

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for **Week 47** of 2019, which covers the period from **17– 23 November**.

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 126.6 to 132.1 kcfs. Daily average powerhouse forebay elevation ranged from 72.9' to 73.8' msl. Daily average project tailwater remained at 11.5' msl. Secchi disk measurements remained 7.0+'. Daily average water temperature ranged from 49°F to 50°F.
- b. Daily average spill remained at 1.0 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 Date	RTS Date	Reason
3	2143 on 18 Nov	1308 on 20 Nov	U1 Loss of PT Signal
4	0935 on 19 Nov	1126 on 19 Nov	BPA Relay Maintenance
4	0940 on 20 Nov	0954 on 20 Nov	Racking Out XJ3
4	1242 on 20 Nov	1305 on 20 Nov	Racking Out XJ3
5	0909 on 20 Nov	1228 on 20 Nov	BPA Relay Maintenance
6	0909 on 20 Nov	1228 on 20 Nov	BPA Relay Maintenance
7	0909 on 20 Nov	1228 on 20 Nov	BPA Relay Maintenance
8	0909 on 20 Nov	1228 on 20 Nov	BPA Relay Maintenance
11	1540 on 18 Nov	1620 on 18 Nov	Trash Raking
12	1410 on 18 Nov	1537 on 18 Nov	Trash Raking
13	0001 on 18 Nov	1328 on 21 Nov	P.O. Annual
15	0526 on 16 Nov	1623 on 18 Nov	15A Orifice Failed - Closed
18	1303 on 18 Nov	1406 on 18 Nov	Trash Raking

- 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. Nothing to report.

- Table 3. Fish unit drawdowns, in feet.

Date	F1	F2
11/17	0.2'	0.3'
11/18	0.2'	0.3'
11/19	1.0'	0.8'
11/20	---	---
11/21	---	---
11/22	---	---
11/23	0.2'	0.4'

2. MAINTENANCE ACTIVITIES:

a. Auxiliary Water System Closures.

- FV 1-1 closed for cleaning from 0725 to 0745 on 18 November.
- FV 6-9 closed for cleaning from 0730 to 0738 on 18 November.
- FV 3-7 closed for cleaning from 0850 to 0910 on 18 November.
- FV 3-9 closed for cleaning from 0850 to 0910 on 18 November.
- FV 1-1 closed for cleaning from 1458 to 1529 on 21 November.
- FV 3-7 closed for cleaning from 1542 to 1603 on 21 November.
- FV 3-9 closed for cleaning from 1542 to 1603 on 21 November.

b. STS/VBS Inspections. Nothing to report.

c. Dewatering and Fish Salvages. On 19 November, Project Biologists salvaged 2 Juvenile Salmonids, 1 White Sturgeon, 4 Suckers and ~300 American Shad from the AFF.

3. RESEARCH:

a. Four Peaks Environmental - Fish counting contract: Daytime visual counting (0500 to 2100) began on 01 April. Nighttime video counting (2100 to 0500) concluded on 30 September. Fish counts can be viewed [here](#).

b. University of Idaho – Lamprey Evaluations: Collection and tagging in association with Corps funded research commenced with the start of the Lamprey Flume Structure (LFS) and AFF lamprey traps on 13 May. Collection and tagging efforts ended 13 September. They remain onsite collecting passage data and removing equipment.

4. FISHWAYS:

a. Project biologists inspected from 17 – 23 November.

b. Fish passage plan observations.

- Table 4. FPP out of criteria items.

Date	Location	FPP Violation	Cause	Response
Bradford Island				
11/17,20-22	PH1CC (South)	Differential < 1.0'	Unknown	NA
11/19-21	A-Branch	Differential > 1.1'	Unknown	NA
11/18	B-Branch	Ent. Diff. > 2.0'	Unknown	NA
Cascades Island – Nothing to report				
Washington Shore – Nothing to report				
11/17-18	Unit 15	Unit Priority	15A Orifice Jam	WOR

- On 01 May 2018, FG6-11 (Cascades Island) was found broken partially open. The diffuser shaft had broken away from the motor. Due to the subsidence issues at Cascades Island, repairs cannot occur until crane support is allowed in the vicinity. FG6-11 should be open at tailwaters $\geq 14.0'$.
- On 18 August 2018, FG6-12 (Cascades Island) was found to be mechanically bound in the open position. FG6-12 should only be open with tailwaters ranging from 11.0'-33.0'. Due to the subsidence issues at Cascades Island, repairs cannot occur until crane support is allowed in the vicinity.
- On 27 March 2019, FG6-18 (Cascades Island) was found to be mechanically bound in the closed position. FG6-18 should be open with tailwaters $> 12.0'$. Due to the subsidence issues at Cascades Island, repairs cannot occur until crane support is allowed in the vicinity.
- On 28 March 2019, FG3-5 (A-Branch) was reported not closing due to a torque limit issue. The diffuser was opened due to current tailwater limits and a safe clearance was issued on the equipment. Repairs can not be made until the in-water work period this winter. FG3-5 should only be open for tailwaters of $\geq 16.7'$.
- On 23 August 2017, FG 3-27 (B-branch) was found to be mechanically unsound. It has been set to manual and remains in the open position to avoid further damage. FG3-27 should be open between tailwaters of 10.5'- 28.0' Repairs are planned for the 2019-2020 outage.

c. Adult Fishways.

- (1) The AFF remains out of service.
- (2) Sensor calibration occurred on 21 November.
- (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 out of service.
- (3) The B2CC remains out of service.
- (4) The DSM remains in service.
- (5) STSs are installed.

e. Lamprey Fishways.

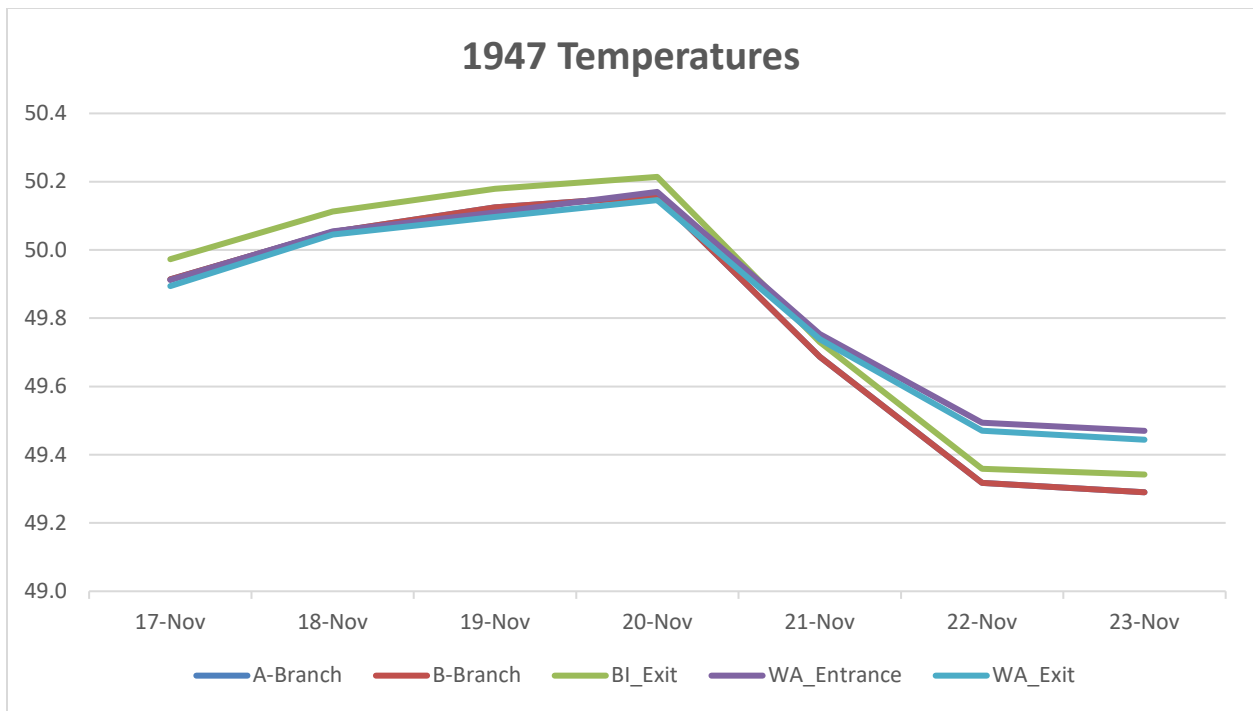
- (1) All Lamprey Passage Structures remain out of service.
- (2) The Bradford Island Wetted Wall (BIWW) remains out of service.
- (3) The PH2 Lamprey Flume Structure (LFS) remains out of service.
- (4) The AFF Lamprey trap remains out of service.

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

5. WATER QUALITY MONITORING:

a. Fishway Temperatures. Temperatures are taken from 01 March - 30 November.

Date	A-Branch	B-Branch	BI_Exit	WA_Entrance	WA_Exit
17-Nov	49.9	49.9	50.0	49.9	49.9
18-Nov	50.1	50.1	50.1	50.1	50.0
19-Nov	50.1	50.1	50.2	50.1	50.1
20-Nov	50.2	50.2	50.2	50.2	50.1
21-Nov	49.7	49.7	49.7	49.8	49.7
22-Nov	49.3	49.3	49.4	49.5	49.5
23-Nov	49.3	49.3	49.3	49.5	49.4



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

6. CONSTRUCTION:

a. Nighttime construction on the new PH2 Oil Water Separator began 14 October.

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

8. TELETYPES CURRENTLY IN EFFECT:

a. A teletype sent on 30 October states effective 04 November at 0600 until further notice, operate the Bonneville tailwater for Chum Salmon spawning operations. Please see teletype for more details.

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Bonneville Project