

**MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)**

**SUBJECT:** Bonneville Project, Fishway and Fish Activities for **Week 43** of 2020, which covers the period from **18 – 24 October**.

**1. OPERATION SUMMARY:**

a. Daily average river flows ranged from 80.4 to 115.5 kcfs. Daily average powerhouse forebay elevation ranged from 72.5' to 73.6' msl. Daily average project tailwater ranged from 8.2' to 10.2' msl. Secchi disk measurements ranged from 6.0' to 7.0'. Daily average water temperature ranged from 59 to 61°F.

b. Daily average spill ranged from 0.9 to 1.2 kcfs.

c. Unit Operation. PH1 is the priority powerhouse while all PH2 units are OOS for Electrical Protection System Modifications. Main unit drawdowns are measured every Monday and more frequently as needed.

- Table 1. Main Unit Outages.

Unit	OOS	RTS	Reason
11	0755 on 19 Oct	---	P.O., Electrical Protection System Work
12	0716 on 19 Oct	---	P.O., 5 year overhaul/ Shaft Sleeve
13	0752 on 19 Oct	---	P.O., Electrical Protection System Work
14	0747 on 19 Oct	---	P.O., Electrical Protection System Work
15	0732 on 19 Oct	---	P.O., Electrical Protection System Work
16	0755 on 19 Oct	---	P.O., Electrical Protection System Work
17	0737 on 19 Oct	---	P.O., Electrical Protection System Work
18	0737 on 19 Oct	---	P.O., Electrical Protection System Work

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	RTS	Reason	Duration
F1	0724 on 19 Oct	---	P.O., Elect. Prot. System Work	---
F2	0609 on 19 Oct	---	P.O., Elect. Prot. System Work	---

- Table 3. Fish Unit Drawdowns, in Feet.

Date	F1	F2
10/18	0.1'	0.1'

**2. MAINTENANCE ACTIVITIES:**

a. Auxiliary Water System Closures.

- FV 3-7 was closed for cleaning from 0954 to 1015 on 22 Oct.
- FV 3-9 was closed for cleaning from 0954 to 1015 on 22 Oct.

b. STS/VBS Inspections. Nothing to report.

c. Dewatering and Fish Salvages. On 20 Oct., Project Biologists salvaged 0 fish from the unit 12 scroll case and 9 Pacific Lamprey and 2 Sculpin from the draft tube. They were released upstream in good condition.

**3. RESEARCH:**

- a. Four Peaks Environmental - Fish counting contract: Daytime visual counting (0500 to 2100) began on 01 April. Nighttime video counting (2100-0500) began on 15 May. Fish counts can be viewed [here](#).
- b. PSMFC – Smolt Monitoring: Debris at the PDS and fish/debris separator was light consisting mostly of aquatic macrophytes, sticks and dead adult American Shad. GBT sampling concluded for the season as of 31 August. The SMF was placed in full bypass mode on 21 October for the duration of the fish unit outages. Truck releases of summer/fall out-migrants originating from the Snake River dams began 03 August and occur every other day. One steelhead and 13 salmon fallbacks were observed this week. No fish collections for research purposes were conducted this week. More details can be found on the [FPC web page](#).
- c. USDA –Pinniped hazing: Hazing started 17 August.
- d. CRITFC – Adult Salmonid Sampling: Adult Salmonid sampling in the AFF began on 25 May and ended on 19 October.

**4. FISHWAYS:**

- a. Project biologists inspected 18 – 24 October.
- b. Fish passage plan observations.

- Table 5. FPP Items Out of Criteria.

Date	Location	FPP Violation	Cause	Response
Bradford Island				
10/18-24	B-Branch	FG 3-26,27 open	Mechanically Bound	NA
10/18	PH1CC	Ent. Diff. < 1.0'	Unknown	NA
10/18,23	A-Branch	Weir Diff > 1.1'	Unknown	NA
Cascades Island – Nothing to report.				
10/18-24	Entrance	Ent. Diff. < 1.0'	Unknown	NA
Washington Shore – Nothing to report.				

- FG6-11 (Cascades Island) is broken in the partially open position. The diffuser shaft broke 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  $\geq 14.0'$ .
- FG6-12 (Cascades Island) is mechanically bound in the open position. The diffuser 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.

**c. Adult Fishways.**

- (1) The AFF remains in service.
- (2) Sensor calibration occurred on 22 Oct.
- (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 out of service.

(4) The DSM remains in service.

(5) STSs are installed.

e. Lamprey Fishways.

(1) LPSs remain in 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.

(5) The CI Lamprey trap remains out of service.

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

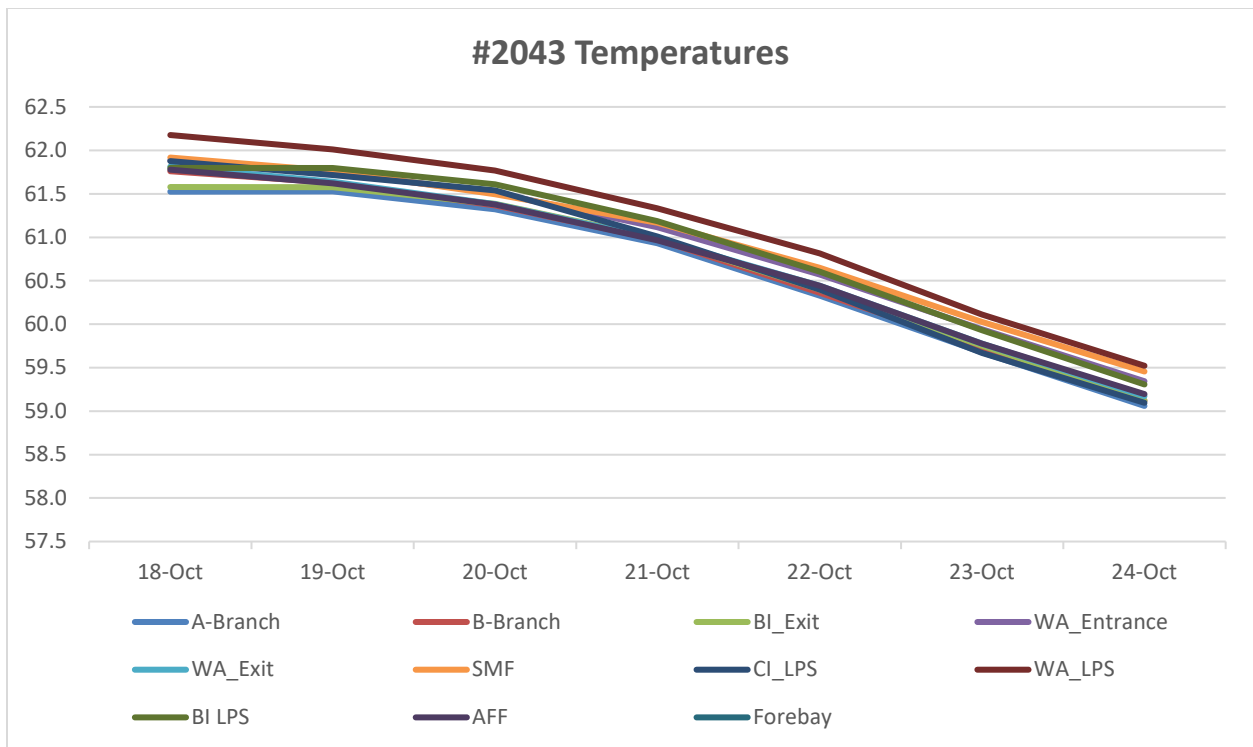
(1) Table 5. Avian Counts.

Date	Gulls	Cormorants	Terns	Wh. Pelicans	Grebes
10/18	23	21	0	0	0
10/19	25	16	0	0	0
10/20	12	9	0	0	0
10/21	9	19	0	0	0
10/22	19	11	0	0	0
10/23	24	26	0	0	0
10/24	12	6	0	0	0

**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	SMF	CI_LPS	WA_LPS	BI LPS	AFF	Forebay
18-Oct	61.5	61.8	61.6	61.9	61.8	61.9	61.9	62.2	61.8	61.8	---
19-Oct	61.5	61.6	61.6	61.7	61.6	61.8	61.7	62.0	61.8	61.6	---
20-Oct	61.3	61.4	61.4	61.5	61.4	61.5	61.5	61.8	61.6	61.4	---
21-Oct	60.9	61.0	61.0	61.1	61.0	61.2	61.0	61.3	61.2	61.0	---
22-Oct	60.3	60.4	60.4	60.6	60.4	60.6	60.4	60.8	60.6	60.4	---
23-Oct	59.7	59.7	59.8	59.9	59.8	60.0	59.7	60.1	59.9	59.8	---
24-Oct	59.1	59.1	59.1	59.3	59.2	59.5	59.1	59.5	59.3	59.2	---



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

6. CONSTRUCTION: Nothing to report.

7. HAZMAT, SPILLS AND CLEANUP: An oil sheen was observed in gatewell 11B on 19 October. An oil absorbent boom was deployed and a leak estimated to be a couple ounces of oil was identified as coming from a component of the STS. The component has been repaired.

8. TELETYPE CURRENTLY IN EFFECT:

- A teletype sent on 02 September states that effective immediately through 31 October, the Bonneville dam spillway will be tagged out and unavailable for spill intermittently throughout this period to support a USGS fish tissue sampling crew. See teletype for details
- A teletype sent on 13 October states that effective 0600 on 15 October through 2000 on 16 October, operate Bonneville forebay below a maximum 73.0 feet, soft constraint. From 0600 on 19 October through 20 October, operate Bonneville forebay below a maximum 74.0 feet, soft constraint. The purpose of this operation is to accommodate the replacement of storm drain system for the city of Hood River.
- A teletype sent on 21 October states that effective 0600 on 01 November and until further notice, operate Bonneville tailwater in the following order of operating ranges as project outflow increases. During all hours, operate to provide tailwater elevation in the range of 11.5 – 13.0 feet. If necessary to increase project outflow, tailwater may be operated up to 16.5 feet during nighttime hours (1700-0600). Concentrate highest elevations around 2400 hours. Then, if necessary to increase project outflow, tailwater may be operated up to 18.5 feet during nighttime hours (1700-0600). Then, if increasing river flow precludes the ability to manage the tailwater within the steps above, operate to provide tailwater in the range of 13.0 to 16.5 feet during daytime hours (0600-1700) and up to the maximum within project 24-hour ramp rate limits during nighttime hours (1700-0600). The goal of this operation is to improve conditions at the Ives/Pierce Island complex for Chum salmon spawning.

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