

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for **Week 44** of 2020, which covers the period from **25 – 31 October**.

1. OPERATION SUMMARY:

a. Daily average river flows ranged from 92.4 to 121.3 kcfs. Daily average powerhouse forebay elevation ranged from 72.5' to 74.3' msl. Daily average project tailwater ranged from 8.8' to 10.9' msl. Secchi disk measurements ranged from 6.0' to 7.0'. Daily average water temperature ranged from 56 to 58°F.

b. Daily average spill ranged from 1.0 to 1.2 kcfs.

c. Unit Operation. As of 28 October, PH2 is the priority powerhouse. 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	1712 on 28 Oct	P.O., Electrical Protection System Work
12	0716 on 19 Oct	---	P.O., 5 year overhaul/ Shaft Sleeve
13	0752 on 19 Oct	1714 on 28 Oct	P.O., Electrical Protection System Work
14	0747 on 19 Oct	1715 on 28 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	1559 on 28 Oct	P.O., Elect. Prot. System Work	9 days, 8 hrs, 35 mins
F2	0609 on 19 Oct	1651 on 28 Oct	P.O., Elect. Prot. System Work	9 days, 10 hrs, 42 mins
F1	1054 on 29 Oct	1059 on 29 Oct	R.S. Trouble Shoot Breaker Ind.	5 mins
F2	1112 on 29 Oct	1131 on 29 Oct	R.S. Trouble Shoot Breaker Ind.	19 mins

- Table 3. Fish Unit Drawdowns, in Feet.

Date	F1	F2
10/28	0.3'	0.3'
10/29	0.1'	0.2'
10/30	0.2'	0.3'
10/31	0.1'	0.1'

2. MAINTENANCE ACTIVITIES:

a. Auxiliary Water System Closures.

- FV 3-9 was closed for cleaning from 1240 to 1249 on 28 Oct.
- FV 1-1 was closed for cleaning from 1235 to 1303 on 29 Oct.

- FV 3-7 was closed for cleaning from 1313 to 1330 on 29 Oct.
- FV 3-9 was closed for cleaning from 1313 to 1330 on 29 Oct.

- 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. Fish counts can be viewed [here](#).
- b. PSMFC – Smolt Monitoring: Smolt monitoring operations concluded for the season at Bonneville Juvenile Fish Monitoring Facility at 0700 on 31 October. The system was placed in bypass mode at that time.
- c. USDA –Pinniped hazing: Hazing ended on 30 October.
- d. USFWS – Lamprey Metamorphosis Study: Researchers are preparing equipment in the SMF.

4. FISHWAYS:

- a. Project biologists inspected 25 – 31 October.
- b. Fish passage plan observations.

- Table 5. FPP Items Out of Criteria.

Date	Location	FPP Violation	Cause	Response
Bradford Island				
10/25-31	B-Branch	FG 3-26, 27 open	Mechanically Bound	NA
10/27,31	PH1CC	Ent. Diff. < 1.0'	Unknown	NA
10/29	A-Branch	Weir Diff > 1.1'	Unknown	NA
Cascades Island – Nothing to report.				
10/25-31	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 27 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.

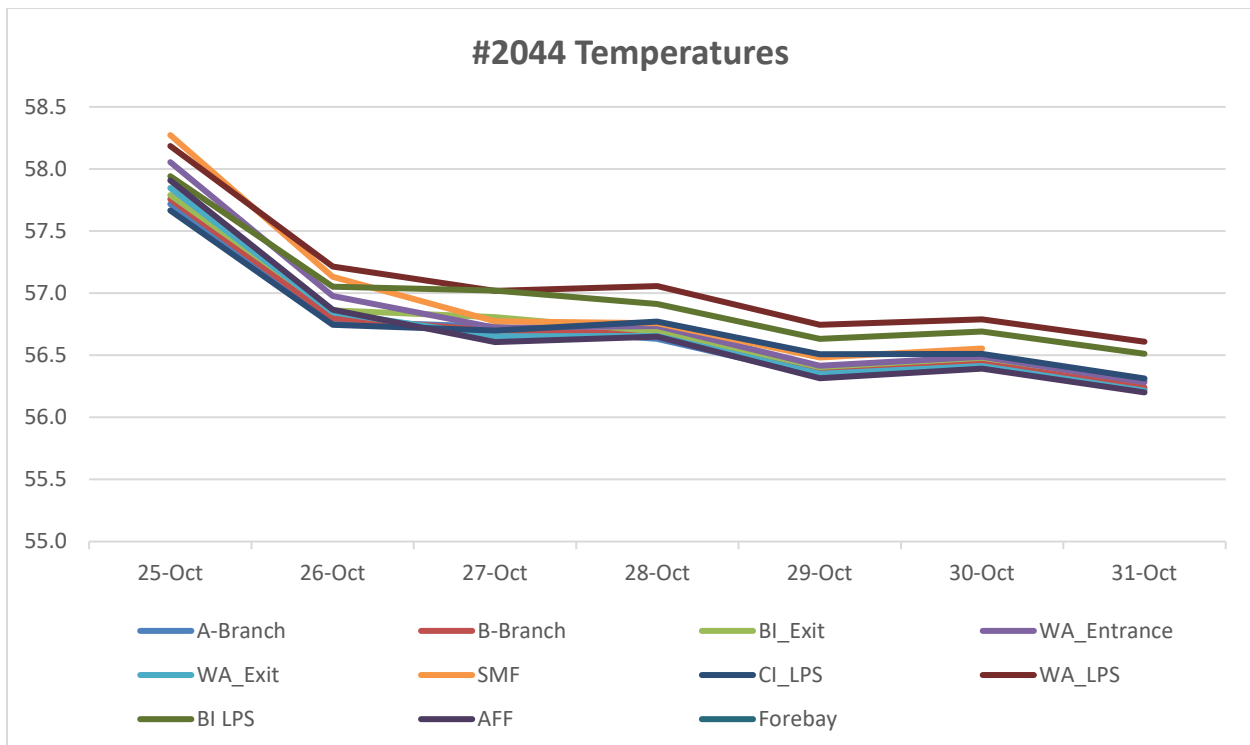
(1) Table 5. Avian Counts.

Date	Gulls	Cormorants	Terns	Wh. Pelicans	Grebes
10/25	15	0	0	0	0
10/26	---	---	---	---	---
10/27	19	8	0	0	0
10/28	4	5	0	0	0
10/29	15	18	0	0	0
10/30	8	4	0	0	0
10/31	12	21	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
25-Oct	57.7	57.8	57.8	58.1	57.8	58.3	57.7	58.2	57.9	57.9	---
26-Oct	56.8	56.8	56.9	57.0	56.8	57.1	56.7	57.2	57.1	56.9	---
27-Oct	56.7	56.7	56.8	56.7	56.7	56.8	56.7	57.0	57.0	56.6	---
28-Oct	56.6	56.7	56.7	56.7	56.7	56.8	56.8	57.1	56.9	56.7	---
29-Oct	56.3	56.4	56.4	56.4	56.4	56.5	56.5	56.7	56.6	56.3	---
30-Oct	56.4	56.4	56.5	56.5	56.4	56.6	56.5	56.8	56.7	56.4	---
31-Oct	56.2	56.2	56.3	56.3	56.2	---	56.3	56.6	56.5	56.2	---



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

6. CONSTRUCTION: Nothing to report.

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

8. TELETYPES 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 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.
- A teletype sent on 26 October states that effective 0600 on 29 Thursday through 2000 on 30 October, operate Bonneville forebay below a maximum of 73.0 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 28 October states that effective 0630 to 1700, daily, from 09 through 20 November, the Bonneville dam spillway will be tagged out and not available for spill. The purpose of this operation is to support a research crew that will be diving in the BRZ above Bonneville dam. See teletype for more details.

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