

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Lock & Dam, Fishway and Fish Activities for Week 12 of 2024, which covers the period from 17 March 2024 to 23 March 2024.

1. ITEMS OUT OF CRITERIA (OOC):

- **Table 1.** FPP Items Out of Criteria.

Date	Location	FPP Violation	Cause	Response
03/17 – 03/23	BON	Unit Priority – U2, U3, U4, U5, U6, U7, U8, U9 & U10 F.O.	U2, U3, U4, U5, U6, U7, U8, U9, & U10 F.O., Oil Leak Investigation	PDT Team in place
03/17– 03/23	BON	Unit Priority – U12 F.O.	U12 F.O., Stator Ground	W.O., Next Available Unit Ran in Place
PH1:				
03/17 – 03/23	PH1CC	FG 2-19 Stuck in the Mostly Closed Position, Should be Open	Mechanically Bound	W.O.
03/17 – 03/23	PH1CC	FG 2-21 Closed, Should Be Open	Mechanically Bound	W.O.
Bradford Island:				
03/17, 3/20 - 3/23	A-Branch	A-Branch Staff Gauge High >1.1’	Unknown	N/A
Cascades Island:				
03/17 – 3/20	CI Fishway	FG 6-12 Closed, Should be Open	Mechanically Bound	W.O.
03/19	CI Fishway	FG 6-18 Open, Should be Closed	Mechanically Bound	W.O.
Washington Shore:				
03/17 – 03/23	WA Shore Fishway	Weir 37 High, >1.1’	Weir 37 Blowdown Valve OOS	W.O.
03/17 – 3/23	WA Shore Fishway	Weir 38 High, >1.1’	Weir 37 Blowdown Valve OOS	W.O.

- 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.
- PH1 Collection Channel diffuser FG 2-21 was found mechanically bound in the closed position by PH1 Mechanics on 02/24/24. No repairs can be made until the PH1CC can be dewatered.
- 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 6-18 was found stuck in the open position with limiter problems in the fall of 2022. A work order has been created and repairs have been attempted, but full repair requires complete dewatering of the fishway. These repairs will be made during the next full dewater of the Cascades Island Fishway.

- PH1 Unit Priority: Multiple oil sheens have been observed in the PH1 tailrace by Bonneville Staff on several occurrences over the past year. Please refer to MFRs 24BON001, 24BON003, 24BON004, 24BON005, 24BON007, and 24BON009 for details. Consequently, Units 2, 3, 4, 5, 6, 7, 8, 9, and 10 have been forced out of service and will remain OOS until a full dewater, inspection, and investigation of each Unit has been completed.

2. OPERATION SUMMARY:

- Daily average river flows ranged from 135.4 to 163.3 kcfs. Daily average powerhouse forebay elevation ranged from 72.6' to 74.9' msl. Daily average Project tailwater ranged from 12.7' to 14.6' msl. Secchi disk measurements remained at 7.0+'. Daily average water temperature ranged from 44 to 45°F.
- Daily average spill ranged from 1.4 to 20.6 kcfs.
- Unit Operation: PH2 remains the priority powerhouse. Main unit drawdowns are measured every Monday and more frequently as needed.

• **Table 2.** Main Unit Outages

Unit	OOS	RTS	Reason	Duration
4	1631 on 29 Mar 2023	---	F.O., Oil Leak Investigation/5-YR Overhaul	---
3	1105 on 12 Jun 2023	---	F.O., Oil Leak Investigation	---
6	1714 on 03 Jan	---	F.O., Oil Leak Investigation	---
10	1714 on 03 Jan	---	F.O., Oil Leak Investigation	---
12	0731 on 05 Jan	---	F.O., Stator Ground	---
9	1220 on 11 Jan	---	F.O., Oil Leak Investigation	---
7	1409 on 15 Feb	---	F.O., Oil Leak Investigation	---
2	1013 on 26 Feb	---	F.O., Oil Leak Investigation	---
8	1359 on 26 Feb	---	F.O., Oil Leak Investigation	---
5	1433 on 26 Feb	---	F.O., Oil Leak Investigation	---

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

Fish Unit Outages: Fish Units are periodically paced into reserve shutdown (RS) to float trash when debris differentials become excessive and trash raking is not possible.

- **Table 3.** Fish Unit Outages: Nothing to report

- **Table 4.** Fish Unit Drawdowns, in Feet.

Date	F1	F2
03/17	1.3'	2.9'
03/18	0.4'	0.4'
03/19	0.3'	0.4'
03/20	0.1'	0.2'
03/21	0.6'	0.6'
03/22	0.2'	0.3'
03/23	0.1'	0.3'

2. MAINTENANCE ACTIVITIES:

- a. Auxiliary Water System Closures:
 - FV 6-9 was closed for cleaning from 1600 to 1610 on 18 March
 - FV 6-9 was closed for cleaning from 1601 to 1609 on 21 March
- b. STS/VBS Inspections: Nothing to report.
- c. Dewatering and Fish Salvages: Nothing to report.

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: Sample collections at the Smolt Monitoring Facility (SMF) began on 02 March at 0700. Debris at the primary dewatering structure (PDS) and fish/debris separator ranged from moderate to heavy consisting mostly of sticks and other woody debris. Fallbacks observed this week: Four steelhead.
A total of 51 fin clips were obtained from Pacific Lamprey macrophthalmia and one from a Pacific Lamprey ammocoete for Columbia River Inter-Tribal Fish Commission's genetic studies this week.

4. FISHWAYS:

- a. Project Biologists inspected from 17 – 23 March.
- b. Adult Fishways:
 - (1) The AFF remains out of service for the winter maintenance season.
 - (2) Sensor calibration checks were occurred on 21 March
 - (3) SLEDs are installed at all locations.
 - (4) Bradford Island, Cascades Island, and Washington Shore Fishways remain in service.
- c. Juvenile Fishways:
 - (1) The ITS remains in service.
 - (2) The hydro-cannon remains in service.
 - (3) The B2CC began operating 01 March according to the FPP criteria found in section BON 2.3.2.5.v. and listed below:
 - (a) March 01 – 08: Open the B2CC daily from 0600 – 1000 HRS. Open within 30 minutes of the start time and shift the closure time as necessary to maintain the 4-HR duration.
 - (b) March 09 – 25: Open the B2CC daily from 0600 – 1000 and 1600 – 2000. Open within 30 minutes of the start time and shift the closure time as necessary to maintain the 4-HR duration.
 - (c) March 25 – August 31: Beginning at 0600 on March 26, operate the B2CC continuously (24 HRS/day) through August 31. Close the B2CC within one hour of the end of summer spill on August 31.

- BPA requested the B2CC be open 24 HRS per day until further notice on 20 March for river flow management.

(4) The DSM remains in service.

(5) STSs remain in service.

d. Lamprey Fishways:

(1) BI, CI, and WA Shore LPS's remain out of service.

(2) The Bradford Island Wetted Wall (BIWW) remains out of service.

(3) The PH2 Lamprey Flume Structure (LFS) remains out of service.

(4) The 2023 lamprey trapping and translocation activities have concluded for the 2023 season.

(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 2023 season.

b. Zebra Mussel Monitoring: No signs of colonization were observed this reporting week.

7. CONSTRUCTION:

- Installation of the B-Branch LPS concluded the week of 03-09 March.

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

9. TELETYPES CURRENTLY IN EFFECT:

- A teletype was distributed on 30 August detailing the 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. Please see teletype BON R 083023 1555 for further details.
- A teletype was distributed on 20 December replacing the previous teletype BON R 122023 1131 Tailwater Operation for Chum Incubation 4. This 5th revision to the teletype states: Effective, Sunday 31 December 2023, at 0001 HRS, until further notice, Bonneville Dam minimum tailwater elevation is 11.3 ft during 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. This 5th revision's updated minimum tailwater elevation was based on an updated WDFW chum salmon survey data that occurred on 20 December. Please see teletype BON R 122023 1340 for more details.
- A teletype was distributed on 26 March detailing the Bonneville Spillway Outage. The entire spillway, with the exception of spillbays 1 and 18 will be tagged out and not available for spill April 1, 2024 from 0730 – 1000 hours. There is possible flexibility for additional spill through the northern spillbays. The purpose of this operation is to support survey and inspection of Bradford Island instrumentation. BPA must provide 45 minute notice to Bonneville operators if spill is imminent. Please see teletype BON R 032624 1515 for more information.
- A teletype was distributed on 30 March updating the spring spill caps and lack of load spill priority list for Snake and Columbia River Projects and BPA. This teletype is to be used from 03 April 2024 at 0001 HRS until further notice. In the table provided in this teletype, Level 1 contains the spill level at the applicable State Water Quality Standard (WQS). For fish passage projects, the WQS is the level of spill specified in

the 2024 Fish Operations Plan (FOP). The spill rate for the 125% gas cap is in the Level 2 for fish passage projects. The table provides lack of load spill levels (kcfs) and the order in which to spill from top to bottom, exhausting the complete list at each level before proceeding with the spill order at the next level. Please see teletype BON R 032724 1040 for detailed operational guidance.

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