

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for **Week 12** of 2022, which covers the period from **13 to 19 March 2022**.

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 156.3 to 192.0 kcfs. Daily average powerhouse forebay elevation ranged from 72.3' to 74.4' msl. Daily average project tailwater ranged from 14.6' to 16.4' msl. Secchi disk measurements remained at 5'. Daily average water temperature ranged from 40 to 42°F.
- b. Daily average spill ranged from 1.3 to 7.1 kcfs.
- c. Unit Operation: **PH2** remains the priority powerhouse. 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	---
16	0802 on 28 Feb	1928 on 17 March	P.O., BPA Work, RC #4 Relay Replacement	17 days, 11 hours, 26 mins
15	0802 on 28 Feb	1927 on 17 March	P.O., BPA Work, RC #4 Relay Replacement	17 days, 11 hours, 26 mins
17	0803 on 28 Feb	1937 on 17 March	P.O., BPA Work, RC #4 Relay Replacement	17 days, 11 hours, 34 mins
18	0803 on 28 Feb	1921 on 17 March	P.O., BPA Work, RC #4 Relay Replacement	17 days, 11 hours, 18 mins
8	1355 on 10 March	1554 on 14 March	F.O., High EMI Reading/Bus Inspections	4 days, 1 hour, 59 mins
12	0756 on 14 March	0836 on 14 March	P.O., Trash Raking	40 mins
11	0839 on 14 March	1042 on 14 March	P.O., Trash Raking	2 hours, 3 mins
10	1509 on 14 March	1643 on 14 March	P.O., Trash Raking	1 hour, 34 mins
1	1254 on 15 March	1613 on 15 March	P.O., Trash Raking	3 hours, 19 mins
4	1008 on 17 March	1335 on 17 March	P.O., Trash Raking	3 hours, 27 mins

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

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

- **Table 2. Fish Unit Outages.**

Unit	OOS/RS	RTS	Reason	Duration
F2	0010 on 13 Dec	---	P.O., Bi-Annual Maintenance/Extended Outage	---
F1	0204 on 15 March	0217 on 15 March	P.O., Testing UF1 Emergency Headgate Closure	13 mins

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

Date	F1	F2
03/13	0.3'	---
03/14	0.3'	---
03/15	0.2'	---
03/16	0.2'	---
03/17	0.1'	---
03/18	0.2'	---
03/19	0.3'	---

2. MAINTENANCE ACTIVITIES:

- a. Auxiliary Water System Closures:
 - FV 1-1 was placed in manual for cleaning from 1345 to 1623 on 17 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 SMF began at 0700 on 02 March.
 The Bonneville SMF was placed in bypass mode at 0700 on 11 March. This action was taken in response to an emergency release of 1.1 million Tule fall Chinook from Spring Creek NFH on 10 March due to an outbreak of Bacterial Gill Disease (BGD). Additional emergency releases occurred over the following days including all remaining stock on 14 March. In total, approximately 10.8 million fish were released over this period. To prevent exposure of this pathogen to run-of-river fish in their collection tanks, the sampling will remain suspended until the bulk of these fish have passed the project. More details can be found on the [FPC web page](#).
- d. USDA – Pinniped Hazing: Deck-based pinniped hazing started 14 March.
- e. USGS – Bass Sampling: Smallmouth bass tagging and sampling for tissue analysis and acoustic telemetry monitoring began on 14 March. This study is an extension of a study started in 2020 and is in support of a broader effort being conducted by USACE under the Comprehensive Environmental Response, Compensation and Liability Act at Bradford Island.

4. FISHWAYS:

- a. Project biologists inspected from 13 – 19 March.
- b. Fish Passage Plan observations:

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

Date	Location	FPP Violation	Cause	Response
03/13-19	BON	Unit Priority	U13 F.O., Generator Ground	Repairs in Process
PH1				
03/13-19	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.
03/13-19	PH1CC	FG 2-19 Stuck in the Mostly Closed Position, Should Be Open	Mechanically Bound	W.O.
Bradford Island				
03/18	A-Branch	Weir Staff Gauge >1.1'	Unknown	N/A
Cascades Island				
03/13-19	CI Fishway	FG 6-11 Mechanically Bound in the Closed Position, Should Be Open	Mechanically Bound	W.O.
Washington Shore				
03/13-14,17-19	PH2	Weir 37 Staff Gauge High, >1.1'	Gear box failure	Closed and pending repair
03/14,16,18,19	PH2	PH2 SUE Ent/TW Diff Low, <1.0'	Single Fish Unit Ops	N/A
03/14,16,18,19	PH2	PH2 SDE Ent/TW Diff Low, <1.0'	Single Fish Unit Ops	N/A

- 5 avian lines were cut from the B2CC avian line array on 02 September. Avian lines are installed by 10 April every year and normally remain up as a form of avian abatement through the start of winter when they may be taken down if winter maintenance activities require. These 5 lines were damaged and hanging extremely low to the water, creating a hazard for a survey vessel entering BON BRZ for a hydrosurvey on 03 September 2021. These avian arrays were repaired and replaced on 22 March, 2022.
- 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 Washington Shore/Cascades Island Fishway Winter Maintenance Period (winter 2022/2023).

c. Adult Fishways:

- (1) The AFF was watered up on 14 March.
- (2) Sensor calibrations were conducted on 16 March.
- (3) SLEDs are installed at all locations.
- (4) Bradford Island, Cascades Island, and Washington Shore Fishways remain in service.

d. Juvenile Fishways:

- (1) The ITS remains in service (auto-chain gates 3B, 6C, & 10B only).
- (2) The hydro-cannon remains in service.

(3) The B2CC was opened from 0850 on 13 March during spill operations requested by BPA. The B2CC remained open through this reporting week and will continue to remain open until the end of spill season. This early opening of the B2CC corresponds with the recent B2CC operations and involuntary spill operations which have impacted the ability to accurately count kelt passage. Therefore, the kelt trigger criteria found in the FPP is not applicable this year. Please see teletype BON R 032122 1613 for more details.

(4) The DSM remains in service.

(5) STSs remain in service.

e. 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 AFF and CI lamprey traps remain out of service.

f. Avian Monitoring: Avian counts are recorded 01 April – 31 October.

5. WATER QUALITY MONITORING:

a. Fishway Temperatures: Temperature monitoring concluded for the season on 09 October 2021.

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

6. CONSTRUCTION: Nothing to report.

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

8. TELETYPES CURRENTLY IN EFFECT:

- A teletype was sent out on 01 September with revisions to fall/winter spill priority list and fall/winter spill caps provided the order that projects spill for lack of load conditions. This order is to be used until further notice. Please see teletype BON R 090121 1544 for details.
- A teletype was sent out on 22 December outlining BON tailwater operations for chum spawning. This teletype replaces BON R 102721 1011 for Chum Spawning 1. Please see teletype BON R 121521 1449 for further details.
 1. Effective Friday, December 24, 2021, at 0001 hours, until further notice, the Bonneville Dam minimum tailwater elevation is 13.0 feet during all hours.
 2. 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.
 3. The official project tailwater elevation gauge is located on the Oregon shore at river mile 144.5, 0.9 miles downstream of Powerhouse 1 and 50 feet upstream of Tanner Creek.
- A teletype was distributed on 01 March detailing a “no spill operation” for Bonneville Lock & Dam. This teletype requests BPA to not spill at Bonneville for the following dates and times:
 1. 14 March – 17 March, 0600 – 1900 HRS
 2. 21 March – 24 March, 0600 – 1900 HRS
 3. 28 March – 31 March, 0600 – 1900 HRS
 4. 04 April – 07 April, 0600 – 1900 HRS

If spill is necessary during these times, the Corps requests that BPA makes best efforts to shape spill outside the dates and times above. This request is to provide safe working conditions for USGS conducting fish tissue sample study in the Main Dam Forebay BRZ. The PH2 Corner Collector (B2CC) will continue to operate as described in the 2021 Fish Passage Plan, see section 2.3.2.5.V. For further details, please see teletype BON R 030122 0834.

- A teletype was sent out on 16 March concerning the operation of the Powerhouse 2 Corner Collector (B2CC). It states effective immediately and continuing through Sunday 20 March at 1300 HRS, BON is to operate the B2CC continuously. The goal of this operation is to avoid collection of the juvenile hatchery salmon released from the Spring Creek National Fish Hatchery (SCNFH) infected with Bacterial Gill Disease (BGD) in the BON Smolt Monitoring Facility (SMF). More information of this incident can be found in the Memorandum for the Record (MFR) 22BON005, “Early Release of 10.8M Tule Fall Chinook from SCNFH” dated 14 March 2022 on the FPOM website. Once this operation is complete, BON is to resume operation of the B2CC as described in the Fish Passage Plan (FPP), Section 2.3.2.5.v. For more information, please see teletype BON R 031622 1208.
- A teletype was sent out on 18 March to replace the previous teletype (BON R 031622 1208). This teletype states that effective immediately and continuing until further notice, BON is to continue operation of the B2CC continuously. Please see teletype BON R 031822 1410 for further details.
- A third teletype regarding the BON B2CC was sent out on 21 March. This teletype is a revision and replacement of teletypes BON R 031622 1208 and BON R 031822 1410. This revision consists of an added paragraph with guidance on closing the B2CC on 22 March for avian line repair. Please see teletype BON R 032122 1613 for more details.

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