

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for **Week 08** of 2022, which covers the period from **13 to 19 February 2022.**

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 166.8 to 188.5 kcfs. Daily average powerhouse forebay elevation ranged from 72.6’ to 73.7’ msl. Daily average project tailwater ranged from 14.7’ to 15.8’ msl. Secchi disk measurements ranged from 4.0’ to 7.0+’. Daily average water temperature remained at 38°F.
- b. Daily average spill remained at 0.6 kcfs.
- c. Unit Operation: **PH2** remains the priority powerhouse. Main unit drawdowns are measured every Monday and more frequently as needed.
- d. Navlock 2: BON Navlock 2 was taken out of service at 0600 on 13 February for annual winter maintenance. NL2 is scheduled to return to service on 12 March.

• **Table 1. Main Unit Outages**

Unit	OOS	RTS	Reason	Duration
18	0750 on 15 Feb	0853 on 15 Feb	P.O., Trash Raking	1 hour, 3 mins
17	0907 on 15 Feb	1043 on 15 Feb	P.O., Trash Raking	1 hour, 36 mins
16	1046 on 15 Feb	1150 on 15 Feb	P.O., Trash Raking	1 hour, 4 mins
15	1244 on 15 Feb	1355 on 15 Feb	P.O., Trash Raking	1 hour, 11 mins
14	1401 on 15 Feb	1605 on 15 Feb	P.O., Trash Raking	2 hours, 4 mins
13	0745 on 16 Feb	0850 on 16 Feb	P.O., Trash Raking	1 hour, 5 mins
12	0854 on 16 Feb	1042 on 16 Feb	P.O., Trash Raking	1 hour, 48 mins
11	1046 on 16 Feb	1420 on 16 Feb	P.O., Trash Raking	3 hours, 34 mins
11	1424 on 16 Feb	1110 on 18 Feb	F.O., For 125v DC Ground	1 day, 20 hours, 46 mins
13	1628 on 18 Feb	---	F.O., Generator Ground	---

- e. 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	---

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

Date	F1	F2
02/13	0.5'	---
02/14	1.3'	---
02/15	0.5'	---
02/16	0.4'	---
02/17	0.7'	---
02/18	0.2'	---
02/19	0.3'	---

2. MAINTENANCE ACTIVITIES:

- a. Auxiliary Water System Closures:
 - Fish Valves 1-1, 3-7, 3-9, 4-3 and 4-4 were closed on 06 December to facilitate the dewatering of the Bradford Island Fishway for the 2021/2022 winter maintenance season.
- b. STS/VBS Inspections: Nothing to report.
- c. Dewatering and Fish Salvages:
 - Project Biologists salvaged fish at the Navlock 2 Upper Sill on 14 February during dewatering operations as part of the Navlock 2 Annual Outage. Biologists recovered one smallmouth bass in good condition and released the fish upstream of the Navlock.
 - Project Biologists started fishing the lower portions of the Navlock 2 with help from many other ambitious fish friends on 16 February. Biologists and other fish enthusiasts recovered: 101 juvenile lamprey, 42 juvenile salmonids, 20 salmonid fry, 57 sculpin, 50 crawdad, 14 smallmouth bass, 1 crappie, 1 peamouth, 6 stickleback, and 1 sandroller. The fish were found in good condition and released at the Hamilton Island Boat Launch.
 - Project Biologists finished fishing the lower portions of the Navlock 2 under the floor drain system and diffusers on 17 February. Biologists recovered 9 juvenile salmonids, 1 salmonid fry, 1 juvenile lamprey, 5 smallmouth bass, 1 starry flounder, 5 sculpin, and 3 crawdads. All fish were found in good condition and 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 the Bonneville SMF at 0700 on Sunday, 31 October. The system was put into bypass mode at that time.

4. FISHWAYS:

- a. Project biologists inspected on 14, 15, and 17 February.

b. Fish Passage Plan observations:

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

Date	Location	FPP Violation	Cause	Response
PH1				
02/13-19	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.
Bradford Island: Nothing to Report				
Cascades Island: Nothing to Report				
2/14,15,17	CI Fishway	FG 6-11 Closed, Should Be Open	Mechanically Bound	W.O.
Washington Shore				
02/14,15,17	PH2	Weir 37 Staff Gauge High, >1.1'	Gear box failure	Closed and pending repair
02/14,15,17	PH2	Weir 38 Staff Gauge High, >1.1'	N/A	N/A
02/14,15,17	PH2	PH2 SDE Ent/TW Diff Low, <1.0'	Single Fish Unit Ops	N/A
02/14,15,16	PH2	PH2 SUE 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 Sept. These avian arrays are slated to be re-installed during March 2022.

c. Adult Fishways:

- (1) The AFF was taken out of service on 21 December.
- (2) Sensor calibrations were conducted on 17 February.
- (3) SLEDs are installed at all locations.
- (4) Cascades Island and Washington Shore Fishways remain in service.
- (5) The Bradford Island Fishway was dewatered on 06 December as part of winter maintenance operations.

d. Juvenile Fishways:

- (1) The ITS remains in service (auto-chain gates 3B, 6C, & 10B only).
- (2) The hydro-cannon remains out of service.
- (3) The B2CC was opened from 0900 to 1600 on 16 February to float trash.
- (4) The DSM was taken out of service on 20 December.
- (5) Riggers began installing STS's on 22 February.

- 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 lamprey trap and CI lamprey trap remains out of service.
- f. Avian Monitoring: Avian counts are recorded 01 April – 31 October.

5. WATER QUALITY MONITORING:

- a. Fishway Temperatures: Temperature monitoring began on 28 February and concluded 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 sent out on 03 February outlining Bonneville Forebay operation to support marine construction in the Bonneville Pool near the mouth of Rock Creek on the Columbia River, RM 150. The teletype requests BPA to operate the Bonneville Forebay below a maximum of 74.0', soft constraint, during the following dates and times:
 - 1. 07 Feb – 11 Feb, 0600-1800 HRS
 - 2. 14 Feb – 18 Feb, 0600-1800 HRS
 - 3. 21 Feb – 25 Feb, 0600-1800 HRS

For more details, please see teletype BON R 020322 1120.

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