway	LKDFN	9-Aug-24	TK 1	4	Blue	Some movement	See bottom of water	Warm, Calm	9 feet - loses light, 6.5 feet - see disk	N/A	N/A
Karsen Mercredi	NSMA	11-Aug-24	MF2, 1	Benthic	Green	Still Water	Murky	Calm, S	Great	Water is life	N/A
Karsen Mercredi	NSMA	8-Aug-24	TK1	6	Green	Running/flowing water	Murky	Warm, Moderate, W	Sunny	Water is life	N/A
Allison McCabe	TG - Marie Adele Football	9-Aug-24	N/A	7	N/A	N/A	N/A	N/A	N/A	I don't want to drink water at this time that I don't trust. I don't know what chemicals could be in the water from the start of the mine till now. Maybe next time.	N/A

Allison McCabe	TG - Charlie Apples, Mary Ann Jeremick'ca	9-Aug-24	N/A	8	N/A	N/A	N/A	N/A	N/A	I don't trust any water that's near the mine, particles from the mine fall into the water. Charlie was part of the Rayrock mine. Caught a jackfish, he said it looked healthy, but they cooked it, but he didn't want to eat. Another young guy tried it and now he has Alzheimer's, and most family also had Alzheimer's symptoms. So he doesn't trust. Mary Ann first said Charlie said exact same thing as her, but he had more to add. - Last year I brought caribou from winter road to McKay Lake (2 hind legs) - Thawed out - let it sit overnight - to make dry meat -meat was very dark = showed husband = said to throw it out	N/A
Allison McCabe	TG - Charlie Apples	9-Aug-24	N/A	9	N/A	N/A	N/A	N/A	N/A	Trapping on a lake, found a carcass, were going to eat but uncle told him not too. The dogs ate it and were all dead the next morning (near a mine). Most people who worked around Ray Rock died of unnatural causes, Ray Rock - job was to cut wood around the mine, was lots of cross-contamination. No one knew anything about chemicals then, only later did people realize how bad the chemicals were.	
Duncan Sangris	YKDFN	9-Aug-24	TK1	10	Green	Running/flowing water	Murky	Warm, Moderate, E	Sunny	N/A	N/A
Duncan Sangris	YKDFN	11-Aug-24	NF2	Benthic (Living in mud)	Green	Still Water	Murky	Warm, Calm, S	Ever good	Water is life	N/A

3.3.2 Water Quality and Sediment Testing Results

Table 15 shows the results of the water quality sampling completed during the TK camp in relation to the Health Canada drinking water guidelines and Diavik's water license requirements. The scientific results in Table 15 show that the water quality in Ek'ati (Lac de Gras) remains good from a chemistry perspective because the samples collected had levels much lower than the Canadian Council for Ministers of the Environment (CCME) Guidelines for protection of Aquatic ecosystems and were lower than those required by the Diavik water license. Chemistry analysis shows that the water samples collected in 2024 are similar to water samples collected from the 2021 AEMP TK camp and support the conclusion that the water is still good in Ek'ati (Lac de Gras), according to chemistry testing. Water chemistry results for all samples collected at the TK camp since 2012 are included in Appendix K: AEMP TK Camp Historic Results. The water chemistry results from the laboratory are provided in Appendix U.

Data shows that the randomly selected sediment sample collected on August 11, was consistent with normal sediment chemistry in Ek'ati (Lac de Gras) (Table 16). Three parameters had concentrations close to the upper limit of the normal range for sediment in Lac de Gras (bismuth, molybdenum, and strontium) however, they were all within the range of concentrations observed as part of the AEMP over all the years of the program (Appendix M).

Table 15 Scientific Water Quality Sampling Results

Parameter	Units	2024 TK-T	2024 TK-M	2024 TK-B	CCME Drinking Water Guideline	Diavik Effluent Quality Criteria
Depth	m	2	7	12	-	-
Total Aluminum (Al)	mg/L	0.00347	0.00353	0.00426	0.1	1.5
Total Ammonia (N)	mg/L	<0.0050	<0.0050	0.011	0.2	6
Total Arsenic (As)	mg/L	0.000267	0.000257	0.000292	0.01	0.05
Total Cadmium (Cd)	mg/L	<0.000005	0.0000277	<0.000005	1	0.0015
Total Chromium (Cr)	mg/L	<0.00005	<0.00005	<0.00005	0.005	0.02
Total Copper (Cu)	mg/L	0.000562	0.000557	0.000572	0.05	0.02
Total Lead (Pb)	mg/L	<0.000005	<0.000005	<0.000005	0.01	0.01
Total Nickel (Ni)	mg/L	0.000662	0.000644	0.000676	5	0.05
Total Zinc (Zn)	mg/L	0.00026	0.00021	0.00015	n/a	0.01
Total Nitrite (N)	mg/L	0.0014	0.0014	<0.0010	3.2	1
Total Suspended Solids	mg/L	<1.0	<0.99	1.6	n/a	15
Total Dissolved Solids	mg/L	27.6	25.6	27.2	500	n/a
Turbidity	NTU	<0.10	<0.10	<0.10	0.1-1.0	10
pH	pH	6.33	6.04	5.98	6.5-8.5	6.0-8.4

Table 16 Sediment sample chemistry results from TK-2 compared to normal ranges based on historical reference data of sediment in Ek'ati (Lac de Gras).

Variable	Unit	Normal Range		TK-2
		Lower Limit	Upper Limit	
Total Nitrogen	%	0.05	0.41	0.24
Total Organic Carbon	%	0.7	4.7	3.4
Total Phosphorus	mg/kg dry weight	681	1650	793
Aluminum	mg/kg dry weight	10,723	18,433	13,800
Antimony	mg/kg dry weight	0	0.28	<0.1
Arsenic	mg/kg dry weight	12.99	269.4	126
Barium	mg/kg dry weight	64.1	263.9	125
Beryllium	mg/kg dry weight	0.38	0.75	0.48
Bismuth	mg/kg dry weight	0.31	0.59	0.62
Boron	mg/kg dry weight	2.2	7	5.2
Cadmium	mg/kg dry weight	0.06	1.09	0.23
Calcium	mg/kg dry weight	800	1,978	1,740
Chromium	mg/kg dry weight	32.5	67.4	52.2
Cobalt	mg/kg dry weight	26.89	258.83	47.4
Copper	mg/kg dry weight	36.68	91.35	40.9
Iron	mg/kg dry weight	20,463	100,595	50,800
Lead	mg/kg dry weight	4.5	9.5	6.05
Lithium	mg/kg dry weight	24.9	54.2	34.2
Magnesium	mg/kg dry weight	4,180	9,127	6,490
Manganese	mg/kg dry weight	684.9	57,532.5	12,400
Mercury	mg/kg dry weight	0	0.05	<0.05
Molybdenum	mg/kg dry weight	1.85	7.63	7.71
Nickel	mg/kg dry weight	46.96	268.6	50.9
Potassium	mg/kg dry weight	1,969	4,644	3,650
Selenium	mg/kg dry weight	0	1.69	<0.5
Silver	mg/kg dry weight	0	0.2	0.074
Sodium	mg/kg dry weight	100	259	193
Strontium	mg/kg dry weight	6	20.8	24.1
Thallium	mg/kg dry weight	0	0.951	0.249
Tin	mg/kg dry weight	0	2	0.53
Titanium	mg/kg dry weight	366	1,066	634
Uranium	mg/kg dry weight	3	5.4	4.48
Vanadium	mg/kg dry weight	27.3	51.8	44.1
Zinc	mg/kg dry weight	58.1	151.4	64.5

3.4 Excursions

On the final day of the TK AEMP Camp, participants requested several excursions and were able to partake in one of three of the possible options.

Lawrence, Nancy and Ethan travelled by helicopter to view the Narrows. Due to helicopter capacity, this excursion could only accommodate a limited number of participants.

Participants could also choose to go on a bus tour of the site or a boat tour. Emelie, Edward, Mary Ann, Charlie, Celine, Mary Adele, Mary Jane, and James (as well as Maureen and Cody) opted for the bus tour, while Lena, Karsen and John (as well as Zhanayii, Allison, Tara, and Rainie) opted for the boat tour.

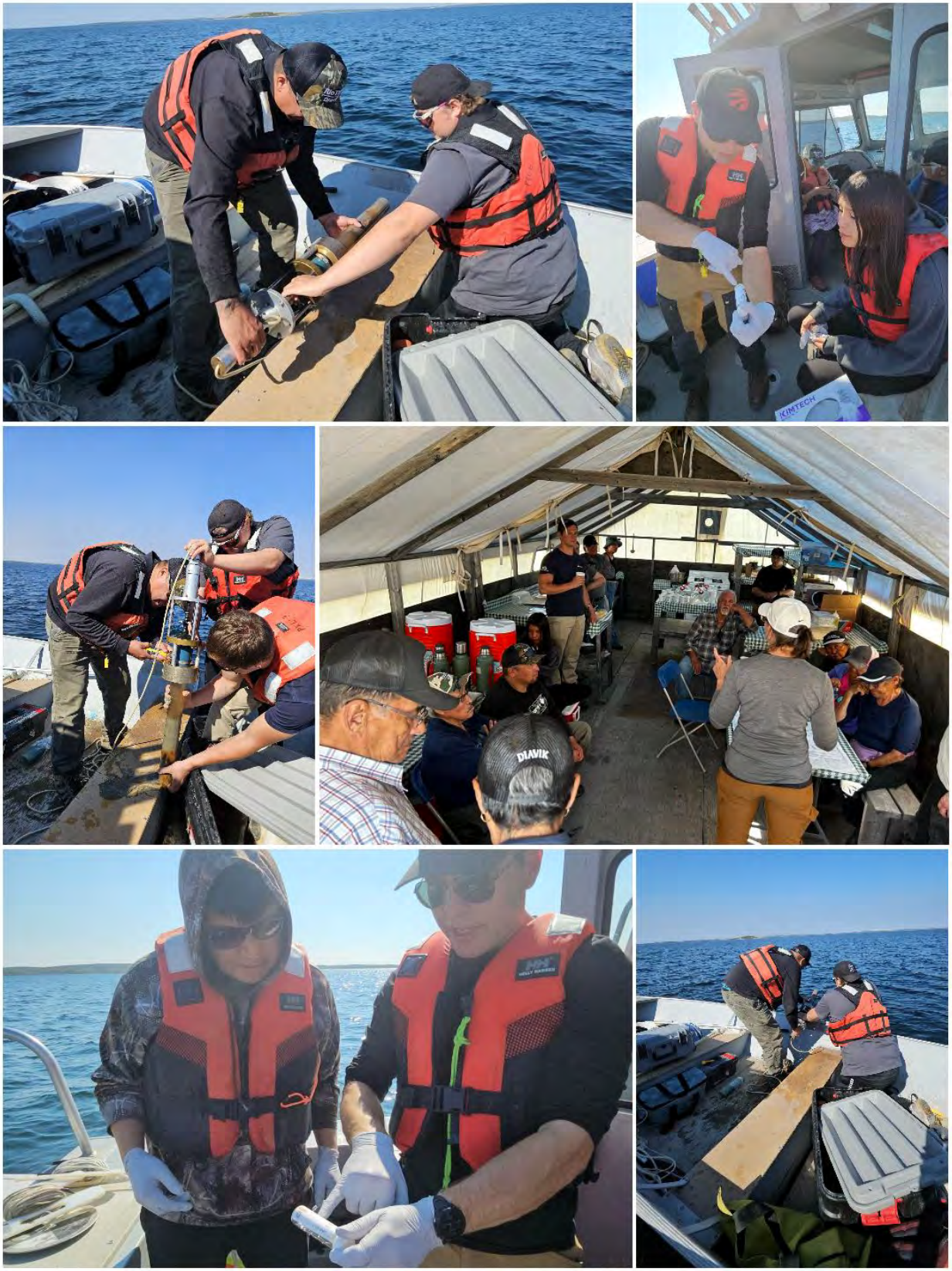

Figure 11 Working Together

4.0 Evaluation and Recommendations

4.1 AEMP TK Camp and Study Evaluation

"I really love being out in the land, being with people, helping people, I like the laughter" – Mary Adele Football, TG

"*Sitting around is even an experience, doing the events is an experience*" - Charlie Apples, TG

Participants were asked to complete an evaluation form on the final day of the AEMP TK Camp. These responses are anonymous and can be found in Appendix H.

4.2 Participant Recommendations

Although the 2024 TK AEMP Camp was the final Camp, the recommendations from participants can be used to inform future post-closure traditional knowledge activities at the Diavik mine site. The following points summarize the feedback from participants regarding how to improve future camps, as well as requests for further sampling and monitoring related the fish and water of Ek'ati (Lac de Gras).

4.2.1 Recommendations for the AEMP TK Camp

- Emelie Saunders suggests that she would like to see more people come out to the AEMP TK Camp, especially the youth. She would like the youth to come and see for themselves, touring the mine, the water quality, and the pit (including how it was created). She would like more youth to attend more meetings, workshops, and anything that Diavik provides.
- Karsen Mercredi would like Diavik to monitor the water quality and the fish yearly to see what is going on with them once a year. Then again, every three years when the AEMP TK Camp takes place. He'd like to see Diavik can share their findings with the participants.
- Lawrence Mercredi would like to do more anomaly sampling stations instead of going to the same sampling spots every three years. He would like to find out if the data is like the already collected data from previous years. He would like Ekati Diamond Mine and Diavik to work together to conjoin data, considering both mines mine near Ek'ati (Lac de Gras). He mentioned that the camp was one day too long, and that there was a lot of waiting time when transporting participants.
- *"For the TK part of it, was umm, sometimes it seems to me that they were, it seemed like they were going overboard and treating them like children, talking down to us. I hate that, I can't stand that. I know that for a lot of people that I talked to in this, they did not like it either. But then again, it's that adage, that you don't bite the hands that feed you. So, they'll stay quiet, but you come back into a smaller group, individually, or, one on one, kind of thing with them, they'll express that."* - Lawrence Mercredi
- "I *guess it's the trust, how do you get over that trust, you don't treat us like kids, you treat us like people that know things. And the things we do need, that we know, must be respected and honored that way. It was supposed to be for us, TK, on the land, but yet, when I saw that fish being man handled, and abused, then tossed back in, when I specifically told them, that they should take it back for processing. I mean it was his first fish, you know the excitement of the first fish caught is always really, it captures everybody's attention. He's man handling it, trying to grab it and it falls on the ground again, like in the boat. The boat got mud, and sand and dirt, because we just finished pulling up those samples, and*

then they took their pictures, the poor fish was still squirming, and finally they just tossed back in. You know I told them, that you toss it back in, it's going to be belly up tomorrow. I said to take it back for processing, so I gave them TK, and they ignored it." - Lawrence Mercredi

- Lena would like the camp to be on flatter ground for the elderly, if possible.

4.2.2 General Recommendations

In addition to recommendations about the Camp, participants saw many aspects of the mine site and as a result also shared general feedback for DDMI to consider as Diavik moves into closure.

- *"What I really wanted to share is that I would like to see the way this area was before they first started, instead of burying all this stuff in the ground, because that's not what they took out. They should just bring it back to wherever their company is. Not leave it here."* – Celine Marlowe, LKFDN
- *"Looking around, like all these eskers that they're building, it's too rocky – the animals are never going to roam over it again. Not just the caribou, all these other animals like the wolverine, the rabbit, the fox, the wolf. Especially this is the barren land, it's where the caribou migrated, and now it's all damaged."* – Charlie Apples, TG
- *"Looking at the eskers – it's too rocky, not like a soft sand like the other ones. Because I don't think there would be any dens for any animals, making their dens there, it's never going to happen."* – Mary Ann Jeremick'ca, TG
- Lena suggests that at least 5 youth from the communities should be included in any closing ceremonies for Diavik.
- *"Next time you pay the fire use some salt sugar tea bag and tobacco, they use to do that in the olden days"* - John Sangris, YKDFN.

4.3 Verification Session

Following the TK Camp, a Verification Session was held in which participants were able to review a draft version of this report, including a culmination of results from the TK Camp and interview transcriptions. Participants spend the two-day session creating their author biographies, verifying their interview transcripts, reviewing the data provided in the above tables, reflecting on the Camp experience, and developing a title for the report (a copy of the agenda can be found in Appendix R). DDMI and WSP representatives also presented the scientific results of the AEMP TK Camp at the Verification Session as well as information that was requested by participants at the end of the TK Camp. These presentation materials are included in Appendix M.

With the exception of John Sangris and youth who were back in school, all participants present at the TK Camp were in attendance at the Verification Session. John's input was verified separately with him before finalization of this report. Requested edits to the report were recorded during the Verification Session and are summarized in Appendix Q.

In addition to the participants, some staff observers from the Indigenous Governments were also in attendance to support the participants in reviewing the data.

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