

**MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)**

**SUBJECT:** Bonneville Project, Fishway and Fish Activities for Week 49 of 2022, which covers the period from 27 November to 03 December 2022.

**1. OPERATION SUMMARY:**

- a. Daily average river flows ranged from 121.6 to 143.2 kcfs. Daily average powerhouse forebay elevation ranged from 74.0’ to 75.7’ msl. Daily average project tailwater ranged from 11.5’ to 12.4’ msl. Secchi disk measurements remained at 7.0+’. Daily average water temperature ranged from 44 to 46°F.
- b. Daily average spill ranged from 0.6 to 1.1 kcfs.
  - Spillbay 1 was placed on seal at 1335 on 01 December when Cascades Island was placed into orifice mode proceeding the 2022-2023 Winter Maintenance Season. Spillbay 18 continues to operate for attraction flow.
- c. Unit Operation: **PH1** became the priority powerhouse on 01 December when Washington Shore and Cascades Island Fish Ladders were reduced to orifice flow. Main unit drawdowns are measured every Monday and more frequently as needed.

• **Table 1. Main Unit Outages**

Unit	OOS	RTS	Reason	Duration
13	1628 on 18 Feb	---	F.O., Generator Ground and BPA Work – Grounded Clearance	---
6	1120 on 23 Nov	1330 on 28 Nov	F.O., Oil Sheen Investigation	5 days, 2 hours, 10 mins
9	0214 on 24 Nov	1404 on 29 Nov	F.O., Gate Feedback/Position Indication	5 days, 11 hours, 50 mins
11	0740 on 30 Nov	---	P.O., FGE Gatewell Improvement	---

- d. Fish Units: Second Powerhouse Fish Units provide attraction flow for the Washington Shore (WS) fish ladder.

Fish Unit Outages:

• **Table 2. Fish Unit Outages.**

Unit	OOS/RS	RTS	Reason	Duration
F1	1330 on 01 Dec	---	P.O., 2-Year Overhaul	---
F2	1330 on 01 Dec	---	P.O., Annual Overhaul	---

• **Table 3. Fish Unit Drawdowns, in Feet.**

Date	F1	F2
11/27	0.2’	0.4’
11/28	0.1’	0.5’
11/29	0.1’	0.8’
11/30	0.2’	1.5’

**2. MAINTENANCE ACTIVITIES:**

- a. Auxiliary Water System Closures:
  - FV 1-1 was closed for cleaning from 1055 to 1120 on 28 November.

- b. STS/VBS Inspections: Nothing to report.
- c. Dewatering and Fish Salvages:
  - In the afternoon of 30 November, Fish Biologists entered the U11 Scroll Case to conduct fish salvage operations. 1 juvenile salmonid was found in good condition and released downstream at the Hamilton Island Boat Launch. Unit 11 was taken out of service and dewatered for FGE Gatewell Improvement operations.
  - On the morning of 01 December Fish Biologists entered the U11 Draft Tube to conduct fish salvage operations. 1 juvenile salmonid and 3 bluegills were found in good condition and were released downstream at the Hamilton Island Boat Launch.

**3. RESEARCH:**

- a. Four Peaks Environmental - Fish counting contract: Daytime video counting (0400 to 2000 PDT) began on 01 December. Fish counts can be viewed [here](#).
- b. USFWS – Lamprey Metamorphosis Study: Juvenile lamprey researchers are onsite, and the work is underway.
- c. Pacific States Marine Fisheries Commission - Smolt Monitoring: Smolt monitoring operations concluded for the season at Bonneville Juvenile Fish Monitoring Facility at 0700 on Monday, 31 October. The system was placed in bypass mode at that time. Full flow PIT tag interrogation will remain active until the 2-mile pipe is dewatered.

**4. FISHWAYS:**

- a. Project biologists inspected from 27 November to 01 December.
- b. Fish Passage Plan observations:
  - **Table 4. FPP Items Out of Criteria.**

Date	Location	FPP Violation	Cause	Response
<b>PH1</b>				
11/27 – 12/03	PH1 ITS	S. End Gate Inoperable and Chain Gates 1a & 1b Closed	S. End Gate Inoperable, 1a and 1b Closed for Safety Reasons	W.O.
11/27 – 12/03	PH1CC	FG 2-19 Stuck in the Mostly Closed Position, Should Be Open	Mechanically Bound	W.O.
<b>Bradford Island: Nothing to Report</b>				
<b>Cascades Island</b>				
11/27 – 12/03	Cascades Island Tailrace	1 B2CC Avian Array Line is Broken	High Tailwater Elevations	N/A
<b>Washington Shore</b>				
11/27 – 12/03	PH2CC	A2 Diffuser Stuck Mid-Travel	Unknown	W.O.
11/29	WA Shore	Weir 37 High, >1.1'	Unknown	N/A

- PH1 Collection Channel diffuser FG 2-19 was found mechanically bound in the mostly closed position on 02/24/22 by PH1 Mechanics. No repairs can be made until the PH1CC can be dewatered in the next Oregon Fishway Winter Maintenance Period (winter 2023/2024).
- The Cascades Island Fishway diffuser FG 6-11 is mechanically bound in the closed position due to

stripped shaft threads. A work order has been created and repairs will be made during the next full dewater of the Cascades Island Fishway.

- Cascades Island Fishway diffuser FG 6-12 is mechanically bound in the open position for unknown reasons. A work order has been created and repairs will be made during the next full dewater of the Cascades Island Fishway.

c. Adult Fishways:

- (1) The AFF was taken out of service on Monday, 21 November for the winter maintenance period.
- (2) Sensor calibrations did not occur this week.
- (3) SLEDs are installed at all locations.
- (4) Bradford Island Fishway remains in service. Cascades Island and Washington Shore Fishways were placed into orifice flow on 01 December, beginning the 2022-2023 Winter Maintenance Season.

d. Juvenile Fishways:

- (1) The ITS remains in service (auto-chain gates 3B, 6C, & 10B only).
- (2) The hydro-cannon is out of service for the year.
- (3) The B2CC was closed for the season 01 September when spill season concluded but remains available to reopen for passing trash or to provide surface passage for fish if spill occurs outside fish passage spill season.
- (4) The DSM remains in service.
- (5) STSs remain in service.

e. Lamprey Fishways:

- (1) BI, CI, and WA Shore LPS's were taken out of service for the season on 01 November.
- (2) The Bradford Island Wetted Wall (BIWW) remains out of service.
- (3) The PH2 Lamprey Flume Structure (LFS) remains out of service for the year.
- (4) The 2022 lamprey trapping and translocation activities have concluded for the year.
- (5) Avian Monitoring: Avian counts are recorded 01 April – 31 October.

**5. WATER QUALITY MONITORING:**

- a. Fishway Temperatures: Fishway temperature monitoring has concluded for the 2022 season.
- b. Zebra Mussel Monitoring: No signs of colonization were observed this reporting week.

**7. CONSTRUCTION:**

- U11 outage began on 30 November and Northbank contractors began work in the U11 gatewells on 05 December.

**8. HAZMAT, SPILLS AND CLEANUP:** Nothing to report.

## 9. TELETYPES CURRENTLY IN EFFECT:

- A teletype was distributed on 31 August regarding the Snake and Columbia River Projects fall/winter spill priority list and fall/winter spill caps. This teletype provides the order that projects spill for lack of load conditions and is to be used until further notice. Outside of the fish passage season, all state TDG standards are 110%. The lack of load spill level and the order in which to spill from top to bottom and other details can be found in the teletype BON R 082122 1615.
- A teletype was distributed on 19 October regarding Bonneville tailwater operation for chum spawning. Effective Tuesday, 1 November at 0600 HRS, and until further notice, Bonneville Lock and Dam is to operate its tailwater in the following order of operating ranges as project outflow increases:
  - During all hours, operate project outflow to provide a tailwater elevation in the range of 11.3 ft to 12.0 ft.
  - Then, if necessary to increase project outflow, the tailwater may be operated up to 16.5 ft during nighttime hours (1700-0600), with concentrating the highest elevations around 2400 HRS.
  - Then, if necessary to increase project outflow, the tailwater may be operated up to 18.5 feet during nighttime hours (1700-0600).
  - Then, if increasing river flow precludes the ability to manage the tailwater within the steps above, operate to provide a tailwater in the range of 13.0-16.5 ft during daytime hours (0600-1700) and up to the maximum within project 24-HR ramp rate limits during nighttime hours (1700-0600).The goal of this operation is to improve conditions at the Ives/Pierce Island Complex for chum salmon spawning. Please see teletype BON R 101922 1348 for more details.
- A teletype was distributed on 05 December regarding a Bonneville low pool operation scheduled for 06 December. On 06 December from 0700-1700 HRS, the BON Forebay is to remain below a maximum elevation of 73.0 feet, soft constraint. This low pool operation supports a request from Oregon State Parks to provide low water levels for boat ramp work near Mayer State Park. Please see teletype BON R 120522 1330 for more details.

MICHAEL ADAMS, P.E.  
Operations Project Manager  
Bonneville Project