Fisheries and Aquatic Habitat Monitoring and Follow-up Program Annual Report: Jan 1, 2025 to Dec 31, 2025

Site C Clean Energy Project

February 3, 2026

Table of Contents

1.0 Introduction 3
1.1 Background 3
1.2 Summary 3
2.0 Fisheries and Aquatic Habitat Monitoring and Follow up Program 3
2.1 Background 3
2.2 Overview of Fisheries and Aquatic Habitat Monitoring and Follow-up Program 4
2.3 Development of the Plan and Reporting Requirements 6
3.0 Summary of Implementation Status: Monitoring Follow-up Programs 6
3.1 Mon-1a Site C Reservoir Fish Community Monitoring Program 11
3.2 Mon-1b Site C Reservoir Tributaries Fish Community and Spawning Monitoring Program 11
3.3 Mon-2 Peace River Fish Community Monitoring Program 13
3.4 Mon-3 Peace River Physical Habitat Monitoring Program 14
3.5 Mon-8 Site C Reservoir Water and Sediment Quality Monitoring Program and Mon-9 Peace River Water and Sediment Quality Monitoring Program 15
3.6 Mon-10 Site C Fish Entrainment Program 15
3.7 Mon-11 Site C TDG Monitoring Program 16
3.8 Mon-12 Site C Fish Stranding Monitoring Program 16
3.9 Mon-13 Site C Fishway Effectiveness Monitoring Program 16
3.10 Mon-14 Site C Trap and Haul Fish Release Location Monitoring Program 17
3.11 Mon-16 Site C Reservoir Constructed Shallow Water Habitat Areas Sediment and Vegetation Monitoring Program 17
4.0 Qualified Professionals 17

Acronyms

EAC	Environmental Assessment Certificate
EAO	BC Environmental Assessment Office
EIS	Environmental Impact Statement
FAHMFP	Fisheries and Aquatic Habitat Monitoring and Follow-up Program
FLNRO	BC Ministry of Forests, Lands and Natural Resource Operations
MOE	BC Ministry of Environment

1.0 Introduction

1.1 Background

The Fisheries and Aquatic Habitat Monitoring and Follow-up Program (FAHMFP) monitors potential changes in physical habitat, lower trophic levels, fish abundance, and community composition during the construction and operation of the Site C Clean Energy Project (the Project), as required by Condition 7 of the Project's Environmental Assessment Certificate (EAC), Schedule B . Data collection before and after the commissioning of the dam was conducted for the environmental assessment of the Project such that the sample sites and methodologies could be repeated to monitor potential changes to fish and fish habitat.

The FAHMFP includes 18 monitoring programs and one follow-up program that are spatially and logistically distinct. Each program's monitoring plan includes a series of fisheries management questions and hypotheses that reflect uncertainties in predictions of the potential changes as a result of the Project, as described in the Project's Environmental Impact Statement (EIS). Each monitoring program includes a number of specific monitoring tasks.

A final version of the FAHMFP was submitted on December 22, 2015. Revision 2 of the FAHFMP was published in January 20, 2025 and is available on the Project's website[1]. All references to the FAHMFP in this report refer to this version of the FAHMFP.

1.2 Summary

This report is being submitted in compliance with Condition 7 of the EAC, Schedule B. This annual report documents that all components of the FAHMFP that were scheduled to be implemented in 2025 were implemented (see Tables 1 to 3), in accordance with the implementation schedules in the FAHMFP.

2025 marked multiple milestones, including the full operation of all power units and the opening of the permanent fishway. Annual implementation of key monitoring programs and tasks continued. Annual reporting will continue to document the implementation of the FAHMFP.

2.0 Fisheries and Aquatic Habitat Monitoring and Follow up Program

2.1 Background

The Conditions in the EAC contemplate three plans and programs that relate to fish and fish habitat. These are summarized below to provide context for the FAHMFP.

1) **Fisheries and Aquatic Habitat Management Plan:** Fisheries and Aquatic Habitat Management Plan (submitted to the Canadian Environmental Assessment Agency [CEAA] and the BC Environmental Assessment Office [EAO] in June 2015) in accordance with EAC Condition 4 and Federal Decision Statement Condition 8 includes standard mitigation measures (e.g., erosion and sediment control measures) described in the Project's Construction Environmental Management Plan[2] and project-specific mitigation measures (e.g. reservoir shoreline habitat enhancement works and capping of dam site material relocation site with fish habitat features).

[1] Available at: https://www.sitecproject.com/document-library/environmental-and-socio-economic-plans-and-reports

[2] Available at: https://www.sitecproject.com/document-library/environmental-and-socio-economic-plans-and-reports

2) **Fisheries and Aquatic Habitat Monitoring and Follow-up Program:** The FAHMFP is a requirement of Condition 7 of the EAC, Schedule B. Condition 7 requires the development and implementation of a FAHMFP that provides for: a) monitoring fish and fish habitat during the construction and operation of the Project, and b) an outline for a procedure to evaluate and implement future mitigation and compensation options during operation of the Project.

3) **Fish Passage Management Plan:** The Fish Passage Management Plan included in the EIS (Volume 2 Appendix Q) describes the approach to manage fish passage at the Project. Following Condition 6 of the EAC, Schedule B, a Fish Passage Management Plan, which will include updates since submission of the EIS, will be prepared by Qualified Environmental Professionals and submitted prior to Project activities that may affect upstream fish passage. The EIS (Volume 2 Section 12) identified the river diversion phase of construction as the first construction activity that is expected to affect upstream fish passage. BC Hydro prepared an updated revision to the Fish Passage Management Plan in 2020[3], which was reviewed by the regulatory agencies and Indigenous nations. The planned monitoring for fish movement and fish passage is described in the FAHMFP.

2.2 Overview of Fisheries and Aquatic Habitat Monitoring and Follow-up Program

The FAHMFP consists of 18 monitoring programs and one follow-up program.

The 18 monitoring programs are organized in space and time such that the section of Peace River that transitions to the Site C Reservoir is monitored under the programs titled 'Peace River' prior to reservoir filling, and programs titled 'Site C Reservoir' following reservoir filling. Table 1 summarizes these monitoring programs.

Table 1. Summary of monitoring programs as part of the Fisheries and Aquatic Habitat Monitoring and Follow-up Program

Monitoring Program ID	Monitoring Program Name and Description
Mon-1a	**Site C Reservoir Fish Community Monitoring Program** Monitor the effects of river to reservoir transformation on the fish community in Site C Reservoir and associated tributaries.
Mon-1b	**Site C Reservoir Tributaries Fish Community and Spawning Monitoring Program** Monitor fish populations in Peace River and Site C reservoir that migrate to tributaries to determine effects of the Project and the effectiveness of mitigation measures for fish and fish habitat.
Mon-2	**Peace River Fish Community Monitoring Program** Monitor fish populations in the Peace River to determine effects of the Project and the effectiveness of mitigation measures for fish and fish habitat.
Mon-3	**Peace River Physical Habitat Monitoring Program** Monitor the effects of the Project on physical habitat.
Mon-4	**Site C Reservoir Riparian Vegetation Monitoring Program**

[3] Available at: http://sitecproject.com/sites/default/files/Fish%20Passage%20Management%20Plan.pdf

Monitoring Program ID	Monitoring Program Name and Description
	Monitor the effectiveness of planned riparian planting adjacent to Site C Reservoir.
Mon-5	**Peace River Riparian Vegetation Monitoring Program** Monitor how the construction and operation of the Project affects the quality and quantity (species composition, biological productivity, spatial area) of riparian vegetation along the Peace River downstream of Site C.
Mon-6	**Site C Reservoir Fish Food Organisms Monitoring Program** Monitor the effects of Site C Reservoir formation on the production of fish food organisms.
Mon-7	**Peace River Fish Food Organisms Monitoring Program** Monitor the effects of Project construction and operations on the biomass of invertebrates and the availability of fish food organisms downstream of Site C.
Mon-8	**Site C Reservoir Water and Sediment Quality Monitoring Program** Monitor the effects of reservoir formation on water and sediment quality.
Mon-9	**Peace River Water and Sediment Quality Monitoring Program** Monitor the effects of the Project on water and sediment quality downstream of Site C.
Mon-10	**Site C Fish Entrainment Monitoring Program** Monitor entrainment rates and survival rates of entrained fish during the operation of Site C.
Mon-11	**Site C TDG Monitoring Program** Monitor Total Dissolved Gas (TDG) supersaturation and potential effects to downstream fish populations resulting from Gas Bubble Disease (GBD) during Site C Project construction and operation.
Mon-12	**Site C Fish Stranding Monitoring Program** Monitor Project construction and operation effects associated with flow fluctuations and fish stranding on the Peace River fish community.
Mon-13	**Site C Fishway Effectiveness Monitoring Program** Monitor the performance of the temporary and permanent upstream fish passage facilities at the Project.
Mon-14	**Site C Trap and Haul Fish Release Location Monitoring Program** Monitor the movements following release of fish collected at Site C fishways and transported and released at several upstream release locations.
Mon-15	**Site C Small Fish Species Translocation Monitoring Program** Monitor small fish species populations in the Peace River to determine effects of the project on genetic structure, movement, and genetic exchange.
Mon-16	**Site C Reservoir Constructed Shallow Water Habitat Areas Sediment and Vegetation Monitoring Program** Monitor the suitability of benthic substrates in constructed shallow water habitats of Site C Reservoir for aquatic plants and monitor the natural colonization of aquatic plants in these habitats.
Mon-17	**Peace River Water Level Fluctuations Monitoring Program** Investigate the effects of water level fluctuations on the catchability of Peace River fish and the biomass and production of periphyton, downstream of Site C.

There is one follow-up program in the FAHMFP, the Tributary Mitigation Opportunities Evaluation Program.

2.3 Development of the Plan and Reporting Requirements

Construction of the Project began on July 27, 2015. The final FAHMFP was submitted to the EAO on December 22, 2015 in accordance with:

- EAC Schedule B, Condition 7: "The EAC Holder must file the final Fisheries and Aquatic Habitat Monitoring and Follow-up Program with EAO, FLNR, MOE and Aboriginal Groups within 150 days following the commencement of the construction and operations phases."

BC Hydro committed to providing reports on the implementation of the FAHMFP to the EAO annually by March 1 of the year following data collection. This reporting timing is consistent with conditions for reporting under the *Fisheries Act* authorizations for the Project[4]. This report is being submitted by March 1, 2026, to fulfill the reporting requirements for the calendar year 2025. The Fisheries and Aquatic Habitat Monitoring and Follow-up Program Annual Reports for prior years are posted on the Project website[5] under the drop-down 'Site C Project Reports'. Annual reports for the FAHMFP's individual Monitoring Program IDs are also posted at this site.

Note that the FAHMFP refers to calendar 'Construction Years' that correspond to Construction Year 1 (2015), Construction Year 2 (2016) etc. (see Fig. 5 of the FAHMFP). The FAHMFP describes that monitoring under the FAHMFP begins in Construction Year 2 (2016; see Fig. 5 of the FAHMFP).

3.0 Summary of Implementation Status: Monitoring Follow-up Programs

All monitoring programs scheduled to take place in 2025 were implemented (Table 2). Reports for individual Monitoring Programs and Tasks for prior years are available on the Project website[6].

Table 2. Monitoring tasks implemented in 2025, as per the schedule in the Fisheries and Aquatic Habitat Monitoring and Follow-up Program

Monitoring Program ID	Description	Data Collection Tasks Implemented	Status of Analysis and Reporting [a]
Mon-1a: Site C Reservoir Fish Community Monitoring Program	Monitor the effects of river to reservoir transformation on the fish community in Site C Reservoir and associated tributaries.	2a – Reservoir Hydroacoustic, Trawl, and Gillnet Survey [b]	Ongoing
		2b – Site C Reservoir Summer Profundal Index Netting (SPIN) Survey	N/A (Monitoring occurs during in subsequent year)
		2c – Site C Reservoir Creel Survey	N/A (Monitoring occurs in

[4] Available at: https://www.sitecproject.com/document-library/permits-and-authorizations

[5] Available at the following link: https://sitecproject.com/document-library/environmental-and-socio-economic-plans-and-reports

[6] Available at: Environmental & Socio-Economic Plans & Reports | Site C

Monitoring Program ID	Description	Data Collection Tasks Implemented	Status of Analysis and Reporting [a]
			subsequent years
		2d – Williston Reservoir Hydroacoustic, Trawl, and Gillnet Survey	N/A (Monitoring occurs in subsequent years)
Mon-1b: Site C Reservoir Tributaries Fish Community and Spawning Monitoring Program	Monitor fish populations in Peace River and Site C Reservoir that migrate to tributaries to determine effects of the Project and the effectiveness of mitigation measures for fish and fish habitat.	2a – Peace River Arctic Grayling and Bull Trout Movement Assessment	Ongoing
		2b – Peace River Bull Trout Spawning Assessment	Ongoing
		2c – Site C Reservoir Tributaries Fish Population Indexing Survey	Ongoing
		2d – Site C Fish Movement Assessment	Ongoing
Mon-2 Peace River Fish Community Monitoring Program	Monitor fish populations in the Peace River to determine effects of the Project and the effectiveness of mitigation measures for fish and fish habitat.	2a – Peace River Large Fish Indexing Survey	Ongoing
		2b – Peace River Fish Composition and Abundance Survey	Ongoing
		2c – Peace River Creel Survey	N/A (Monitoring occurred during prior years and occurs in subsequent years)
		2d – Offset Effectiveness Monitoring	Ongoing
		2e – Peace River Tributaries Walleye Spawning and Rearing Use Survey	N/A (Monitoring occurred during prior years)
		2f – Beatton River Arctic Grayling Status Assessment	Ongoing

Monitoring Program ID	Description	Data Collection Tasks Implemented	Status of Analysis and Reporting [a]
Mon-3 Peace River Physical Habitat Monitoring Program	Monitor the effects of the Project on physical habitat.	2a – Channel Morphology	Ongoing
		2b – Substrate Size	Ongoing
		2c – Offset Effectiveness Monitoring	Ongoing
Mon-4 Site C Reservoir Riparian Vegetation Monitoring Program	Monitor the effectiveness of planned riparian planting adjacent to Site C Reservoir.	N/A (Monitoring occurs in subsequent years)	N/A (Monitoring occurs in subsequent years)
Mon-5 Peace River Riparian Vegetation Monitoring Program	Monitor how the construction and operation of the Project affects the quality and quantity (species composition, biological productivity, spatial area) of riparian vegetation along the Peace River downstream of Site C.	N/A (Monitoring occurred during prior years and occurs in subsequent years)	N/A (Monitoring occurred during prior years and occurs in subsequent years)
Mon-6 Site C Reservoir Fish Food Organisms Monitoring Program	Monitor the effects of Site C Reservoir formation on the production of fish food organisms.	2a – Biomass and Production of Fish Food Organisms	N/A (Monitoring occurs in subsequent years)
		2b – Ecosystem Attributes	
Mon-7 Peace River Fish Food Organisms Monitoring Program	Monitor the effects of Project construction and operations on the biomass of invertebrates and the availability of fish food organisms downstream of Site C.	2a – Biomass and Production of Fish Food Organisms	N/A (Monitoring occurred during prior years and occurs in subsequent years)
		2b – Ecosystem Attributes	

Monitoring Program ID	Description	Data Collection Tasks Implemented	Status of Analysis and Reporting [a]
Mon-8 Site C Reservoir Water and Sediment Quality Monitoring Program	Monitor the effects of reservoir formation on water and sediment quality.	2a – General Water and Sediment Quality Monitoring	Ongoing
		2b – Temperature Monitoring	Ongoing
		2c – Turbidity Monitoring	Ongoing
Mon-9 Peace River Water and Sediment Quality Monitoring Program	Monitor the effects of the Project on water and sediment quality downstream of Site C.	2a – General Water and Sediment Quality Monitoring	Ongoing)
		2b – Temperature Monitoring	Ongoing
		2c – Turbidity Monitoring	Ongoing
Mon-10 Site C Fish Entrainment Monitoring Program	Monitor entrainment rates and survival rates of entrained fish during the operation of Site C.	2a – Williston Peace Kokanee Spawner Survey	N/A (Monitoring occurs in subsequent years)
		2b – Monitoring Entrainment Rates	Ongoing
		2c – Monitoring Survival Rates of Entrained Fish	N/A (Scheduled to be conducted during Operation Year 4)
Mon-11 Site C TDG Monitoring Program	Monitor Total Dissolved Gas (TDG) supersaturation and potential effects to downstream fish populations resulting from Gas Bubble Disease (GBD) during Site C Project construction and operation.	2a – TDG Monitoring	Ongoing
		2b – TDG Effects on Fish	Ongoing
Mon-12 Site C Fish Stranding Monitoring Program	Monitor Project construction and operation effects associated with flow fluctuations and fish stranding on the Peace River fish community.	Task 2a – Identification of Monitoring Sites	Ongoing
		Task 2b – Monitoring Stranding Sites	
Mon-13 Site C Fishway Effectiveness	Monitor the performance of the temporary and permanent upstream fish	Task 2a – Site C Tailrace and Fishway Telemetry Assessment	Ongoing

Monitoring Program ID	Description	Data Collection Tasks Implemented	Status of Analysis and Reporting [a]
Monitoring Program	passage facilities at the Project.	Task 2b – Attraction Efficiency and Entrance Accessibility Assessment	Ongoing
		Task 2c – Contingent Radio Telemetry Surveys in Site C Tailwater	Ongoing
Mon-14 Site C Trap and Haul Fish Release Location Monitoring Program	Monitor the movements following release of fish collected at Site C fishways and transported and released several upstream release locations.	Task 2a – Data Collection to Monitor Tagged Fish	Ongoing
Mon-15 Site C Small Fish Species Translocation Monitoring Program	Monitor small fish species populations in the Peace River to determine effects of the project on genetic structure, movement, and genetic exchange.		Ongoing
Mon-16 Site C Reservoir Constructed Shallow Water Habitat Areas Sediment and Vegetation Monitoring Program	Monitor the suitability of benthic substrates in constructed shallow water habitats of Site C Reservoir for aquatic plants and monitor the natural colonization of aquatic plants in these habitats.	Task 2a – Substrate Monitoring	Ongoing
		Task 2b – Aquatic Plant Monitoring	
Mon-17 Peace River Water Level Fluctuations Monitoring Program	Investigate the effects of water level fluctuations on the catchability of Peace River fish and the biomass and production of periphyton, downstream of Site C.	2a – Supplementary Sampling of Benthos and Periphyton	N/A (Monitoring occurred during prior years and occurs in subsequent years)
		2b – Supplementary Sampling of Small Fish	
		2c – Supplementary Sampling of Large Fish	
		2d – Catchability vs Flow Assessment	

[a] Status of Analysis and Reporting: As of February 10, 2026, 'Ongoing' refers to analysis and reporting of 2025 data collection that continues or is in draft form.
[b] Mon1a Task 2a Trawl and Gillnet Survey and Task 2b Site C Reservoir Summer Profundal Index Netting (SPIN) Survey could not be implemented because of safety concerns related to debris in the reservoir. These surveys will be initiated once we deem conditions to be safe.

Table 3. Follow-up tasks implemented in 2025, as per the schedule in the Fisheries and Aquatic Habitat Monitoring and Follow-up Program

Follow-up Program	Description	Data Collection Tasks Implemented	Status of Analysis and Reporting
Site C Tributary Mitigation Opportunities Evaluation Program	Identify enhancement opportunities for stream dependent indicator species described in the EIS including Arctic Grayling, Bull Trout, Burbot, Goldeye, Mountain Whitefish, Rainbow Trout, and Walleye.	2a – Initial Mitigation Project Identification	N/A (Monitoring occurred during prior years and occurs in subsequent years)
		2b – WSEP Tier 1 Assessments	
		2c – Identification of Additional Candidate Watersheds	

The following sections summarize the 2025 data collection for the monitoring programs and tasks that were implemented (Table 2).

3.1 Mon-1a Site C Reservoir Fish Community Monitoring Program

<u>Task 2a: Site C Reservoir Hydroacoustic, Trawl, and Gillnet Survey</u>

In 2025, the Site C Reservoir Hydroacoustic Study (Task 2a) was initiated, marking the first year of sampling for this effort. Pelagic hydroacoustic split-beam surveys were systematically conducted throughout the newly established Site C Reservoir during August 2025 to assess fish abundance and distribution, with species composition data coming from parallel gillnet sampling. Similar surveys are slated to start in the Peace Arm of Williston Reservoir in 2026. Also starting in 2025, littoral areas within the Site C Reservoir were surveyed using ARIS Sonar, with species composition data coming from complementary beach seine and gillnet sampling

Additionally, boat electrofishing sampling was in Section 1A of the Site C Reservoir between the Peace Canyon Dam and Hudson's Hope, to supplement the Mon-1a sampling program in 2025. Sampling followed similar protocols to those established for the Peace River Large Fish Indexing Survey (Mon-2, Task 2a), targeting all large-bodied fish but focusing on four indicator species including Bull Trout, Kokanee, Mountain Whitefish, and Rainbow Trout. Sampling occurred over six sample sessions at seven sites during the late summer to early fall period. Length, weight, and ageing structures were collected from all captured indicator species. Depending on fish size and sample session, captured indicator species were marked with PIT tags.

Analysis and reporting of the data collected in 2025 are ongoing.

3.2 Mon-1b Site C Reservoir Tributaries Fish Community and Spawning Monitoring Program

<u>Task 2a: Peace River Arctic Grayling and Bull Trout Movement Assessment</u>

The purpose of the Peace River Arctic Grayling and Bull Trout Movement Assessment is to determine the magnitude, direction and seasonality of Arctic Grayling and Bull Trout movements within the Peace River and its tributaries to help determine the effect the Project may have on these metrics, and to inform various monitoring programs.

Radio tagged Arctic Grayling and Bull Trout were monitored by the fixed radio telemetry array deployed under the Site C Fish Movement Assessment (Mon-1b, Task 2d) as well as mobile surveys throughout the region using helicopter and fixed-wing aircraft.

Analysis and reporting of the data collected in 2025 are ongoing.

Task 2b: Peace River Bull Trout Spawning Assessment

In 2025, the Peace River Bull Trout Spawning Assessment occurred in the upper portion of the Halfway Watershed. Trained observers conducted aerial and ground surveys over a four-week period to visually enumerate Bull Trout redds (i.e., a nest in the gravel that is excavated during spawning) in six spawning tributaries: the Chowade River, Cypress Creek, Fiddes Creek, Turnoff Creek, Needham Creek, and the upper Halfway River. Data were collected for estimating observer efficiency and survey life of redds by marking and re-sighting redds during aerial and ground surveys.

To supplement the aerial and ground survey approach, electronic counters paired with video validation equipment and PIT arrays were operated in the Chowade River from early September to early October and Cypress Creek from mid August to early October. Equipment was remotely powered by solar panels and battery banks, and sites were visited weekly throughout the monitoring period to conduct detailed testing and calibration of the equipment. Data will be used to estimate the population abundance, migration timing, spawning duration and behaviour of Bull Trout in the Chowade River and Cypress Creek, and detect Bull Trout, Rainbow Trout and other species PIT-tagged under other monitoring programs.

Analysis and reporting of the data collected in 2025 are ongoing.

Task 2c: Site C Reservoir Tributaries Fish Population Indexing Survey

The Site C Reservoir Tributaries Fish Population Indexing Survey monitors the abundance of Arctic Grayling in the Moberly River, Bull Trout in the Chowade River and Cypress and Fiddes creeks, and Rainbow Trout in Colt, Farrell, Kobes, and Maurice creeks. As part of a multi-year study, the results from 2025 are the first to occur during the operation phase of the Site C Dam Project.

For streams where sampling targeted Bull Trout, backpack electrofishing effort was focused on upstream reaches and locations that contained high quality rearing habitat for this species. Captured Bull Trout were implanted with PIT tags to monitor their movements through PIT arrays deployed in the Chowade River and Cypress Creek as part of the Peace River Bull Trout Spawning Assessment (Mon-1b, Task 2b). These tagged fish may also be recaptured under other monitoring programs in the FAHMFP. Young of the Year (YOY) and immature Bull Trout (i.e., fish less than 250 mm FL that were not YOY) were recorded in all three systems.

For streams where sampling targeted Rainbow Trout, backpack electrofishing effort occurred at previously established sites in Colt, Farrell, Kobes and Maurice creeks allowing for changes to the Rainbow Trout population to be monitored over time. Sample locations included eight sites

on Colt Creek, six sites on Farrell Creek, eight sites on Kobes Creek, and five sites on Maurice Creek. Immature Rainbow Trout were recorded in all four systems.

The Moberly River between Moberly Lake and the river's confluence with the Peace River was accessed by whitewater rafts, travelling downstream over a 10-day period. Sampling was conducted using small-fish boat electroshocking, backpack electrofishing, and angling.

Analysis and reporting of the data collected in 2025 are ongoing.

Task 2d: Site C Fish Movement Assessment

The purpose of the Site C Fish Movement Assessment is to determine the magnitude, direction and seasonality of fish movements in the Peace River and its tributaries during the construction and operation phases of the Project. Movement data will be shared among monitoring programs to address specific fisheries management questions.

In 2025, tagged study fish were monitored throughout the Local Assessment Area (LAA) using a network of 47 fixed radio telemetry stations and 17 acoustic receivers newly installed that year. Radio telemetry was used to track fish movements downstream of the Project and within tributaries characterized by shallow environments, while acoustic receivers were deployed in reservoir areas to monitor fish in deeper water. The LAA extended from Peace Canyon Dam to Many Islands, Alberta along the Peace River, with monitoring stations also installed at the mouths of major tributaries including Maurice Creek, Lynx Creek, Farrell Creek, Halfway River, Cache Creek, Wilder Creek, Moberly River, Pine River, Beatton River, Kiskatinaw River, and Pouce Coupe River.

Analysis and reporting of the data collected in 2025 are ongoing.

3.3 Mon-2 Peace River Fish Community Monitoring Program

Task 2a: Peace River Large Fish Indexing Survey

Sampling under Mon-2, Task 2a was conducted in four different sections of the Peace River mainstem located between the Project and the Many Islands area in Alberta. All large-bodied fish were monitored; however, the program focused on seven indicator species including Arctic Grayling, Bull Trout, Burbot, Goldeye, Mountain Whitefish, Rainbow Trout, and Walleye. Sampling occurred during the late summer to early fall period. Additional surveys were conducted in 2025 at select locations in the late spring to early summer period to target Goldeye and Walleye prior to these species' downstream migrations out of the study area. For both surveys, fish were sampled by boat electroshocking within nearshore habitats (less than 2.0 m depth). Length, weight, and ageing structures were collected from all captured indicator species. Depending of fish size and sample session, captured indicator species were marked with PIT tags.

Analysis and reporting of the data collected in 2025 are ongoing.

Task 2b: Peace River Community Monitoring Program

Peace River Fish Composition and Abundance Survey Sampling under Mon-2, Task 2b was conducted in three different sections of the Peace River downstream of the Project. Small-bodied fish and younger age-classes of large-bodied fish were targeted in 2025 to provide more

specific information on recruitment and conditions for early rearing. Small boat electrofishing, backpack electrofishing, gill netting, and beach seining were used to capture fish in late September. Length, weight, and ageing structures were collected from all captured indicator species. Depending of fish size, captured indicator species were marked with PIT tags.

Analysis and reporting of the data collected in 2025 are ongoing.

Task 2d: Offset Effectiveness Monitoring

In 2025, effectiveness monitoring of the habitat offset sites (Lower Site 109L Main Channel Bar, 107R Channel, 107R Main Channel Bar) focused on two components: physical habitat (Mon-3, Task 2c) and general fish use (Mon-2, Task 2d). Channel morphology was monitored using a multibeam sonar and fish use was assessed by boat electroshocking.

Analysis and reporting of the data collected in 2025 are ongoing.

Task 2f: Beatton River Arctic Grayling Status Assessment

The Beatton River Arctic Grayling Status Assessment was conducted in 2025 to provide information on the age and size structure, growth, recruitment, and population abundance of Beatton River Arctic Grayling. Sampling in 2025 provided a 5-year follow up to sampling that was last conducted under this program in 2019. In 2025, sampling occurred in late summer at sites within the Beatton River and six associated tributaries. Fish were captured using backpack electrofishing and angling. Length, weight, ageing structures, and tissue samples for genetics were collected from all Arctic Grayling, and depending on size, individuals were marked with PIT tags.

Analysis and reporting of the data collected in 2025 are ongoing.

3.4 Mon-3 Peace River Physical Habitat Monitoring Program

The purpose of the Peace River Physical Habitat Monitoring Program is to monitor changes in physical habitat within the diversion headpond during the river diversions stage of the Project, and to monitor changes in physical habitat within the Peace River between the Project and Many Islands Alberta during the construction and operation phases of the Project.

Task 2a: Channel Morphology and Task 2b: Substrate Size

In 2025, channel morphology in the Peace River was evaluated by conducting river cross-section surveys at 40 established transects between the Project and Many Islands, Alberta. Surveys were conducted using a boat-mounted Acoustic Doppler Profiler to collect bathymetric data and determine riverbed elevations. Bathymetric surveys were conducted in mid-July.

Grain size measurements were collected in 2025 using a pebble count sampling procedure which included measuring the medial dimension (i.e., the b-axis) of 100 stones in a grid pattern at each sample location. Grain size measurements were conducted at 32 sites between the Project and Many Islands, Alberta. Surveys were conducted in mid-September.
Analysis and reporting of the data collected in 2025 are ongoing.

3.5 Mon-8 Site C Reservoir Water and Sediment Quality Monitoring Program and Mon-9 Peace River Water and Sediment Quality Monitoring Program

Mon-8 and 9 monitor the same parameters but in different locations: the Site C Reservoir and the Peace River downstream of Site C, respectively. For simplicity, the following section summarizes implementation for both programs in 2025. These programs collect information and parameters focused on fish and fish habitat.

Task 2a: General Water and Sediment Quality Monitoring

Water quality samples were collected during the open water period. Samples were collected in Williston Reservoir, Peace Canyon Reservoir, Site C Reservoir and the Peace River. Water quality sampling consisted of collecting in situ measurements and samples for laboratory analysis for a full suite of water quality parameters, including physical tests, nutrients, anions, organic carbon, chlorophyll-*a*, total metals, and dissolved metals. Sediment samples were also collected.
Analysis and reporting of the data collected in 2025 are ongoing.

Task 2b: Temperature Monitoring

Continuous measurements of water temperature were recorded at sites within the Site C Reservoir and the Peace River between Williston Reservoir and the Pouce Coupe River in Alberta. Temperature loggers were checked for calibration, set to record temperature at hourly intervals and secured to the river bank or anchored to the river bed. Data loggers were downloaded approximately every three months. Stations located upstream of the dam site were removed prior to filling the reservoir.

Analysis and reporting of the data collected in 2025 are ongoing.

Task 2c: Turbidity Monitoring

Continuous turbidity monitoring in 2025 occurred at monitoring sites located downstream of in-river construction at the dam site.

Analysis and reporting of the data collected in 2025 are ongoing.

3.6 Mon-10 Site C Fish Entrainment Program

The purpose of the Site C Entrainment Program is to collect data required to evaluate fish entrainment and survival during Site C operations and to compare observed results with predictions made in the EIS. The Program will also assess the effectiveness of entrainment mitigation measures and provide information to support evaluation of how the fish community responds to the Project.

Task 2b: Monitoring Entrainment Rates

In 2025, monitoring of fish entrainment rates was initiated using a combination of acoustic and radio telemetry methods, marking the first year of data collection for this task. Telemetry receivers were deployed both upstream and downstream of the Project to track tagged fish movements through the system. Detection histories will be analyzed to identify entrainment

events, providing the foundation for estimating annual entrainment rates in future years as additional data are collected.

Analysis and reporting of the data collected in 2025 are ongoing.

3.7 Mon-11 Site C TDG Monitoring Program

The purpose of the Site C Total Dissolved Gas (TDG) Monitoring Program is to monitor TDG supersaturation and the potential effects to downstream fish populations resulting from gas bubble disease (GBD) during the construction and operation of the Project.

Task 2a: TDG Monitoring

In 2025, BC Hydro deployed continuous TDG meters and loggers at eight locations in the Peace River downstream of the Project and at one location in the Peace River upstream of the Project. Equipment can be remotely connected and thus data can be reviewed in real-time.

Task 2b: TDG Effects on Fish

BC Hydro developed an approach to assess the effects of TDG on fish downstream of the Project. Crews implemented this approach during 2025 when TDG meters exceeded established thresholds that may lead to negative effects on fish due to GBD.

Analysis and reporting of the data collected in 2025 are ongoing.

3.8 Mon-12 Site C Fish Stranding Monitoring Program

The purpose of the Site C Fish Stranding Monitoring Program is to both determine the magnitude of fish stranding along the Peace River, from the diversion headpond (upstream of Site C) to the Many Islands area in Alberta, and to compare the baseline conditions to stranding during the construction and operation phases of the Project. In 2025, sampling occurred in Reach 1 (between the Project and the Taylor Bridge) and Reach 2 (Pine River to Alces River). Sampling was coordinated with BC Hydro Operations personnel to ensure sampling occurred following a reduction in discharge at the Project and to account for the lag time between the reduction in flows upstream and the effects observed downstream. Crews used interstitial sampling of dewatered substrates within a combination of targeted and randomly selected sampling sites.

Analysis and reporting of the data collected in 2025 are ongoing.

3.9 Mon-13 Site C Fishway Effectiveness Monitoring Program

The purpose of the Site C Fishway Effectiveness Monitoring Program is to monitor the biological effectiveness of the permanent upstream fish passage facility. In 2025, an array of fixed radio telemetry stations were deployed within and around the permanent facility to detect the movements of tagged fish as they approached, entered and passed the facility. Tagged fish were monitored for the seven-month operating season, from April 1 to October 31. New PIT antenna designs were built and tested at the facility in the fall and final antenna fabrication is ongoing in preparation for installation in 2026.

Analysis and reporting of the data collected in 2025 are ongoing.

3.10 Mon-14 Site C Trap and Haul Fish Release Location Monitoring Program

The purpose of the Site C Trap and Haul Fish Release Location Monitoring Program is to evaluate the survival of fish released at different locations during Project operations following capture at the Upstream Passage Facility.

Task 2a: Data Collection – Monitor Tagged Fish

In 2025, acoustically tagged study fish captured at the Permanent Upstream Facility were transported and released at one of three locations within the Site C reservoir: the Site C Forebay, Cache Creek, and the Halfway River boat launch. An acoustic receiver was deployed at each release site to confirm detections immediately following release. After release, the reservoir-wide acoustic receiver array was used to monitor post-release movements and evaluate survival associated with each release location.

Analysis and reporting of the data collected in 2025 are ongoing.

3.11 Mon-16 Site C Reservoir Constructed Shallow Water Habitat Areas Sediment and Vegetation Monitoring Program

The purpose of the Site C Reservoir Constructed Shallow Water Habitat Areas Sediment and Vegetation Monitoring Program is to monitor substrate conditions and the colonization of aquatic vegetation at five constructed shallow water habitat areas within the Site C Reservoir.

Task 2a: Substrate Monitoring and Task 2b: Aquatic Plant Monitoring

In 2025, surveys were conducted at five constructed shallow water habitat areas within the Site C Reservoir to classify substrate, sample aquatic vegetation, and measure water depth. Surveys were conducted in August.

Analysis and reporting of the data collected in 2025 are ongoing.

4.0 Qualified Professionals

This report was prepared by the following Qualified Individuals:

Qualified Individual	Expertise
Brent Mossop, MRM, RPBio	Fisheries
Naomi Pleizier, PhD, RPBio	Fisheries