Site C Project
Fish and Aquatic Program

October 2022

BC Hydro
Power smart

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.

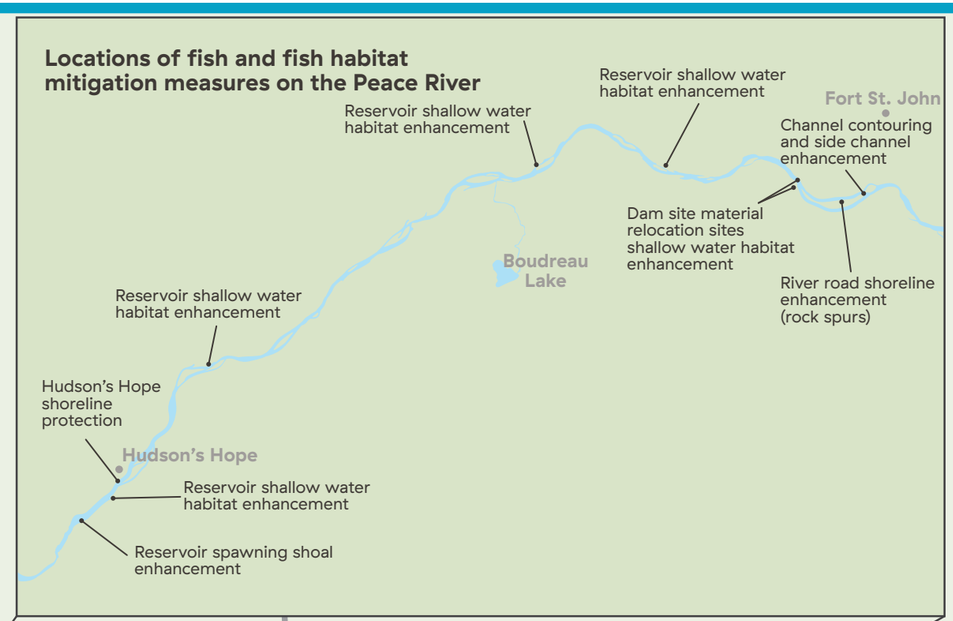
We developed the Fisheries and Aquatic Habitat Monitoring and Follow-up Program (FAHMFP) to monitor fish and aquatic valued components during the construction phase of the project (2015 to 2024) and the first 30 years of operation (2024 to 2053).

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.

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



Beatton River
Turnoff Creek
Upper Halfway River
Fiddes Creek
Cypress Creek
Chowade River
Colt Creek
Kobes Creek
Halfway River
Cache Creek
Farrell Creek
Lynx Creek
Hudson's Hope
Moberly River
Fort St. John
Taylor
Beatton River
Peace River
Williston Reservoir
Maurice Creek
Pine River
Kiskatinaw River
Pouce Coupe River
Dawson Creek

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.

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.

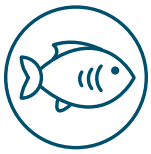
Fish passage monitoring: Monitoring the biological effectiveness of the temporary and permanent upstream fish passage facilities.

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.



- 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

Learn more:

Fisheries and Aquatic Habitat Monitor and Follow Up Program
Fisheries and Aquatic Habitat Management Plan
Fish Passage Management Plan