

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for **Week 34** of 2019, which covers the period from **18 August – 24 August**.

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 112.1 to 148.7 kcfs. Daily average powerhouse forebay elevation ranged from 75.3' to 76.1' msl. Daily average project tailwater ranged from 10.0' to 12.7' msl. Secchi disk measurements ranged from 6.0' to 7.0+'. Daily average water temperature remained 71°F.
- b. Daily average spill ranged from 68.9 to 94.9 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
02	0001 on 12 Aug	1230 on 22 Aug	P.O., U10 out Bank 1/2
03	0801 on 19 Aug	1700 on 19 Aug	P.O., SQ2 Work
04	0801 on 19 Aug	1700 on 19 Aug	P.O., SQ2 Work
05	0801 on 19 Aug	1700 on 19 Aug	P.O., SQ2 Work
06	0717 on 09 July	---	P.O., 5 Year Overhaul
09	0001 on 12 Aug	---	P.O., Annual/Bank 9/10
10	1100 on 22 Aug	1230 on 22 Aug	P.O., Annual/Bank 9/10 Support

- 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 Date	RTS Date	Reason
F2	2036 on 17 Aug	0457 on 18 Aug	RS, Nighttime Lamprey Ops.
F2	2029 on 18 Aug	0502 on 19 Aug	RS, Nighttime Lamprey Ops.
F2	2029 on 19 Aug	0452 on 20 Aug	RS, Nighttime Lamprey Ops.
F2	2026 on 20 Aug	0451 on 21 Aug	RS, Nighttime Lamprey Ops.
F1	0321 on 21 Aug	0356 on 21 Aug	TBD
F1	2030 on 21 Aug	1345 on 22 Aug	RS, NLO and AWS Inspection
F2	0630 on 22 Aug	1345 on 22 Aug	AWS Inspection
F2	2030 on 22 Aug	0502 on 23 Aug	RS, Nighttime Lamprey Ops.
F1	2030 on 23 Aug	0459 on 24 Aug	RS, Nighttime Lamprey Ops.
F2	2030 on 24 Aug	---	RS, Nighttime Lamprey Ops.

- Table 3. Fish unit drawdowns, in feet.

Date	F1	F2
8/18	0.4'	0.4'
8/19	0.4'	0.2'
8/20	0.5'	0.5'
8/21	0.5'	0.2'
8/22	0.3'	0.4'
8/23	0.4'	0.2'
8/24	0.3'	0.7'

2. MAINTENANCE ACTIVITIES:

a. Auxiliary Water System Closures.

- FV1-1 was closed for cleaning from 1132 to 1158 on 19 Aug.
- FV3-7 was closed for cleaning from 1506 to 1552 on 22 Aug.
- FV3-9 was closed for cleaning from 1506 to 1552 on 22 Aug.

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 visual counting (0500 to 2100) began on 01 April. Nighttime video counting (2100 to 0500) began on 15 May. Fish counts can be viewed [here](#).

b. PSMFC – Smolt Monitoring Facility: Sample collections at the SMF began at 0700 on 02 March. Debris at the PDS and fish/debris separator was light consisting of aquatic macrophytes, a few sticks, and dead adult shad. Higher temperature sampling protocols were initiated on 26 July (sample end-date of 27 July) when water temperatures ascended to 70°F. Modified sampling during higher temperatures means Index/Condition sampling will take place every other day until the daily average descends to 69.5°F. Sample and bypass mode will occur on alternating 24 hour periods (0700-0700). GBT examinations began on 13 April and are typically performed two days per week through the end of spill. Due to low fish numbers present during GBT collection effort, GBT exams were not attempted this week. Please follow this [link](#) to the FPC web page for further details. No fallbacks were observed this week. No fish collections for research were conducted this week.

c. CRITFC – Adult Salmonid Sampling: Adult Salmonid sampling in the AFF began on 30 April and typically occurs 5 days per week. High temperature sampling protocols went

into effect on 05 August. High temperature sampling protocols were suspended on 12 August then went back into effect on 14 August.

- d. NOAA (Frick) – Bradford Island Lamprey Wetted Wall: Evaluation of the Bradford Island wetted wall commenced for the second year on 17 April.
- e. Whooshh Innovations: Evaluation of a proprietary fish identification system commenced in coordination with CRITFC’s adult salmonid sampling efforts in the AFF on 30 April.
- f. 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.
- g. CRITFC – Adult Pacific Lamprey Translocation: Trapping efforts at the Bradford Island and Washington Shore picketleads, Cascades Island AWS, and in conjunction with University of Idaho collections began on 28 May.

4. FISHWAYS:

- a. Project biologists inspected from 18 August through 24 August.
- b. Fish passage plan observations.

- Table 4. FPP out of criteria items.

Date	Location	FPP Violation	Cause	Response
Bradford Island				
8/22-24	A-Branch	Differential >1.1’	Unknown	NA
8/18-20	B-Branch	FG3-27 Open	Caution Tag	NA
8/24	PH1 N Ent.	Differential >2.0’	Unknown	NA
Cascades Island – Nothing new to report				
Washington Shore – Nothing to report				

- 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.
- 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 (PH1 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 $\geq 16.7'$.

c. Adult Fishways.

- (1) The AFF remains in service.
- (2) Sensor calibration did not occurred this week.
- (3) SLEDs are installed at all locations.

d. Juvenile Fishways.

- (1) The ITS remains open (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) STSs are installed.

e. Lamprey Fishways. All LPSs remain in service.

- (1) The Bradford Island Watted Wall (BIWW) began operations on 17 April.
- (2) The PH2 Lamprey Flume Structure (LFS) began trapping on 13 May.
- (3) The AFF Lamprey trap began trapping on 13 May.

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

(1) Table 5. Avian Counts.

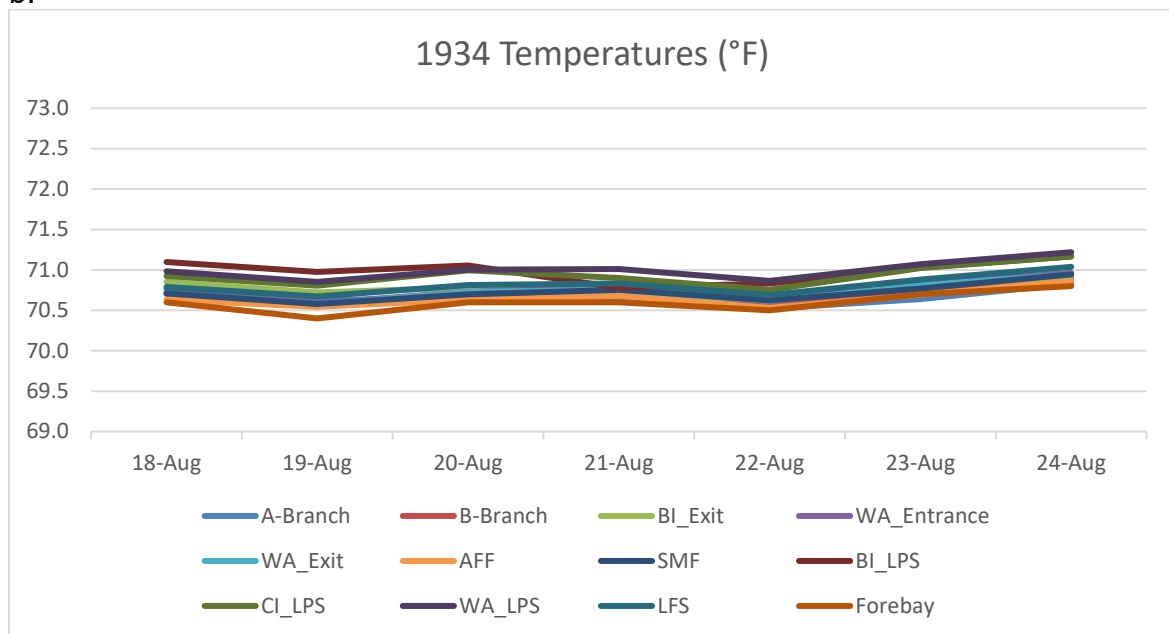
Date	Gulls	Cormorants	Terns	Pelicans	Grebes
8/18	66	72	0	0	0
8/19	37	82	0	0	0
8/20	33	64	0	0	0
8/21	20	0	0	0	0
8/22	6	0	0	0	0
8/23	0	0	0	0	0
8/24	10	18	0	0	0

5. WATER QUALITY MONITORING:

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

Date	A-Branch	B-Branch	BI_Exit	WA_Entrance	WA_Exit	AFF	SMF	BI_LPS	CI_LPS	WA_LPS	LFS	Forebay
18-Aug	70.8	70.7	70.9	70.7	70.7	70.6	70.7	71.1	70.9	71.0	70.8	70.6
19-Aug	70.6	70.6	70.7	70.6	70.6	70.5	70.6	71.0	70.8	70.9	70.7	70.4
20-Aug	70.7	70.7	70.8	70.7	70.7	70.6	70.7	71.1	71.0	71.0	70.8	70.6
21-Aug	70.6	70.7	70.7	70.8	70.8	70.7	70.8	70.8	70.9	71.0	70.8	70.6
22-Aug	70.5	70.6	70.6	70.6	70.6	70.5	70.6	70.8	70.8	70.9	70.7	70.5
23-Aug	70.6	70.7	70.8	70.8	70.8	70.7	70.8	71.0	71.0	71.1	70.9	70.7
24-Aug	70.8	70.9	70.9	71.0	70.9	70.9	70.9	71.2	71.2	71.2	71.0	70.8

b.



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

5. CONSTRUCTION: Construction on the new PH2 Oil Water Separator was stopped when it was determined there had been insufficient coordinated with FPOM. Coordination is currently ongoing.

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

7. TELETYPES CURRENTLY IN EFFECT:

a. A teletype sent on 12 June states effective 16 June through 31 August, operate Bonneville Dam in accordance with the 2019 FOP to provide summer spill for fish passage, spill according to patterns in the 2019 FPP, and keep the B2CC open until

within one hour of the end of spill on 31 August.

- b. A teletype sent on 14 August requests that Bonneville Dam pool operate within a 1.5 foot band, hard constraint, from 0600 on 26 August to 1800 on 28 August and from 0600 on 02 September to 1800 on 05 September to facilitate the fall treaty fishery.
- c. A teletype sent on 14 August requests outflow from Bonneville Dam be maintained as low and as constant as possible from 0430 to 1200 hours on 02 September and for flows to not exceed 150 KCFS, hard constraint. This operation was requested to reduce currents in the Bonneville pool for the Roy Webster Cross Channel Swim.
- d. A teletype sent on 20 August requests that from 29 August to 31 August, Bonneville Forebay operate above 76.0 feet, soft constraint, and above 75.5 feet, hard constraint. The forebay may be operated up to 77.0 feet, hard constraint. The requested operation is to support safe navigation of barges used in construction activities for the railroade bridge replacement at the mouth of the Wind River.

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