

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Lock & Dam, Fishway and Fish Activities for **Week 06** of 2023, which covers the period from **05 to 11 February 2023**.

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 129.1 to 139.3 kcfs. Daily average powerhouse forebay elevation ranged from 72.0’ to 73.1’ msl. Daily average project tailwater ranged from 11.9’ to 12.9’ msl. Secchi disk measurements ranged from 6.0 to 7.0+’. Daily average water temperature remained at 38°F.
- b. Daily average spill ranged from 0.2 to 0.6 kcfs.
 - Spillbay 1 is closed for the 2022-2023 Winter Maintenance Period while Cascades Island Fishway is OOS. Spillbay 18 continues to operate during daytime hours for attraction flow.
 - Spillbay 18 was closed for a hydrosurvey and infrastructure assessment from 0730 to 1139 on 06 February.
 - Spillbay 18 was closed until 1400 on 10 February for a hydrosurvey in preparation for erosion repairs along the B-Branch Fishway.
- c. Unit Operation: **PH1** became the priority powerhouse on 01 December when Washington Shore and Cascades Island Fish Ladders were dewatered for the 2022-2023 winter maintenance period. 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 2022	0944 on 09 Feb 2023	F.O., Generator Ground and BPA Work – Grounded Clearance / P.O., 4-Yr Overhaul	355 days, 17 hours, 16 mins
11	0740 on 30 Nov 2022	---	P.O., FGE Gatewell Improvement / Annual Overhaul / Extended for Bull Ring Wear	---
10	1004 on 03 Jan	---	P.O., 5-Yr Overhaul	---
18	0743 on 25 Jan	---	P.O., FGE Gatewell Improvement	---
2	1258 on 06 Feb	1458 on 06 Feb	P.O., Trash Raking	2 hours
9	1501 on 06 Feb	1642 on 06 Feb	P.O., Trash Raking	1 hour, 41 mins
15	0004 on 07 Feb	1919 on 07 Feb	P.O., QTCI	19 hours, 15 mins
12	1107 on 07 Feb	1208 on 07 Feb	P.O., Trash Raking	1 hour, 1 min
14	0800 on 08 Feb	0841 on 08 Feb	P.O., Trash Raking	41 mins
16	0847 on 08 Feb	1322 on 09 Feb	P.O., Trash Raking / F.O., Water in Bearing Investigation	1 day, 4 hours, 35 mins
17	1020 on 08 Feb	1107 on 08 Feb	P.O., Trash Raking	47 mins
13	1102 on 09 Feb	---	F.O., Kaplan Leakage Investigation	---

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

• **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	---

2. MAINTENANCE ACTIVITIES:

- a. Auxiliary Water System Closures:
 - FV 1-1 was closed for cleaning from 1320 to 1335 on 08 February.
- b. STS/VBS Inspections: All STSs are pulled and OOS for the winter maintenance period.
- c. Dewatering and Fish Salvages: Fish Biologists assisted in fish salvage operations during the removal of U13’s tail logs on 08 February. 66 sculpin, 1 smallmouth bass, and 2 catfish were recovered in good condition and released downstream. U13 was forced OOS for a generator ground.

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.

4. FISHWAYS:

- a. Project biologists inspected 06 to 08 February.
- b. Fish Passage Plan observations:

• **Table 4. FPP Items Out of Criteria.**

Date	Location	FPP Violation	Cause	Response
BON				
02/06 – 08	BON	Unit Priority	U13 F.O.	Work in Progress
PH1				
02/05 – 11	PH1 ITS	S. End Gate Inoperable and Chain Gates 1b Closed	S. End Gate Inoperable, 1b Closed for Safety Reasons	W.O.
02/05 – 11	PH1CC	FG 2-19 Stuck in the Mostly Closed Position, Should Be Open	Mechanically Bound	W.O.
Bradford Island				
02/06 – 07	A-Branch	A-Branch Staff Gauge High >1.1’	Unknown	N/A
Cascades Island: Nothing to Report				
Washington Shore: Winter Maintenance Period				

- 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 calibration checks occurred on 06 February.
- (3) SLEDs are installed at all locations.
- (4) Bradford Island Fishway remains in service. Washington Shore Fishway was dewatered to tailwater elevation on 05 December and Cascades Island Fishway was dewatered to tailwater elevation on 06 December.

d. Juvenile Fishways:

- (1) The ITS remains in service.
 - Auto-chain gates 3B, 6C, & 10B remain operational.
 - Mechanical-chain gate 1A was opened on 10 January 2023 to increase downstream surface passage and reduce trash raking workloads on the FV 1-1 trash racks. For safety measures, an additional (7th) trash rack was installed in the 1A gate slot, extending the height of stacked trash racks to approx. +80' el. Without the 7th trash rack, the existing 6 trash racks extend from the river floor (approx. -2' el) to +68' el. This additional trash rack provides a safety barrier to block accidental sluiceway entry of a person, vessel, or other undesirable object floating uncontrollably downstream.
- (2) The hydro-cannon is out of service for the winter.
- (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.
 - The B2CC was opened to flow debris during trash raking at Powerhouse 2 from 0725 to 1600 on 1245 on 07 February.
- (4) The DSM dewatered on 21 December.
 - Fish Biologists inspected the 2-mile DSM outflow pipe on Tuesday 07 February. Nothing to report.
- (5) STSs are pulled and OOS for the winter maintenance period.

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 2022-2023 cool weather season.
- b. Zebra Mussel Monitoring: No signs of colonization were observed this reporting week.

7. CONSTRUCTION:

- FGE modifications in U18 gatewell slots 18A and 18B is in progress.

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 14 December outlining tailwater operations for chum spawning. Effective Saturday, 31 December 2022 at 0001 HRS, until further notice, the Bonneville Dam minimum tailwater elevation will remain at 11.8 ft at all hours. The intent of this operation is to ensure sufficient tailwater elevation to protect chum redds in the Ives/Pierce Island area during the egg incubation period. The official project tailwater elevation gauge is located on the Oregon Shore at River Mile 144.5, 0.9 miles downstream of PH1 and 50 ft upstream of Tanner Creek. This teletype replaces BON R 101922 1348 Tailwater Operation for Chum Spawning 1. Please see teletype BON R 121422 1154 for more details.
- A teletype was distributed on 30 January regarding a Bonneville low pool operation. From 06 to 24 February, Bonneville is to operate its forebay below a maximum elevation of 73.0 feet, soft constraint. This low pool operation supports a request from a contractor working for ODOT to replace culverts along I-84 near Hood River, OR. Please see teletype BON R 013023 1353 for further details.
- A teletype was distributed on 09 February detailing a Bonneville Spillway outage for a hydrosurvey. On Friday, 10 February, from 0700 to 1100 HRS, the entire Bonneville Spillway will be tagged out and not available for spill. The purpose of this operation is for a hydrographic survey in the Bonneville Spillway Stilling Basin. Surveyors will be in the Spillway Basin during this time. If spill is imminent due to unforeseen or emergency conditions, request BPA provide 30-minute notice to the Bonneville Operator to evacuate the surveyors. Please see teletype BON R 020923 1309 for further details.
- A teletype was distributed on 09 February detailing a Bonneville Spillway outage for B-Branch repairs. The entire Bonneville Spillway, with the exception of Spillbay 1, will be tagged out and not available for spill during the following dates and times:
0700 HRS 20 February through 1700 28 February, continuous
The purpose of this operation is to support repair work being conducted in the area near the B-Branch Fish Ladder. The teletype requests that Bonneville Spillway Outage for B-Branch Repairs be given priority over the Bonneville Low Pool Operation described in CBT BON R 013023 1353, if necessary. Spillbay 1 will remain open at 0.5 feet during the repair work for attraction flow (approximately 1.1 kcfs). Spillbays may be returned to service with 1.5-hour notification, if necessary. If BPA forecasts the need to spill, BPA will contact the Project Control Room to provide 1.5-hour notice. Please see teletype BON R 020923 1311 for further details.

- A teletype was distributed on 15 February detailing new FPOM / FPP approved Bonneville Powerhouse Two Corner Collector (B2CC) operations from 01 March to 31 August. Effective during the dates defined below, BON is to open the B2CC:
 - 01 – 08 March, daily from 0600 – 1000 HRS. Open the B2CC within 30 mins of the start time and shift the end time as needed to achieve a continuous 4-HR block.
 - 09 – 25 March, daily from 0600 – 1000 HRS and 1600 – 2000 HRS. Open the B2CC within 30 mins of the start time and shift the end time as needed to achieve a continuous 4-HR block.
 - Starting 26 March at 0600, open the B2CC continuously (24 HRS/day) through the end of Summer Spill on 31 August. Close the B2CC within 1 hour of the end of Summer Spill.

This operation is pursuant to new criteria in the 2023 Fish Passage Plan (FPP) that was coordinated in the FPP change form “23BON002” and approved on 03 February 2023. The change form is available online at: <https://pweb.crohms.org/tmt/documents/fpp/2023/changes/> . This operation will be included in the Final 2023 FPP in Section 2.3.2.5.v on page BON-20. <https://pweb.crohms.org/tmt/documents/fpp/2023/> .

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