

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for **Week 16** of 2021, which covers the period from **11 to 17 April 2021**.

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 136.9 to 143.3 kcfs. Daily average powerhouse forebay elevation ranged from 73.9' to 75.3' msl. Daily average project tailwater ranged from 12.0' to 12.6' msl. Secchi disk measurements ranged 4.0' to 7.0'. Daily average water temperature ranged 47 to 49°F.
- b. Daily average spill ranged from 93.8 to 99.2 kcfs. Spring spill season began on 10 April and will continue through 15 June in accordance with FOP guidelines.
- 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
15	1312 on 01 Mar	---	P.O., FGE Work
16	0701 on 15 Mar	---	P.O., 4-Yr Overhaul
10	0007 on 12 Mar	---	P.O., Annual Overhaul
9	1000 on 12 Mar	---	P.O., 5-Yr Overhaul
8	1000 on 12 Mar	---	P.O., Station Service Work
7	1000 on 12 Mar	---	P.O., Station Service Work

- a. 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. Nothing to report.

Table 3. Fish Unit Drawdowns, in Feet.

Date	F1	F2
04/11	0.2'	0.5'
04/12	0.2'	0.5'
04/13	0.2'	0.4'
04/14	0.3'	0.5'
04/15	0.2'	0.4'
04/16	0.1'	0.4'
04/17	0.3'	0.6'

2. MAINTENANCE ACTIVITIES:

- a. Auxiliary Water System Closures.
- FV 3-9 was switched to manual for cleaning from 1044 to 1058 on 15 April.
 - FV 1-1 was switched to manual for cleaning from 1244 to 1311 on 15 April.
- b. STS/VBS Inspections. Nothing to report.

a. Dewatering and Fish Salvages.

- On 13 April, Project Fish Biologists entered the Unit 9 scroll case and draft tube for fish salvage activities as part of a planned outage for U9’s 5-year overhaul. 15 juvenile salmonids, 5 3-spine stickleback, and 1 smallmouth bass were recovered from the scroll case. No fish were found in the draft tube. All fish were in good condition and released downstream at the Hamilton Island Boat Launch.

2. RESEARCH:

- a. Four Peaks Environmental - Fish counting contract: Daytime visual counting (0500 to 2100) began on 01 April. 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. Debris at the primary dewatering structure (PDS) and fish/debris separator consisting mostly of sticks. Gas Bubble Trauma (GBT) examinations began on 10 April and are typically performed 2 days/week through the end of spill season. Results from this week’s GBT examinations: 20 yearling Chinook and steelhead examined: 1 fish (5.0%) was observed with GBT symptoms. Fallbacks observed this week included 5 steelhead. No fish collections for research purposes were conducted this week. More details can be found on the [FPC web page](#).
- d. USDA – Pinniped and Avian Hazing: Deck-based hazing continues.
- e. State Agency Pinniped Trapping: Sea lion trapping began on 05 April.
- f. ODFW – Pikeminnow Sampling: Northern Pikeminnow electrofishing sampling operations were conducted the nights of 13 and 15 April.

3. FISHWAYS:

- a. Project biologists inspected 11 to 17 April.
- b. Fish passage plan observations.

Table 4. FPP Items Out of Criteria.

Date	Location	FPP Violation	Cause	Response
PH1				
04/11-17	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				
04/11-17	A-Branch	FG3-4 Partially Open	FG3-4 mechanically bound partially open	W.O.
04/11-17	A-Branch	Weir Staff Gauge >1.1’	Unknown	NA
04/11-13	PH1CC	S. Ent. Diff. < 1.0’	Unknown	NA
Cascades Island – Nothing to Report				
Washington Shore				
04/11	PH2 SUE	SUE Ent/TW Diff < 1.0	Unknown	NA

c. Adult Fishways.

- (1) The AFF was watered up on 16 April.
- (2) Sensor calibration occurred on 12 April.
- (3) SLEDs are installed at all locations.

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 remains in service.
- (4) The DSM remains in service.
- (5) STS's remain in service.

e. Lamprey Fishways.

- (1) Bradford Island and Cascades Island LPS's were put into service on 06 April. WA Shore LPS remains out of service, currently.
- (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 remains out of service.
- (5) The CI Lamprey trap remains out of service.

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

Table 5. *Avian Counts 11 – 17 April.*

Date	Gulls	Cormorants	Terns	Wh. Pelicans	Grebes
04/11	0	1	0	0	0
04/12	8	2	0	0	0
04/13	3	2	0	0	0
04/14	1	1	0	0	0
04/15	13	0	0	0	0
04/16	7	2	0	0	0
04/17	7	1	0	0	0

4. WATER QUALITY MONITORING:

a. Fishway Temperatures. Temperature logs began on 28 February and will continue through 30 November.

Table 6. *Bonneville Fishway Temperatures 11 – 17 April.*

Date	A-Branch	B-Branch	BI_Exit	WA_Entrance	CI_Entrance	WA_Exit	CI_LPS	WA_LPS	BI LPS	AFF	SMF	Forebay
11-Apr	47.8	47.9	47.8	47.9	47.8	47.9	48.0	---	48.1	---	---	48
12-Apr	48.1	48.2	48.0	48.3	48.2	48.3	48.5	---	48.3	---	---	48
13-Apr	48.3	48.5	48.4	48.6	48.5	48.6	48.9	---	48.6	---	---	47
14-Apr	48.8	48.9	48.8	49.0	48.9	48.9	49.2	---	49.1	---	---	48
15-Apr	49.3	49.4	49.3	49.5	49.5	49.5	49.8	---	49.6	---	---	48
16-Apr	49.9	49.9	49.9	50.0	49.9	50.0	50.3	---	50.2	---	---	49
17-Apr	50.3	50.3	50.3	50.3	49.9	50.3	50.7	---	50.6	---	---	49

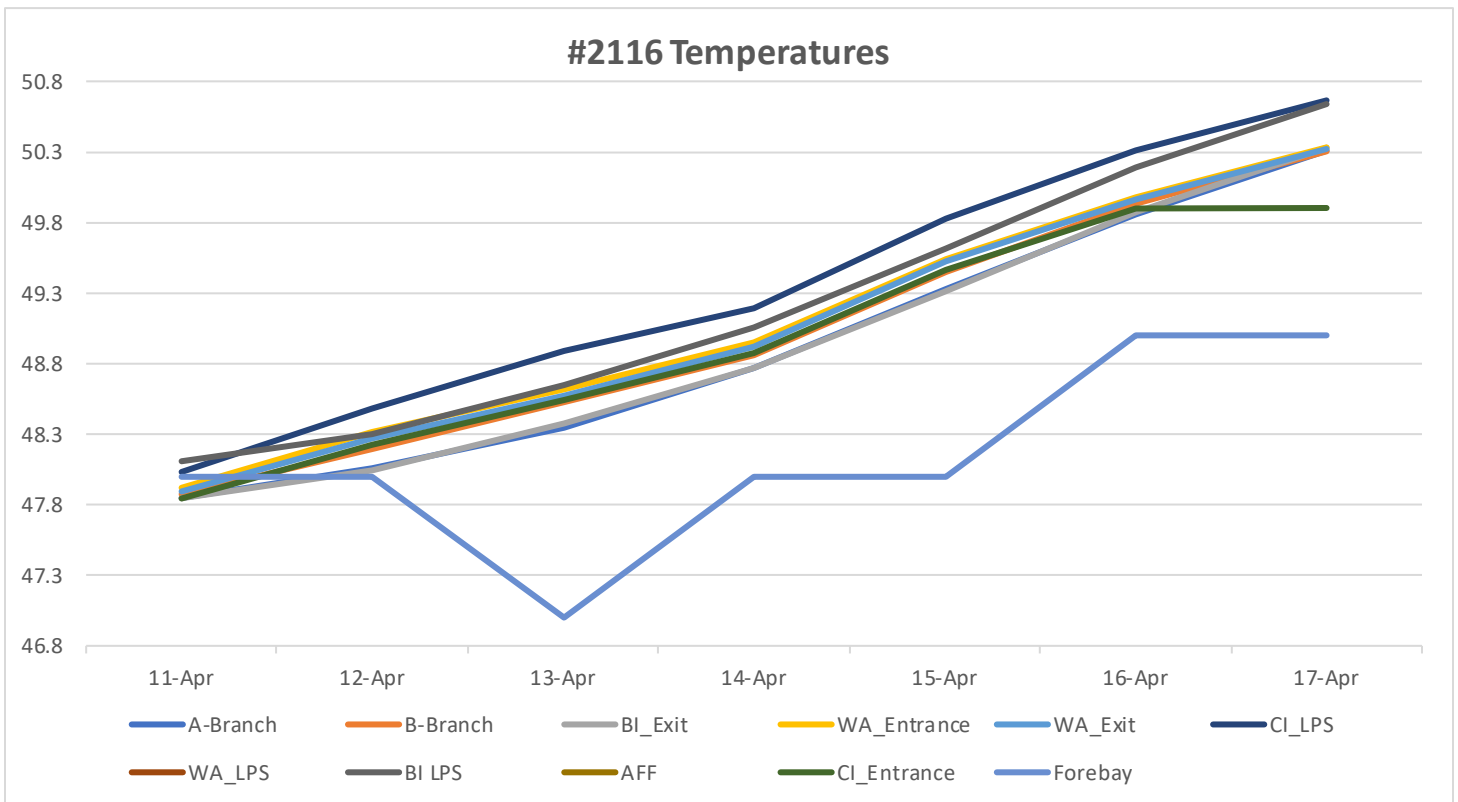


Figure 1. *Average fishway temperatures from 11 to 17 April.*

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

5. CONSTRUCTION:

a. USACE: Work continues to upgrade to the Washington Shore LPS pumps.

7. HAZMAT, SPILLS AND CLEANUP: Nothing to report

8. TELETYPES CURRENTLY IN EFFECT:

- A teletype sent on 05 April states that effective 10 April through 15 June, Bonneville Dam operate in accordance with FOP to Spring Spill for Juvenile Fish Passage. See teletype BONR 040521 0912 for details.
- A teletype was sent out on 07 April for all Columbia and Snake River Projects and BPA giving revisions to the Lack of Load Spill Priority List. Please see teletype BONR 040721 1225 for details.

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