BC Hydro
Power smart

Site C Clean Energy Project

Permanent Upstream Fish Passage Facility Operations Report

Reporting Period: September 1 to 30, 2025

Prepared by BC Hydro

November 13, 2025

Introduction

BC Hydro filled the Site C Reservoir and started to operate the generating station in the fall of 2024. As such, the permanent upstream fish passage facility (hereafter permanent facility) was operated at the outlet of the generating station to provide for fish passage during the operations phase of the Project.

Structure of the report

This report summarizes the data and information presented in weekly reports prepared by the facility operator, as described in the Manual of Operational Parameters and Procedures (OPP), and covers the full extent of operations in September 2025.

This report has the following sections:

- Biological operation;
- Environmental conditions;
- Mechanical operation; and
- Adjustments.

Biological operation is defined as the sorting, sampling, tagging, transport and release of fish. Mechanical operation is defined as the operation of the pumps, gates, crowder, lock, sensors, loggers, and other mechanical equipment to ensure the permanent facility achieves the biological objectives described in Section 4.1 of the Fish Passage Management Plan[1].

Summary

Two thousand and eighty five fish – 1742 Mountain Whitefish, 190 Largescale Sucker, 123 Longnose Sucker, 14 Bull Trout, 11 Northern Pikeminnow, 2 Kokanee, 2 Rainbow Trout, and 1 Arctic Grayling – were sorted and sampled at the permanent facility, and transported and released into the Site C Reservoir (Table 1).

Significant numbers of mature adult Mountain Whitefish passed the permanent facility in September (Photos 1 and 2). Mountain Whitefish were exhibiting pre-spawning movements during the reporting period.

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

Biological operation

In total, 2085 fish were sorted in the permanent facility during the reporting period (Table 1; Figure 1). Three mortalities were observed during the reporting period (0.4% of all fish sorted in 2025), which is in-line with the anticipated levels of mortality during operations[2].

Table 1. Total number of fish sorted, sampled, transported and released during the reporting period.

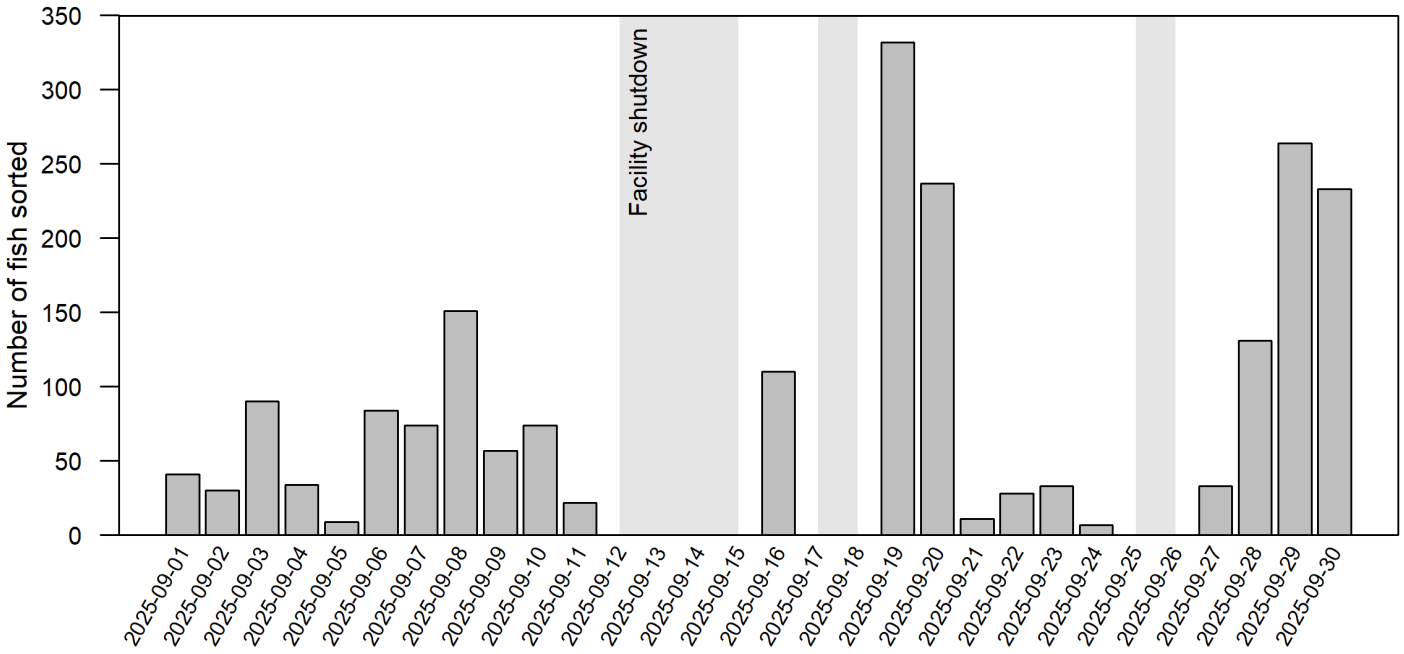
Species	Sorted	Transported and released	PIT tagged	Mortalities	Genetics	Microchemistry or ageing
Arctic Grayling	1	1	1		1	1
Brook Stickleback						
Brook Trout						
Bull Trout	14	14	10		9	9
Burbot						
Finescale Dace						
Flathead Chub						
Goldeye						
Kokanee	2	2	2			
Lake Chub						
Lake Trout						
Lake Whitefish						
Largescale Sucker	190	190	143			
Longnose Dace						
Longnose Sucker	123	123	108			
Mountain Whitefish	1742	1742	1130	2		2
Northern Pike						
Northern Pikeminnow	11	11				
Northern Redbelly Dace						
Peamouth						
Pearl Dace						
Prickly Sculpin						
Pygmy Whitefish						
Rainbow Trout	2	2	2		2	2
Redside Shiner						
Slimy Sculpin						
Spoonhead Sculpin						
Spottail Shiner						
Trout-perch						
Unknown Species				1		
Walleye						
White Sucker						
Yellow Perch						
Grand total	2085	2085	1396	3	12	14

Not all fish species were PIT tagged or sampled for genetics, microchemistry, or ageing, as described in the OPP.

[2] The FAA for Main Civil Works and Facility Operations (15-HPAC-01160) describes an acceptable level of incidental mortality to be no more than 5% of the total number of fish sorted in the temporary facility on an annual basis.

Between 7 and 332 fish were sorted daily during the reporting period (Figure 1).

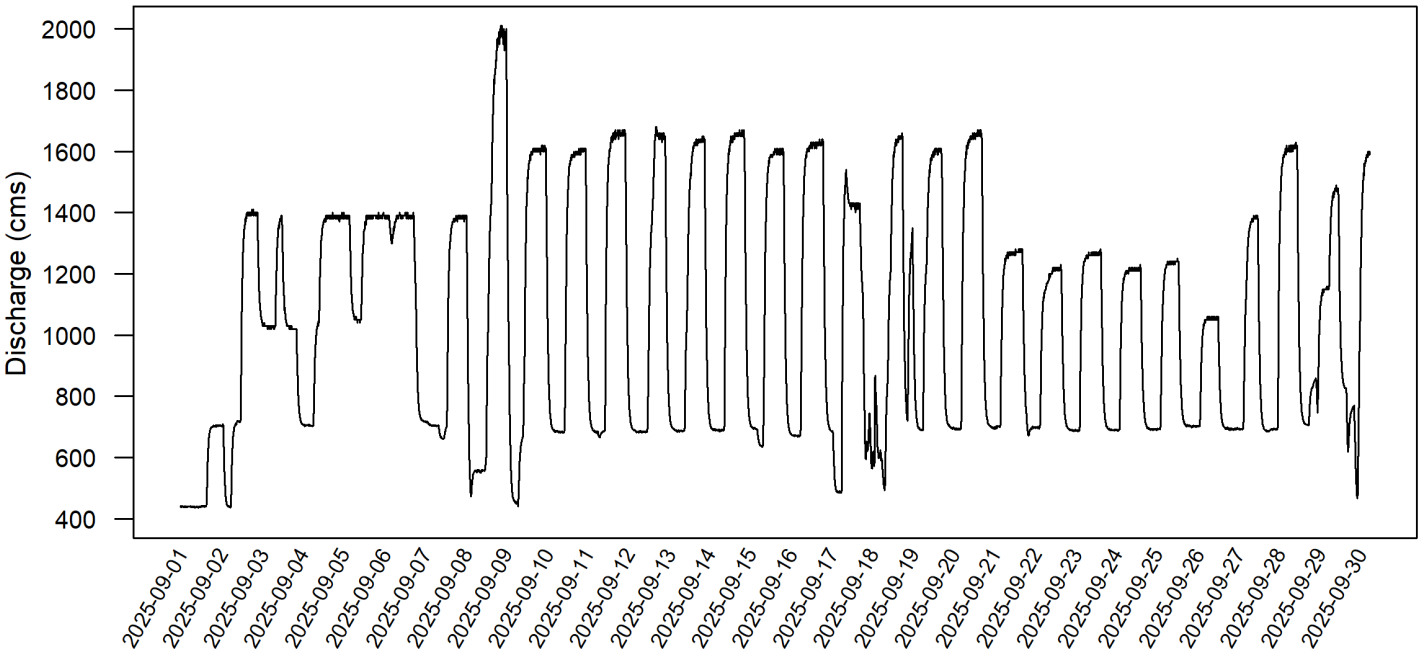
Figure 1. Daily number of fish sorted in the permanent facility during the reporting period.



Environmental conditions

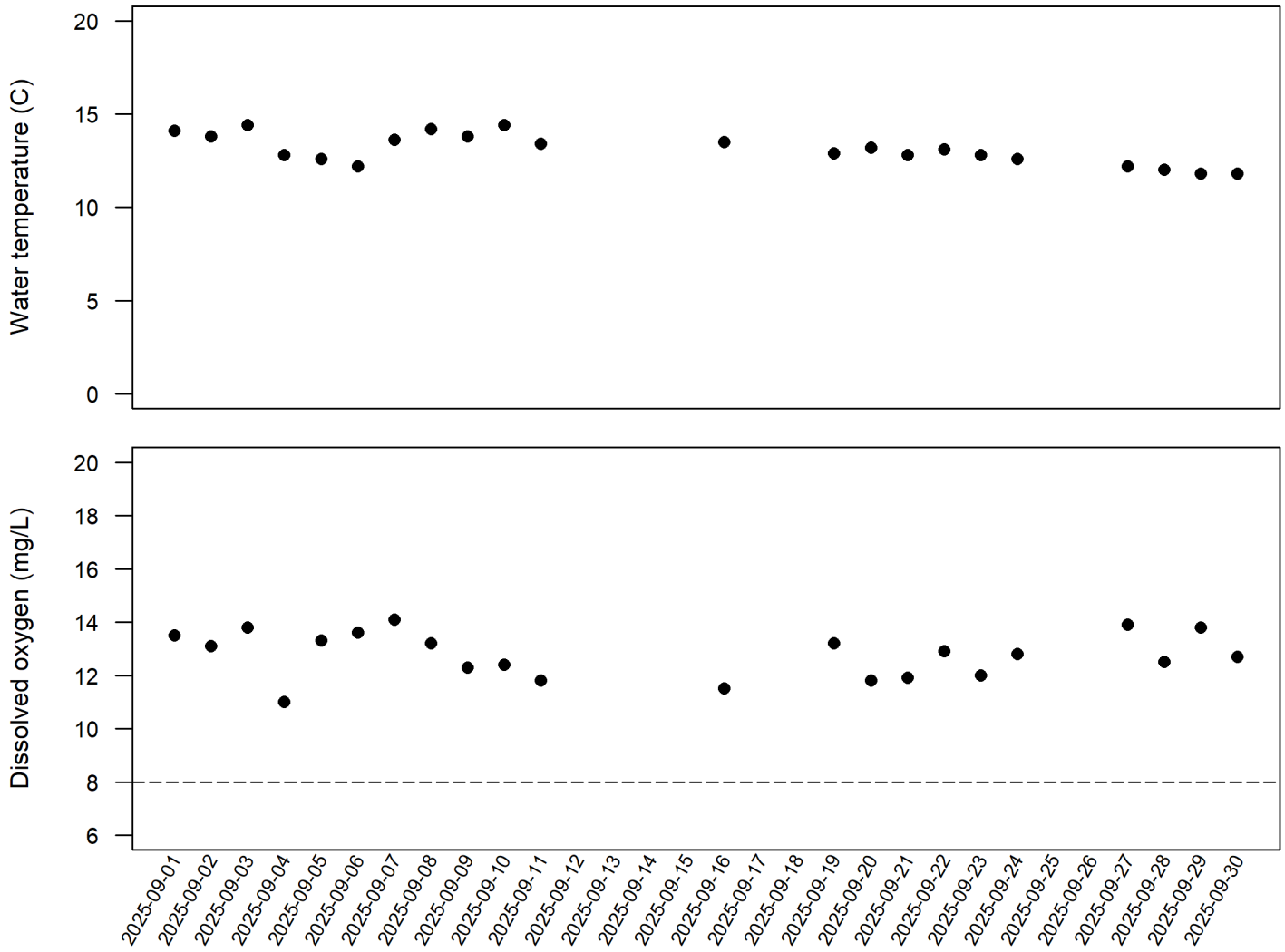
Discharge in the Peace River fluctuated during the reporting period from a low of 435 cms on September 1 to a high of 2010 cms on September 9 (Figure 2).

Figure 2. Discharge in the Peace River during the reporting period as measured at the Peace River above Pine River (07FA004) Water Survey of Canada (WSC) hydrometric station. Data were downloaded from the WSC on October 1; the downloaded data were provided at 5-minute intervals and were listed as provisional by the WSC.



Water temperature remained stable during the reporting period (Figure 4). Dissolved oxygen remained above the minimum dissolved oxygen level (8.0 mg/L) described in the design report of the permanent facility.

Figure 4. Daily water temperature (°C) and dissolved oxygen (mg/L) during the reporting period as measured in the pre-sort holding pool of the permanent facility.



Mechanical operation

Fish were crowded daily from the pre-sort holding pool into the fish lock. Operators then proceeded to raise crowded fish to the elevation of the sorting facility. Note that this process is referred to as a “sorting cycle”. Between one and nine sorting cycles were conducted each day during the reporting period, with the exception of September 12 to 15, 17, 18, 25, and 26 when the facility was shutdown (Table 2).

Table 2. Daily total number of sorting cycles.

Date	Number of sorting cycles	Start time
2025-09-01	8	09:21, 09:53, 10:34, 11:19, 11:52, 12:58, 13:42, 14:20
2025-09-02	6	09:19, 10:14, 11:09, 11:39, 12:54, 13:25
2025-09-03	6	09:39, 10:30, 11:38, 13:24, 14:00, 14:37
2025-09-04	8	09:01, 09:33, 10:06, 11:02, 11:47, 13:14, 13:50, 14:14
2025-09-05	2	08:02, 09:28
2025-09-06	6	08:58, 09:37, 10:28, 11:01, 11:58, 13:23
2025-09-07	4	09:14, 10:13, 11:00, 13:08
2025-09-08	3	09:05, 10:09, 13:32
2025-09-09	5	09:23, 10:14, 10:52, 11:20, 12:57
2025-09-10	5	09:52, 10:34, 11:31, 13:09, 13:41
2025-09-11	4	09:02, 11:42, 13:11, 13:33
2025-09-12	-	Facility shutdown
2025-09-13	-	Facility shutdown
2025-09-14	-	Facility shutdown
2025-09-15	-	Facility shutdown
2025-09-16	3	10:13, 11:59, 12:42
2025-09-17	-	Facility shutdown
2025-09-18	-	Facility shutdown
2025-09-19	2	09:37, 13:39
2025-09-20	1	09:56
2025-09-21	7	09:31, 10:21, 11:35, 11:39, 12:53, 13:20, 14:02
2025-09-22	7	09:06, 09:56, 10:38, 11:09, 11:46, 12:27, 13:46
2025-09-23	7	09:10, 10:26, 11:02, 11:27, 13:05, 13:32, 14:05
2025-09-24	2	09:15, 11:10
2025-09-25	-	Facility shutdown
2025-09-26	-	Facility shutdown
2025-09-27	4	11:06, 11:42, 12:57, 13:47
2025-09-28	4	08:03, 08:31, 09:26, 10:19
2025-09-29	6	08:56, 09:59, 11:04, 12:19, 13:19, 13:54
2025-09-30	9	08:50, 09:57, 10:51, 11:03, 11:38, 12:51, 13:19, 13:41, 14:09

Table 3. Summary of standby or shutdown periods during the reporting period.

Date	Standby or shutdown	Rationale
2025-09-11 13:33 to 2025-09-16 10:13	Shutdown	Controls system (PLC) became corrupted, which prevented the safe and effective operation of the permanent facility.
2025-09-16 12:42 to 2025-09-19 09:37		
2025-09-24 11:10 to 2025-09-27 11:06	Shutdown	One of the cables connecting the vertical crowder screen to the winch line on the crowder platform snapped. BC Hydro responded to this issue immediately, which involved shutting the facility down and replacing the cable.

Table 4. Root causes and corrective actions as a result of equipment malfunctions, breakdowns, or damage during the reporting period.

Date	Malfunction, breakdown or damage	Description	Root cause	Corrective action
2025-09-11	Malfunction	Controls system (PLC) files became corrupted.	Unknown.	Replacement files were uploaded and the controls system was ‘reset’.
2025-09-24	Breakdown	One of the cables connecting the vertical crowder screen to the winch line on the crowder platform snapped.	Cable was undersized for the working load limit of the vertical crowder screen.	Issue was responded to immediately, which involved shutting down the facility and replacing the cable.

Adjustments

Several adjustments were made during the reporting period to improve the biological and mechanical operation of the permanent facility (Table 5). BC Hydro described the potential for adjustments to the day-to-day biological and mechanical operation of the permanent facility in Section 7 of the Fish Passage Management Plan[2]. In general the permanent facility was operated as planned and described in the OPP.

Table 5. Summary of adjustments made to the biological and mechanical operation of the permanent facility during the reporting period.

Component	Adjustment
Biological operation	A number of minor adjustments were made to improve the biological and mechanical operation of the permanent facility during the reporting period. None of the adjustments changed the operation in a material way.
Mechanical operation	

Photos

Photo 1. More than 1,700 adult Mountain Whitefish passed the permanent facility during the reporting period (September 19, 2025).

Photo 2. An adult Mountain Whitefish was processed by the operator (September 30, 2025).

Prepared by

This report was prepared by the following individuals:

Qualified Individual	Expertise
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