

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for **Week 49** of 2019, which covers the period from **01-07 December**.

1. OPERATION SUMMARY:

a. Daily average river flows ranged from 128.1 to 140.4 kcfs. Daily average powerhouse forebay elevation ranged from 74.3' to 75.3' msl. Daily average project tailwater ranged from 11.6' to 12.2' msl. Secchi disk measurements ranged from 6.0' to 7.0+'. Daily average water temperature ranged from 45°F to 46°F.

b. Daily average spill ranged from 0.5 to 0.6 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
0	0001 on 04 Dec	1546 on 04 Dec	P.O., Slip Rings
15	0700 on 02 Dec	1640 on 04 Dec	QTR inspection and OWS mods

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
F1	1749 on 01 Dec	0001 on 02 Dec	RS, Float Trash
F1	0001 on 02 Dec	---	P.O., Annual Maintenance

- Table 3. Fish Unit Drawdowns, in Feet.

Date	F1	F2
12/1	---	2.0'
12/2	---	---
12/3	---	---
12/4	---	0.7'
12/5	---	0.2'
12/6	---	0.2'
12/7	---	0.3'

2. MAINTENANCE ACTIVITIES:

a. Auxiliary Water System Closures. Nothing to report.

b. STS/VBS Inspections. Nothing to report.

C. Dewatering and Fish Salvages.

- **Table 4. Fish Removal from Dewaterings and Salvages.**

Date	Location	Fish Salvaged	Release Site
03 Dec	BI Serpetine, AWS, Ladder to Junction Pool	~10 juvenile salmonids, 6 Steelhead Trout, ~200 Pacific Lamprey, 6 Three-spined Stickleback, 3 Ictalurids ~30 Cyprinids, ~20 American Shad, 1 Smallmouth Bass	Upstream of Nav Lock
03 Dec	BI Junction Pool	16 White Sturgeon, ~5 juvenile salmonids, 2 Steelhead Trout, 1 Smallmouth Bass	Upstream of Nav Lock
03 Dec	A-Branch to TW	18 juvenile salmonids, 2 Steelhead Trout, 1 Chinook Jack, 1 Chum Salmon, 9 White Sturgeon, ~10 Cyprinids, ~30 American Shad	Upstream of Nav Lock
04 Dec	B-Branch ladder	75 White Sturgeon, 3 Steelhead Trout	Tailrace (Sturgeon), Nav Lock (Trout)
05 Dec	B-Branch Entrance	42 White Sturgeon, 2 Pacific Lamprey	Tailrace (Sturgeon), Nav Lock (Lamprey)

3. RESEARCH:

- Four Peaks Environmental - Fish counting contract:** Daytime visual counting (0500 to 2100) began on 01 April and concluded on 30 November. Daytime video (0400-2000 PST) commenced on 01 December. Fish counts can be viewed [here](#).

4. FISHWAYS:

- Project biologists inspected 02, 04, & 05 December.
- Fish passage plan observations.

- **Table 5. FPP Items Out of Criteria.**

Date	Location	FPP Violation	Cause	Response
Bradford Island – Nothing to report, OOS for IWW				
Cascades Island – Nothing to report				
Washington Shore				
12/2	Weir 37	Differential > 1.1'	Unknown	NA
12/2	Weir 38	Differential > 1.1'	Unknown	NA

- 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. FG6-11 should be open at tailwaters $\geq 14.0'$.
- 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.

c. Adult Fishways.

- (1) The Bradford Island fishway went out of service and to orifice flows at ~1400 on 28 November for the 2019/20 IWW period.
- (2) The AFF remains out of service.
- (3) Sensor calibration did not occur this reporting week.
- (4) SLEDs are installed at all Cascades Island and PH2 entrances.

d. Juvenile Fishways.

- (1) The ITS remains in service (auto-chain gates 3B, 6C, & 10B only).
- (2) The hydro-cannon remains out of service.
- (3) The B2CC remains out of service.
- (4) The DSM remains in service.
- (5) STSs are currently installed. STSs are schedule to be removed starting the week of 16 December.

e. Lamprey Fishways.

- (1) All Lamprey Passage Structures remain out of 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.

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

5. WATER QUALITY MONITORING:

- a. Fishway Temperatures. Temperatures are taken from 01 March - 30 November.
- b. Zebra Mussel Monitoring. No signs of colonization were observed this reporting week.

6. CONSTRUCTION:

- a. Nighttime construction on the new PH2 Oil Water Separator began 14 October.

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

8. TELETYPES CURRENTLY IN EFFECT:

- a.** A teletype sent on 30 October states effective 04 November at 0600 until further notice, operate the Bonneville tailwater for Chum Salmon spawning operations. Please see teletype for more details.

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Bonneville Project