

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 50 of 2017, which covers the period from 10-16 December.

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 136.3 to 162.7 kcfs. Daily average powerhouse forebay elevation ranged from 73.1' to 73.9' msl. Daily average project tailwater ranged from 12.8' to 13.9" msl. Secchi disk measurements ranged from 5.0' to 7.0'+. Daily average water temperature ranged from 43° to 45°F.
- b. Daily average spill remained at 0.5 kcfs.
- c. Unit Operation. PH2 remains the priority powerhouse. Main unit drawdowns are measured every Monday and more frequently as needed.

(1) Table 1. Unit Outages.

Unit	OOS Date	RTS Date	Reason
01	0001 on 04 Dec	---	Contractor, annual maintenance
02	0001 on 04 Dec	1102 on 16 Dec	Contractor, annual maintenance
13	0826 on 14 Dec	2103 on 14 Dec	Servo leak
13	1320 on 16 Dec	1604 on 16 Dec	STS ground
14	0002 on 13 Dec	1319 on 16 Dec	P.O. FGE repair, thrust collar
15	0659 on 04 Dec	1345 on 14 Dec	Planned outage, annual / EAL testing
18	0930 on 21 Aug	---	Exciter trip

- d. Fish Units. Second Powerhouse fish units provide attraction flow for the Washington Shore (WS) fish ladder.
 - (1) F1 went into reserve service from 1933 on 10 Dec to 0014 on 11 Dec (7.0' drawdown) to float trash. F1 went out of service from 1904 to 2350 on 13 Dec (3.3' drawdown) to float trash.
 - (2) F2 went into reserve service from 1933 on 10 Dec to 0014 on 11 Dec (7.0' drawdown) to float trash. F2 went out of service at 0014 on 11 Dec for two year overhaul maintenance.

e. Table 2. Fish unit drawdowns, in feet.

Date	F1	F2
12/10	7.0'	7.0'
12/11	3.5'	-
12/12	0.3'	-
12/13	3.3'	-
12/14	-	-
12/15	0.1'	-
12/16	-	-

2. MAINTENANCE ACTIVITIES:

a. Auxiliary Water System Closures. None to report.

b. STS/VBS inspections. None to report.

c. Dewatering and Fish Salvages.

(1) On 12 December approximately 20 adult and 4 juvenile Pacific Lamprey, 9 juvenile salmonids, and approximately 40 other native fish species were salvaged from A-branch diffuser pits.

(2) On 14 December 5 sculpin and 1 juvenile lamprey from unit 15 tail logs.

3. RESEARCH:

a. Normandeau – Fish counting. Daytime video counting (0400 to 2000) began on 01 December.

4. FISHWAYS:

a. Project biologists inspected 11-14 December.

b. Fish passage plan observations.

(1) Table 3. FPP out of criteria items.

Date	Location	FPP Items	Cause	Response
BRADFORD ISLAND - Nothing to report				
CASCADES ISLAND - Nothing to report				
WASHINGTON SHORE				
12/12	SDE	Entrance diff < 1'	Single fish unit	none

(1) Bonneville had the majority of its avian lines broken due to ice storms during the 2016/17 winter. Avian lines will be replaced after the spillway rock removal is completed and weather allows.

- (2) PH2 diffuser B4 was discovered to have its stem bent on 24 May. This likely occurred while trying to close and the valve is believed to be open. It should be closed at tailwaters above 31.0' and below 11.0' msl.
- (3) The NDE, which previously was not opening past 5', has worked itself free and is now operating normally.

b. Adult Fishways.

- (1) The AFF was dewatered on 15 November.
- (2) Sensor calibration did not occur this reporting week (applicable waterways are dewatered for winter maintenance).
- (3) SLEDs are installed at Cascades Island and PH2 entrances. PH1 and B-branch entrances were removed on 22 Nov in preparation for the Bradford Island fishway dewatering.

c. Juvenile Fishways.

- (1) The ITS remains in service.
- (2) The hydro-cannon is operated 01 March through 01 November.
- (3) The B2CC is out of service.
- (4) The DSM remains in service.
- (5) STS's have been removed for the Winter Maintenance

d. Lamprey Fishways. All LPSs are out of service for the season.

e. Avian Monitoring. Bird counts are recorded between 01 April and 31 October.

2. WATER QUALITY MONITORING:

a. Fishway Temperatures. Temperatures are taken from 01 March through 30 November.

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

3. CONSTRUCTION:

a. Contractors are in the process of hard wiring the counter at the Cascade Island LPS exit and lamprey passage system upgrades at Bradford Island.

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

5. TELETYPES CURRENTLY IN EFFECT:

- a. A teletype updated on 21 June provides spill caps and lack of load spill conditions to be used from 0000 on 01 April until further notice.
- b. A teletype sent on 02 November outlines operations for Chum spawning. Effective 0600 on 07 November until further notice, as project outflows increase, operate the Bonneville tailrace at all hours in the range of 11.5' to 13.0'. Then if necessary to increase project outflow, tailwater may be operated up to 16.5' from 1700 to 0600, while concentrating the highest elevations around 2400. Then, if necessary operate up to 18.5' from 1700 to 0600. Then, if increasing river flows preclude the ability to manage the tailwater within the steps above, operate to provide a tailwater in the range of 13.0' to 16.5' during daytime hours (0600 to 1700) and up to the maximum within project 24-ramp rate limits during nighttime hours (1700-0600). The goal of these operations is to improve conditions at the Ives/Piece island complex for Chum Salmon spawning.

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