

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for **Week 35** of 2019, which covers the period from **25 August – 31 August**.

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 102.7 to 128.8 kcfs. Daily average powerhouse forebay elevation ranged from 75.4’ to 76.6’ msl. Daily average project tailwater ranged from 9.1’ to 11.7’ msl. Secchi disk measurements remained 7.0+’. Daily average water temperature remained 71°F.
- b. Daily average spill ranged from 59.7 to 85.0 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
05	0741 on 29 Aug	1205 on 29 Aug	G.W. Repair
06	0717 on 09 July	1205 on 29 Aug	P.O., 5 Year Overhaul
07	0803 on 27 Aug	1600 on 27 Aug	P.O., SQ3 Inspection
07	1004 on 29 Aug	1026 on 29 Aug	XJ6 Install
08	0803 on 27 Aug	1600 on 27 Aug	P.O., SQ3 Inspection
08	1004 on 29 Aug	1026 on 29 Aug	XJ6 Install
09	0001 on 12 Aug	1111 on 29 Aug	P.O., Annual/Bank 9/10
10	0803 on 27 Aug	1600 on 27 Aug	P.O., SQ3 Inspection

- 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	2030 on 24 Aug	0459 on 25 Aug	RS, Nighttime Lamprey Ops.
F1	2029 on 25 Aug	0459 on 26 Aug	RS, Nighttime Lamprey Ops.
F2	2030 on 26 Aug	0459 on 27 Aug	RS, Nighttime Lamprey Ops.
F1	2029 on 27 Aug	0033 on 28 Aug	RS, Nighttime Lamprey Ops.
F2	0034 on 28 Aug	0501 on 28 Aug	RS, Nighttime Lamprey Ops.
F2	2031 on 28 Aug	0458 on 29 Aug	RS, Nighttime Lamprey Ops.
F1	2031 on 29 Aug	0500 on 30 Aug	RS, Nighttime Lamprey Ops.
F2	2031 on 30 Aug	0500 on 31 Aug	RS, Nighttime Lamprey Ops.
F1	2031 on 31 Aug	---	RS, Nighttime Lamprey Ops.

- Table 3. Fish unit drawdowns, in feet.

Date	F1	F2
8/25	0.5'	0.3'
8/26	0.1'	0.5'
8/27	0.6'	0.5'
8/28	---	---
8/29	---	---
8/30	---	---
8/31	0.4'	0.3'

2. MAINTENANCE ACTIVITIES:

a. Auxiliary Water System Closures.

- FV1-1 was closed for cleaning from 1350 to 1426 on 29 Aug.

b. STS/VBS Inspections. Nothing to report.

c. Dewatering and Fish Salvages. Project biologists salvaged 4 steelhead, ~16 sculpin, 1 carp and 1 crappie from unit 6 tail logs.

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 25 August through 31 August.
- b. Fish passage plan observations.

- Table 4. FPP out of criteria items.

Date	Location	FPP Violation	Cause	Response
Bradford Island				
8/26,28, 29,31	A-Branch	Differential >1.1’	Unknown	NA
8/25-28	B-Branch	FG3-27 Open	Caution Tag	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 Wetted 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.

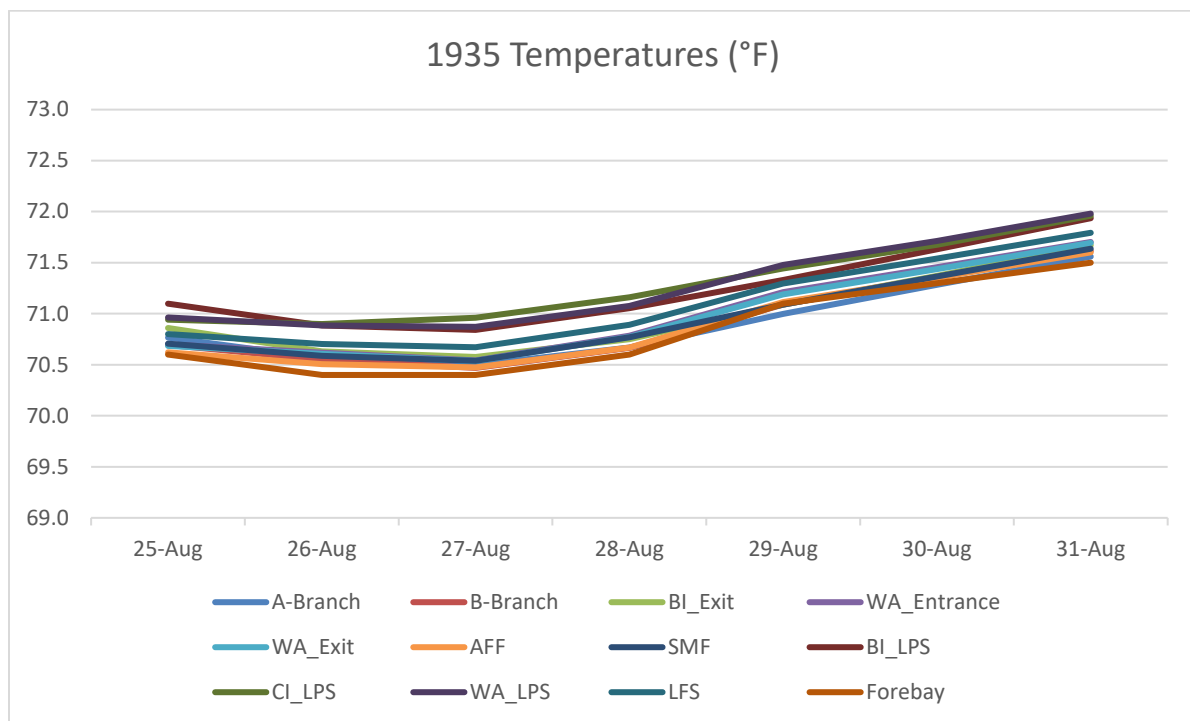
Date	Gulls	Cormorants	Terns	Pelicans	Grebes
8/25	155	62	0	0	0
8/26	26	33	0	0	0
8/27	42	65	0	0	0
8/28	27	94	0	0	0
8/29	18	29	0	0	0
8/30	0	0	0	0	0
8/31	24	0	0	0	0

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
25-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
26-Aug	70.6	70.6	70.6	70.6	70.6	70.5	70.6	70.9	70.9	70.9	70.7	70.4
27-Aug	70.5	70.5	70.6	70.5	70.5	70.5	70.5	70.8	71.0	70.9	70.7	70.4
28-Aug	70.7	70.7	70.8	70.8	70.8	70.7	70.8	71.1	71.2	71.1	70.9	70.6
29-Aug	71.0	71.1	71.1	71.2	71.2	71.1	71.1	71.3	71.4	71.5	71.3	71.1
30-Aug	71.3	71.4	71.4	71.5	71.4	71.4	71.4	71.6	71.7	71.7	71.5	71.3
31-Aug	71.6	71.6	71.7	71.7	71.7	71.6	71.6	71.9	72.0	72.0	71.8	71.5

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 railroad bridge replacement at the mouth of the Wind River.
- e. A teletype sent on 30 August cancels the teletype sent on 20 August. Work has been completed and operation at a high pool is no longer needed.

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