

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for **Week 29** of 2020, which covers the period from **12 – 18 July**.

1. OPERATION SUMMARY:

a. Daily average river flows ranged from 197.3 to 236.1 kcfs. Daily average powerhouse forebay elevation ranged from 73.7' to 74.1' msl. Daily average project tailwater ranged from 16.2' to 18.2' msl. Secchi disk measurements ranged from 5.0' to 7.0'. Daily average water temperature ranged from 64° to 67°F.

b. Daily average spill ranged from 95.0 to 95.8 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	RTS	Reason
5	0320 on 13 Jul	0329 on 13 Jul	P.O., Support Racking Unit 6
5	1408 on 15 Jul	1850 on 15 Jul	F.O., Bank 5/6 Loss of PT Fuse
6	2000 on 12 Jul	---	P.O., Annual
7	0320 on 13 Jul	0329 on 13 Jul	P.O., Support Racking Unit 6
7	1408 on 15 Jul	1850 on 15 Jul	F.O., Bank 5/6 Loss of PT Fuse
8	0700 on 15 Jun	---	P.O., 5 year overhaul
10	0733 on 13 Jul	1128 on 13 Jul	P.O., CW Flow Switch Repair
11	0729 on 14 Jul	0841 on 14 Jul	P.O., Trash Raking
12	0846 on 14 Jul	0954 on 14 Jul	P.O., Trash Raking
13	0723 on 13 Jul	---	P.O., Headcover Pump Replacement
18	0800 on 13 Jul	---	F.O., Thrust Bearing Leak

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	2300 on 11 Jul	0534 on 12 Jul	R.S., Nighttime Lamprey Ops	6 hrs, 34 mins
F2	2300 on 12 Jul	0525 on 13 Jul	R.S., Nighttime Lamprey Ops	6 hrs, 25 mins
F2	2248 on 13 Jul	0514 on 14 Jul	R.S., Nighttime Lamprey Ops	6 hrs, 26 mins
F1	2300 on 14 Jul	0529 on 15 Jul	R.S., Nighttime Lamprey Ops	6 hrs, 29 mins
F2	2259 on 15 Jul	0528 on 16 Jul	R.S., Nighttime Lamprey Ops	6 hrs, 29 mins
F1	2300 on 16 Jul	0530 on 17 Jul	R.S., Nighttime Lamprey Ops	6 hrs, 30 mins
F2	2305 on 17 Jul	0533 on 18 Jul	R.S., Nighttime Lamprey Ops	6 hrs, 28 mins
F1	2300 on 18 Jul	---	R.S., Nighttime Lamprey Ops	---

- Table 3. Fish Unit Drawdowns, in Feet.

Date	F1	F2
7/12	0.2'	0.2'
7/13	0.3'	0.3'
7/14	1.1'	0.5'
7/15	0.1'	0.6'
7/16	1.3'	0.3'
7/17	0.1'	1.1'
7/18	0.8'	0.1'

2. MAINTENANCE ACTIVITIES:

a. Auxiliary Water System Closures.

- FV 3-9 closed for cleaning from 1511 to 1530 on 16 July.

b. STS/VBS Inspections. Nothing to report.

c. Dewatering and Fish Salvages. On 14 July, Project Biologists recovered 1 juvenile shad from the unit 13 scroll case and 8 lamprey from the draft tube. Two Salmonid mortalities were also recovered from the draft tube (see MFR 20BON40 for details).

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: Sample collections at the SMF began at 0700 on 02 March. Debris at the PDS and fish/debris separator was light to light-moderate consisting mostly of aquatic macrophytes, a few sticks and dead adult American Shad. GBT examinations began on 19 April and are typically performed two days per week through spill. Results of this week’s GBT examinations: 200 subyearling Chinook examined with no GBT symptoms observed. Six 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 - Avian hazing: Deck-based hazing began 01 March.

d. CRITFC – Adult Salmonid Sampling. Adult Salmonid sampling in the AFF began on 25 May and typically occurs 5 days per week.

e. ODFW – Steelhead Sampling. Steelhead sampling in the AFF began on 13 July and occurs in conjunction with CRITFC Adult Salmonid Sampling.

4. FISHWAYS:

a. Project biologists inspected 12 - 18 July.

b. Fish passage plan observations.

- Table 5. FPP Items Out of Criteria.

Date	Location	FPP Violation	Cause	Response
Bradford Island				
7/17	A-Branch	Weir Staff Gauge > 1.4'	Unknown	NA
Cascades Island – Nothing to report.				
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.
- FG6-18 (Cascades Island) is mechanically bound in the closed position. The diffuser 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.
- FG6-19 (Cascades Island) is mechanically bound in the closed position. The diffuser should be open with tailwaters $> 15.0'$. 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 15 July.
- (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 was out of service on 16 July due to a power failure and was returned to service.
- (3) The B2CC remains in 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 in service.

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

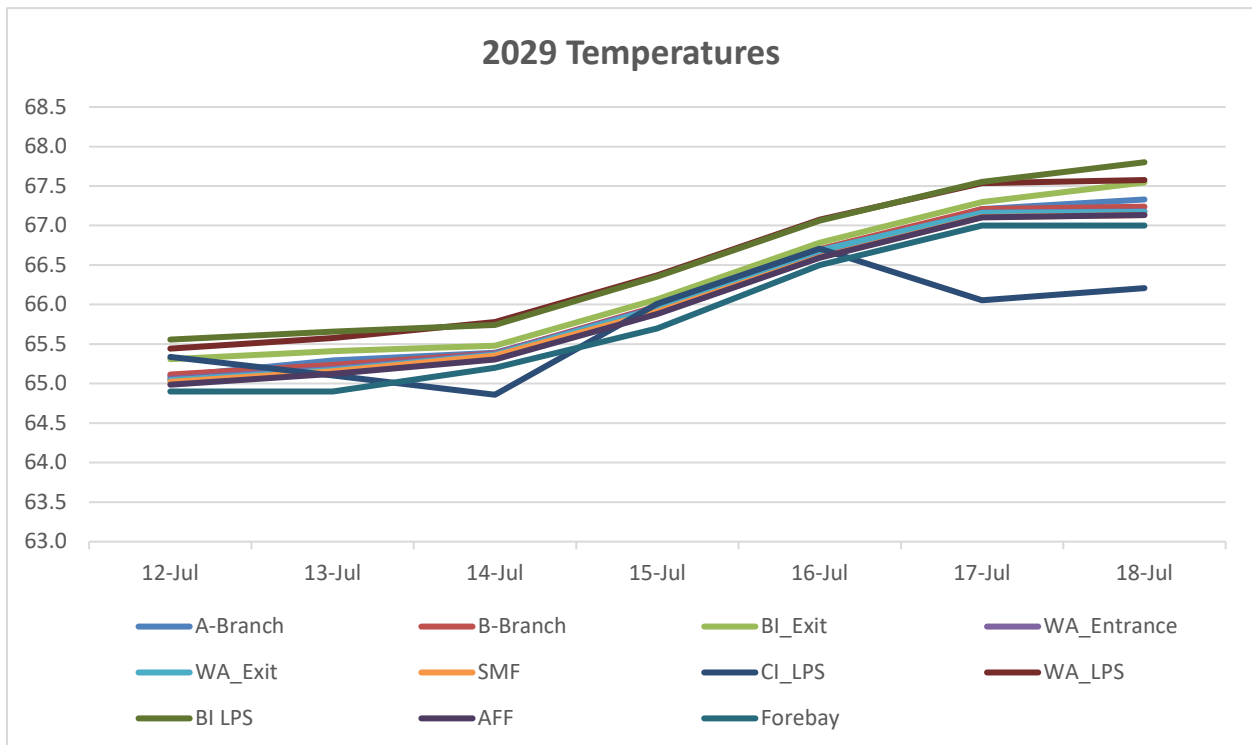
(1) Table 5. Avian Counts.

Date	Gulls	Cormorants	Terns	Wh. Pelicans	Grebes
7/12	2	7	0	0	0
7/13	1	1	0	0	0
7/14	3	6	0	0	0
7/15	1	3	0	0	0
7/16	1	2	0	0	0
7/17	12	4	0	0	0
7/18	6	5	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
12-Jul	65.1	65.1	65.3	65.1	65.0	65.0	65.3	65.4	65.6	65.0	64.9
13-Jul	65.3	65.2	65.4	65.2	65.2	65.2	65.1	65.6	65.7	65.1	64.9
14-Jul	65.4	65.4	65.5	65.4	65.4	65.4	64.9	65.8	65.7	65.3	65.2
15-Jul	65.9	66.0	66.1	66.0	66.0	65.9	66.0	66.4	66.4	65.9	65.7
16-Jul	66.6	66.7	66.8	66.7	66.7	66.6	66.7	67.1	67.1	66.6	66.5
17-Jul	67.2	67.2	67.3	67.2	67.2	67.1	66.1	67.5	67.6	67.1	67.0
18-Jul	67.3	67.2	67.5	67.2	67.2	67.1	66.2	67.6	67.8	67.1	67.0



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

6. CONSTRUCTION: Nothing to report.

7. HAZMAT, SPILLS AND CLEANUP: Maintenance crews found low oil conditions in unit 18 during routine oil accountability checks. The unit was forced out of service to investigate were it was found that up to 100 gallons of oil had leaked from the unit's thrust bearing cooler and was lost to the river.

8. TELETYPES CURRENTLY IN EFFECT:

- A teletype sent on 11 June states that effective 16 June through 31 August, operate in accordance with the FOP to provide Summer spill for fish passage. See teletype for details
- A teletype sent on 09 July requests that Bonneville pool operate within a 1.5' band, hard constraint, from 0600 on 13 July through 1800 on 16 July to facilitate treaty fishing.
- A teletype sent on 16 July requests that Bonneville pool operate within a 1.5' band, hard constraint, from 0600 on 20 July through 1800 on 23 July to facilitate treaty fishing.

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