



December 2022

TREP Manager Updates

Naomi Owens-Beek

TANSI!! I wanted to provide a high-level summary of some of the items TREP and I have been working on this past year.

Caribou Partnership Agreement (CPA): On June 6 & 7, 2022 TREP held an open house, it was our first since pre-covid. June 6 was meant to be a focus on our CPA progress, where we invited all our consultants to have a table and provide all relevant information. The Park Management Plan from SFN's perspective is complete-we need to engage with West Moberly and BC going forward. The Moberly Watershed Plan is currently under review. We hired a consultant named Terry Conville and he is working on the Indigenous Forest and Ecosystem Health (IFEH) plan and Forestry Management Plan (FMP). Look forward to community involvement in the New Year. The Indigenous Guardian Working Group has a completed a Charter that is currently under review. The guardians plan on attending the next job and career fairs in 2023 to share and garner interest from SFN members.



The Regional Strategic Environmental Assessment (RSEA) AND Yahey Decision Update: The Yahey decision was a positive step forward for Treaty 8 nations and the RSEA provided data to this win. A Treaty 8 Task Force was created to address the issues of cumulative effects in our territory. Which means RSEA will be re-branded as a South of the Peace Planning mechanism, the focus will be on the Environmental Livelihoods study and a cumulative effects analysis of industry and Treaty 8 Rights. More to come in 2023.

The Yahey Decision also created a backlog of referrals that TREP staff must address. We thought this would be a great opportunity to pilot the tool we created with CPA funds called the Saulteau Cumulative Effects Mapping Application (SEEMA). This tool will address the bulk of the referrals with a high level analysis of importance in relation to our Treaty 8 rights and environmental pressures.

The Nikanese Wah tzee Stewardship Society: We had another successful penning year bringing the Klinse Za herd to ~140! If you recall orphan calf #38, he is doing fine and has joined the herd since the August release. The caribou and land guardians continue to be a successful program. We also had a lot

of interest this year from academics across the world thanks to two papers that were published in early spring of 2022.

Fish and Wildlife Compensation Program (FWCP): the FWCP Peace Region Board that I sit on will be reviewing 27 applications.

First Nations-BC Wildlife and Habitat Conservation Forum: this forum is evolving and has grown a lot since 2018. The forum has created a policy and/or guidance document on Shared Decision Making for non-statutory decisions, a Traditional Knowledge Policy and a Sheltering Policy that are all under review, public release in 2023. The forum created the Together for Wildlife Strategy and now operates under its direction.

Minister's Wildlife Advisory Council (MWAC): I was appointed to this Council September 2022. The Council provides independent advice and support to Minister's Conroy and Osborne on strategic issues and priorities which strengthen stewardship of wildlife and habitat in B.C. In particular, the Council focuses on oversight of government work to implement the Together for Wildlife strategy including advice on legislation and policy.

One of the great highlights of this year!



Our Klinse Za Project made the Reader's Digest as 32 of 75 Awe-Inspiring Reasons to Smile! I hope that made you smile 😊

IF YOU HAVE ANY QUESTIONS ABOUT THE ABOVE-MENTIONED ITEMS PLEASE DONOT HESITATE TO CONTACT OUR TREP DEPARTMENT! Have a wonderful Holiday Season and Happy New Year!!

During the Battleship Mountain Fire in the fall of 2022, The Johnson Creek Forest Service Road was closed by the District Manager due to Public Health and Safety concerns under Section 22.2 of the Forest and Range Practices Act. Following the fire a number of danger trees have been identified along the Johnson Creek Forest Service Road. The Ministry of Forests and the Primary Maintainer for this Forest Service Road are reviewing this issue and determining how to proceed with this issue. Until the danger trees are assessed and dealt with, we believe that there continues to be a potential danger to public health and safety and therefore have not re-opened this road. If there are any community members utilizing this area, please advise them of the potential danger tree hazard in the area.

We will advise you when this issue is resolved.

Please let me know if you have any questions.

Thank you.

Mark Van Tassel, RPF

Resource Manager

Peace Natural Resource District

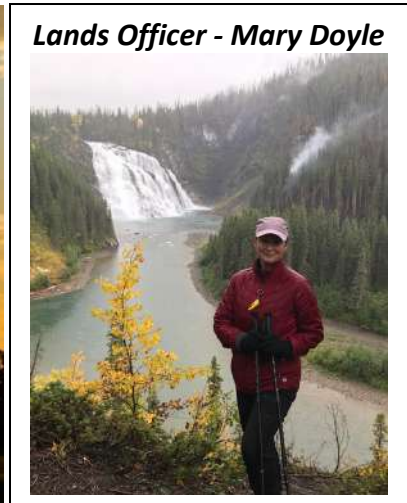
Ministry of Forests

Phone: (250)795-4178

E-Mail: Mark.VanTassel@gov.bc.ca



December 2022



Lands Officer - Mary Doyle



SFN Members,

With Christmas break quickly approaching, I wanted to take this opportunity to wish each and every one of you a joyous and safe holiday season and a Very Merry Christmas! I hope you find the time to relax, find peace, and the opportunity to visit, hold your loved ones close, and to let them know how much you love them ❤️ 🎁 ❄️

The following is a quick recap of where our current projects are sitting prior to the holidays & what to expect in the New Year.

Cemetery & Columbarium's

We are pleased to announce the arrival and set up of our new columbarium's located at the Lakeview Cemetery. There are 96 niches which could hold up to 2 urns. We are currently in the process of developing our nation's cemetery policies and application process for request of plots and columbarium niches. This is an important function of recording placements (site mapping) for future years and future cemetery planning.

Moving forward, we will continue to seek guidance from our cemetery planning committee and membership via survey's, etc.

Continuation of our cemetery beautification project will re-commence in spring.



Land Use/Economic Development Planning - Hiking & Walking Trail Development on Reserve

The development of the aforementioned projects will continue with membership assistance and guidance in the New Year. With the recent input received from membership in our November 24th Community Meeting & Bingo, our plan is to send out a follow up survey to membership for further input and clarification. Our Lands Committee will also be utilized for guidance and support of its development.

Sliding Hill and Skating Rink

We are very pleased to announce the opening and new location of our skating rink and sliding hill. Our Parks and Recreation Coordinator Derek Wood has been diligent in planning and the development of our Winter Wonderland, and it is absolutely amazing!!!! Just waiting for snow ❄️❄️

Located across from
Pemmican Grounds



Land Code Development

The Framework Agreement was entered into by the Nation in Oct 2021. The Framework Agreement on First Nation Land Management is a government-to-government agreement signed by 14 First Nations and Canada in 1996. The Framework Agreement was initiated by these 14 First Nations to opt out of the land management sections of the Indian Act and resume responsibility for the management and control of their reserve lands and resources.

The Framework Agreement provides signatory First Nations with the option to manage their reserve lands under their own Land Codes. As of November 2022, 104 First Nations have enacted their own Land Code. 90 communities are in the developmental phase, and an additional 52 First Nations have expressed formal interest in becoming signatories to the Framework Agreement.

The Framework Agreement on First Nation Land Management outlines the process for First Nations to withdraw from 44 sections of the Indian Act related to land management. After withdrawing from these 44 sections of the Indian Act, First Nations can adopt and enforce their own laws regarding reserve lands, in accordance with the procedures established in their Land Codes.

Currently in progress is the development of a Question-and-Answer portal via our SFN website. Over the winter we plan to reconvene with our Lands Committee and provide training webinar access via

the Land Advisory Board. In the new year we will also be arranging a community information session to provide an opportunity for membership to further ask questions, gain insight into the process & provide a transparent forum. We have invited Doig River First Nations and Haisla Nation to attend as signatory First Nations, to speak of their experiences and provide insight into their process. We hope to host this meeting mid-February. Please keep an eye out for future meeting info. 😊

Should you wish to find out more about ongoing projects, please feel free to contact me at any time via email mdoyle@saulteau.com or via telephone at 236-364-2012.

Once again, Merry Christmas & the very best in the New Year!

Sincerely,

Mary Doyle
Lands Officer
Saulteau First Nations



Site C Project

Fish and methylmercury in the reservoir

August 2022

What is methylmercury?

Mercury is found everywhere in the environment—in air, water, soil, plants, animals and fish. There are natural (e.g. volcanoes) and human (e.g. burning fossil fuels) sources of inorganic mercury contributing to the global mercury cycle.

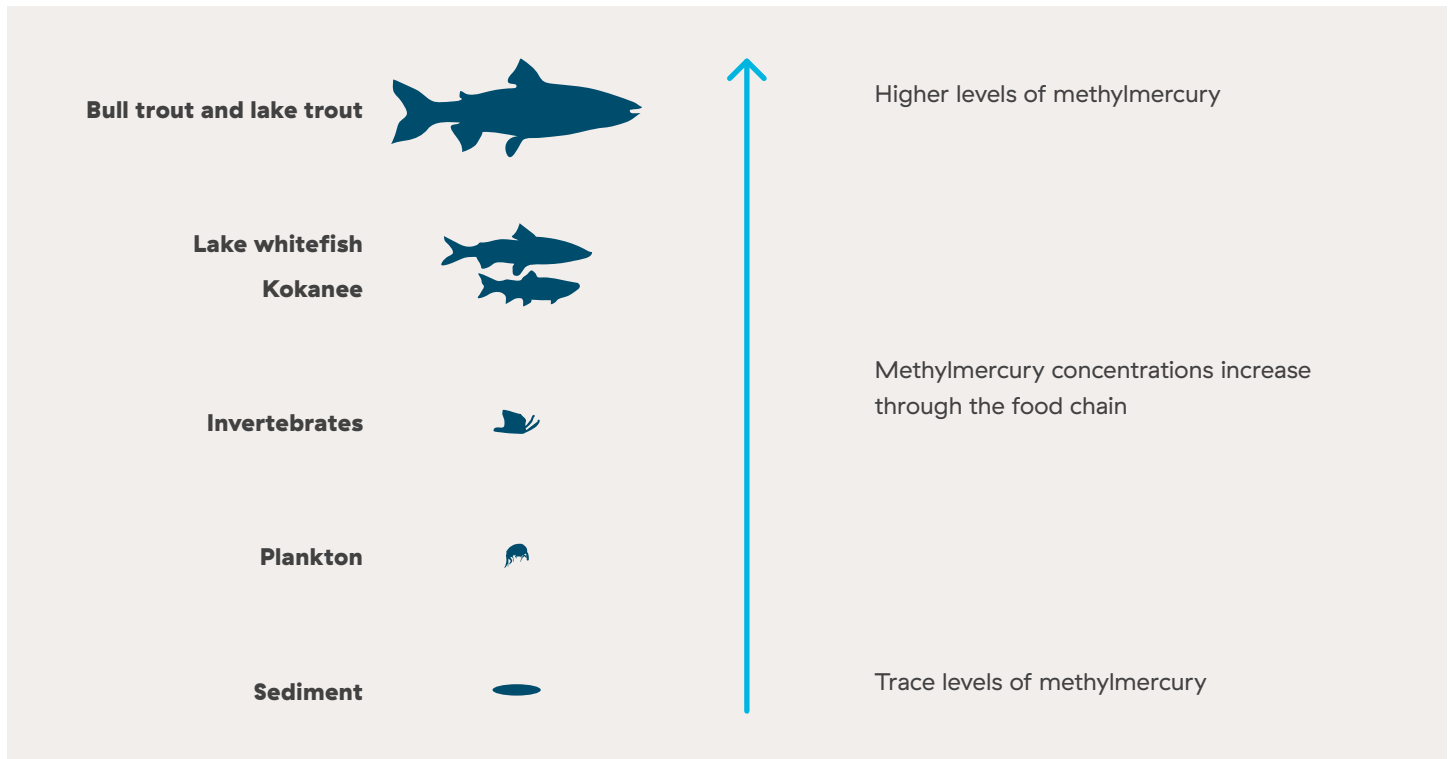
Methylmercury, an organic form of mercury, is created when microorganisms that live in aquatic environments react with the inorganic mercury that exists naturally in soil and plants. Once formed, methylmercury enters the food chain.

The process of converting inorganic mercury to methylmercury temporarily accelerates when a new reservoir is created due to the rapid decomposition of soil and vegetation previously on dry land. The amount of methylmercury increase depends on a range of environmental factors such as flooded area, reservoir size, water flow rates through reservoir, and type of soil and vegetation.

Methylmercury in fish

Because methylmercury is formed in aquatic environments, all species of fish contain methylmercury. The concentration of methylmercury found in a fish depends on species, age, size, and location (for example, in a lake or a river). In general, predatory fish (fish that eat smaller fish) are more likely to have higher levels of methylmercury due to accumulation through the food chain.

Aquatic food chain





Bull trout

Methylmercury and the Site C reservoir

Baseline levels of methylmercury in the Site C project area are relatively low. In fact, methylmercury levels of Peace River fish are similar to fish from other lakes and rivers in B.C.

When we begin filling the Site C reservoir in 2023, there will be temporary changes in fish methylmercury levels. We predict fish methylmercury levels to increase by an average of three to four times the baseline level in the newly created reservoir, and slowly return to a new baseline after approximately 20–30 years.

Fish methylmercury levels downstream of the new Site C dam, possibly as far as Many Islands, Alberta, are predicted to initially double, on average, before returning to a new baseline level.

At their highest, levels of methylmercury in fish from Site C are expected to be similar to levels in fish found in many lakes and rivers elsewhere in Canada and lower than some types of fish sold in stores and restaurants.

Based on Health Canada's guidelines and BC Hydro's predictions of fish methylmercury levels, people who eat two or fewer servings of fish a month, on average, from the Site C reservoir, do not need to be concerned about the amount of methylmercury in the fish.

However, people who eat more than the recommended number of servings of fish from the Site C reservoir, or eat more than one kind of fish, may need to limit their consumption of large predatory fish, such as bull trout and lake trout, to stay within Health Canada's safe level of methylmercury.

The relatively low methylmercury levels expected in Site C reservoir fish are due to the low pre-existing levels of mercury and to the project's design. Because Site C will rely on the existing Williston Reservoir for most of its water storage, the extent of flooded terrestrial habitat—which drives methylmercury production—at Site C is relatively small.

In addition, we are mitigating against the production of methylmercury in the new reservoir by minimizing the disturbance of soils and removing most of the vegetation prior to reservoir filling.



Peace River

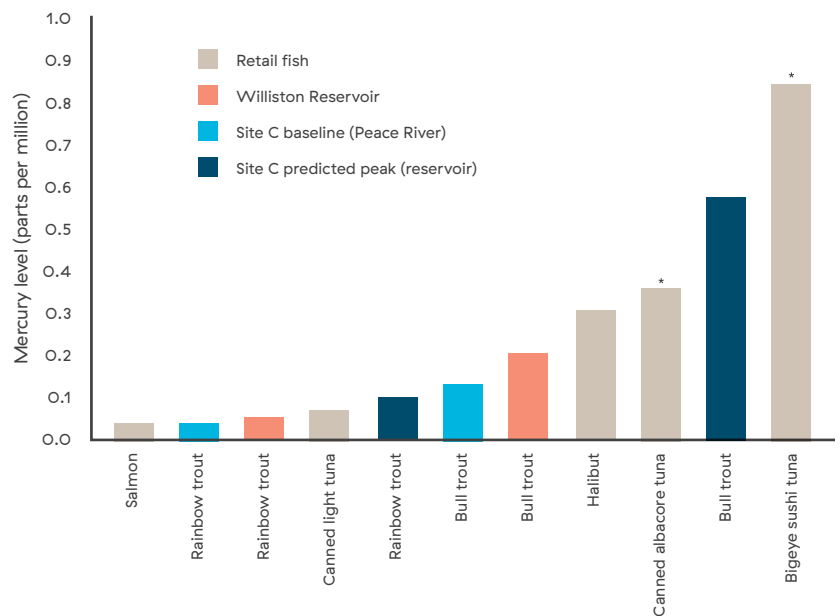
Fish & Wildlife Compensation Program: Peace Region Mercury Study

Recently the Fish & Wildlife Compensation Program completed a three-year study comparing the mercury levels of fish in Williston and Dinosaur reservoirs to fish in other lakes and rivers in B.C.

The study showed that reservoir fish have mercury levels similar to fish from other lakes and rivers in B.C. for which there is available data.

The FWCP is a partnership between BC Hydro, the Province of B.C., Fisheries and Oceans Canada, First Nations, and public stakeholders to conserve and enhance fish and wildlife in watersheds impacted by existing BC Hydro dams. Learn more about the study at fwcp.ca/mercury.

COMPARISON OF METHYLMERCURY LEVELS IN FISH



Data for retail fish (sold in restaurants and grocery stores) are from Health Canada (2007) and Lowenstein et al. (2010).

Note: *Refer to Health Canada for consumption guidelines for canned albacore tuna and fresh tuna. For more information visit:

canada.ca/en/health-canada/services/food-nutrition/food-safety/chemical-contaminants/environmental-contaminants/mercury/mercury-fish-questions-answers.html#ca2

Monitoring the reservoir

Our current understanding of peak mercury levels in fish after filling of the Site C reservoir are based on scientific predictions. In collaboration with Indigenous Nations, communities and Health Authorities, BC Hydro developed a methylmercury monitoring plan for Site C to verify predicted levels of mercury in fish. The plan includes regularly measuring methylmercury levels in local fish and collecting information on how much fish people are eating. This information will be communicated, in partnership with health authorities, to Indigenous groups and the general public.

Monitoring programs

Fish population surveys: Monitoring the abundance, size and age structure, distribution, and population structure of fish in the Peace River and its tributaries.

Bull trout spawning assessment: Assessment of bull trout spawning in tributaries of the Halfway River through aerial and ground surveys. Fish counters and tag detection systems are used to ground truth estimates of spawn timing, duration, and abundance.

Fish movement monitoring: Monitoring changes to fish movement in the Peace River and its tributaries as a result of the construction and operation of the project.

Creel survey: Monitoring the use of the Peace River and Site C reservoir for recreational angling.

Physical habitat and riparian vegetation monitoring: Monitoring changes in physical habitat and riparian vegetation as a result of the construction and operation of the project.

Fish food organisms monitoring: Monitoring the production of fish food organisms in the Peace River as well as Williston and Dinosaur reservoirs.

Water and sediment quality monitoring: Monitoring water and sediment quality in the Peace River to evaluate the potential effects of the project.

Fish entrainment monitoring: Monitoring the downstream movement of fish through the generating station.



- More than 200,000 fish sampled in the Peace River since 2002
- 32 fish species in the Peace River
- Monitoring for the first 30 years of project operations



- 205 km of the Peace River sampled from Peace Canyon Dam to Many Islands, Alberta
- Hundreds of river kilometers sampled in the tributaries



- Thousands of fish tagged in tributaries of the Peace River
- More than 100,000 fish tagged in the Peace River since 2004

Total dissolved gas monitoring: Monitoring the generation of total dissolved gas and the associated effects on fish health and survival.

Fish stranding monitoring: Assessment of fish stranding risk in the diversion headpond and Peace River downstream of the dam site.

Fish passage monitoring: Monitoring the biological effectiveness of the temporary and permanent upstream fish passage facilities.

Small fish translocation monitoring: Monitoring small fish populations in the Peace River to determine project impacts on genetic structure, movement, and genetic exchange of these species.

Fish habitat enhancement monitoring: Monitoring the effectiveness of Peace River fish habitat enhancement measures near the dam site construction area to confirm suitability of habitat for fish.

Water level fluctuations monitoring: Monitoring the effects of water level fluctuations on the catchability of fish and the biomass and production of periphyton in the Peace River downstream of the dam site.

Tributary mitigation opportunities evaluation: Identification of fish habitat enhancement opportunities through habitat assessments in tributaries of the Peace River.

Site C Project Fish and Aquatic Program

October 2022

Fish mitigation and monitoring

While the Site C reservoir is expected to support a new and productive fish community, the Site C Environmental Impact Statement (EIS) identified several potential changes that the project could have on fish and fish habitat, including:

- Changes to fish habitat
- Changes to fish health and survival
- Changes to fish movement

In order to address these potential changes, mitigation, management and monitoring plans were developed for the project, taking into account the measures outlined in the EIS, information received during the Joint Review Panel hearing process, and the Report of the Joint Review Panel on the project. The project's plans are consistent with and meet requirements set out in the conditions of the Environmental Assessment Certificate and the Decision Statement, and are available on the Site C project website.

Mitigation measures

A variety of mitigation measures will be used during the construction and operation of the project.

These include:

- Addressing fish and fish habitat through design considerations (e.g., turbine and spillway design),
 - Habitat enhancements for fish in the Peace River, reservoir and tributaries, and
 - Fish passage management, which will help facilitate the safe and timely passage of fish at the dam site.
- Planned habitat enhancements in the Peace River are significant in scope and size compared to other habitat enhancements in B.C. The planned enhancements associated with the Site C project include:
- Peace River channel contouring and side-channel enhancement, which will take place downstream of the dam,
 - Rock spurs along River Road,
 - Reservoir shoreline enhancement, and
 - Reservoir shallow water habitat near the dam site.

Monitoring programs

Since the 1970s, we've been gathering data and studying baseline conditions in the Peace River and its tributaries from Peace Canyon Dam to Alberta. General surveys completed during the 1970s were followed by large-scale inventories of fish communities in the late 1980s and early 1990s. Since 2005, numerous baseline studies have been completed to understand the abundance, size and age structure, distribution, and population structure of fish in the Peace River and its tributaries.

We developed the Fisheries and Aquatic Habitat Monitoring and Follow-up Program (FAHMFP) to monitor fish and aquatic valued components during the construction phase of the project (2015 to 2024) and the first 30 years of operation (2024 to 2053).

The FAHMFP is a coordinated set of 18 distinct programs that (1) monitor fish and aquatic habitat during the construction and operation of the project, (2) help us understand the effects of the project and the effectiveness of mitigation measures, and (3) evaluate and implement future mitigation and compensation options.

Learn more:



Fish and Aquatic Program

Summary of monitoring

- Fish movement
- Physical monitoring and fish food
- Large fish indexing and fish stranding
- Tributary indexing and spawner surveys
- Temporary upstream fish passage facility

Locations of fish and fish habitat mitigation measures on the Peace River

Reservoir shallow water habitat enhancement

Reservoir shallow water habitat enhancement

Reservoir shallow water habitat enhancement

Reservoir spawning shoal enhancement

Hudson's Hope shoreline protection

Hudson's Hope reservoir shallow water habitat enhancement

Fort St. John reservoir shallow water habitat enhancement

Fort St. John channel contouring and side channel enhancement

Fort St. John dam site material relocation sites shallow water habitat enhancement

Fort St. John river road shoreline enhancement (rock spurs)

Boudreau Lake



Site C Reservoir: Indigenous Led Beaver Harvest

Proposed for spring 2023

Based on input and direction through the Site C Environmental Forum, a Beaver Movement study was implemented from August 2020 to April 2021 to determine the impacts of changing water levels on beavers in the Peace River near Site C Dam. The results of the study suggest that fluctuating headpond water levels (water upstream of the dam) may lower the survival rates of beavers. Given the study findings and input from Indigenous Nations through the Site C Environmental Forum, a decision was made by interested Nations to proceed with proactively trapping beaver for traditional purposes. As reservoir filling is planned for as early as Fall 2023, it is proposed that a beaver harvest be initiated in the Spring 2023.

Supported traditional beaver harvest for SFN members

Timing: Spring 2023, exact dates TBD

- Indigenous led with BC Hydro in a supporting role
- Up to 5 days of supported traditional beaver harvest in the future Site C reservoir
- funding to support participation of up to 5 community members e.g. \$400/day/person
- funding to support expenses including accommodation, mileage and per diem
- jet boat transportation provided
- boat launch meeting locations include Lynx Creek and Halfway River
- harvest area includes the future Site C reservoir e.g. Hudson's Hope to Site C Dam Site
- safety protocols will need to be reviewed and discussed daily during safety tailboard meetings



If interested or if you would like additional information please contact your TREP Department Representative (Ryan Mckay - ryan.mckay@saulteau.com). Alternatively, please contact Trevor Oussoren (trevor.oussoren@bchydro.com), 250.816.5261.

Tracking fish movements in the Peace Region

November 2019

A new program that tracks the movement of fish throughout the Peace Region is providing BC Hydro with valuable information about the potential effects of the Site C project on fish. We use this important information to develop mitigation programs.

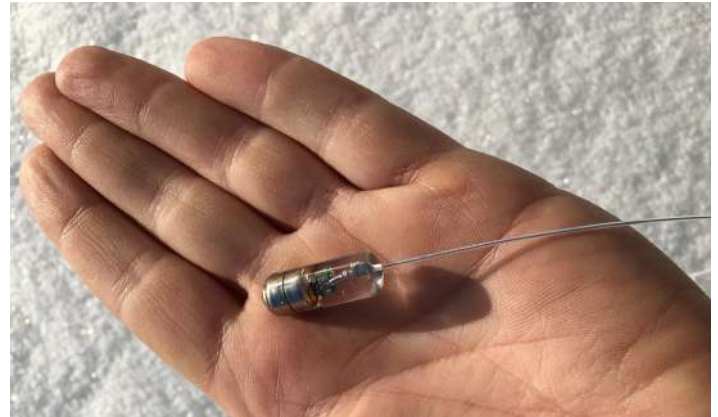
The Fisheries and Aquatic Habitat Monitoring and Follow-up Program focuses on monitoring fish and fish habitat in the Peace River and its tributaries during the construction of the Site C project and for the first 30 years of operation. Our approach consists of 18 unique programs that monitor the abundance and life history of and spawning, rearing and feeding patterns—and a major component of monitoring includes tracking the movements of radio-tagged fish.

Though the program is new, we've been tagging and tracking fish in the Peace Region since the 1990s. Decades of data have helped us form a baseline so we can better understand how movement patterns will change as a result of river diversion, dam construction and operations.

We are focused on understanding the magnitude, direction and seasonal variability of fish movements so we can answer questions about changes associated with the Site C project. This includes gathering critical data during river diversion to assess the effectiveness of the temporary fish passage facility, which is being built to safely move fish upstream of the dam site.

What is radio telemetry?

We will track the movements of fish through radio telemetry, a valuable tool used to monitor the behaviour of fish using radio signals. A radio telemetry system is made up of a transmitter (carefully implanted into a fish's body cavity), a flexible wire antenna (which hangs from the body of the fish and is visible to anglers), and a receiver (located on the banks of the river).



A small, harmless radio transmitter is implanted into a fish. The flexible wire antenna hangs from its body and is visible to anglers.



Biologists implant a radio transmitter before releasing the fish back into the river.

Anglers are required to follow provincial fishing regulations. BC Hydro encourages anglers to release radio-tagged fish back into the river with minimal stress.

How are fish monitored?

Fish are caught, carefully implanted with a harmless radio transmitting device, and released safely back into the river. Radio-tagged fish are detected as they swim by fixed telemetry stations strategically placed along the banks of the Peace River and its tributaries. Each station consists of a radio receiver, radio antennas that point at the river, deep cycle batteries and solar panels to remotely power the electronics, and a cell modem to remotely monitor the performance of equipment. Stations are visited every few weeks to download the logged data, and inspect the test equipment.

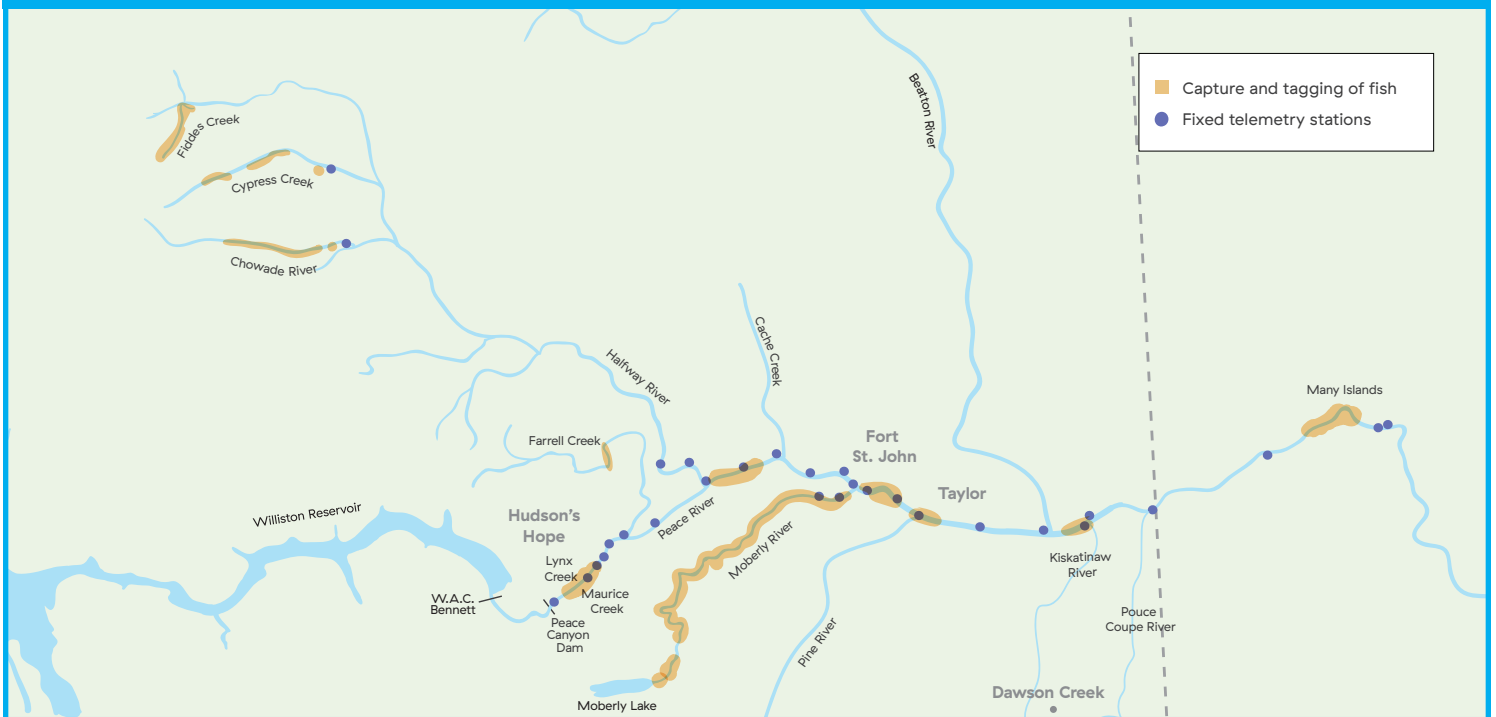


One of 30 new fixed telemetry stations placed on the river bank, which logs data when radio-tagged fish swim by.

Which fish species are being tracked?

BC Hydro is tagging various species of fish, including bull trout, Arctic grayling, rainbow trout, walleye and burbot. More than 300 fish have been tagged and released in the locations shown below. We plan to tag and release an additional 300 fish in 2020.

Radio Tagging and Fixed Telemetry Station Locations



BC Hydro is committed to maintaining the fixed telemetry stations each year through construction of the Site C project and will continue to monitor fish movements throughout operations to ensure the effectiveness of our mitigation measures.

More information on BC Hydro's fish and aquatic program is available on sitecproject.com.