

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

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 48 of 2017, which covers the period from 26 November – 02 December.

**1. OPERATION SUMMARY:**

- a. Daily average river flows ranged from 141.1 to 152.5 kcfs. Daily average powerhouse forebay elevation ranged from 73.3' to 74.1' msl. Daily average project tailwater ranged from 13.6' to 14.2' msl. Secchi disk measurements ranged from 2.0' to 7.0'. Daily average water temperature remained at 48°F all week.
- 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
0	0008 on 28 Nov	1258 on 28 Nov	Planned outage
9	0246 on 27 Nov	1237 on 27 Nov	Turbine Bearing Oil Pump
10	0752 on 28 Nov	0920 on 28 Nov	Planned outage, trash raking
15	1101 on 29 Nov	1137 on 29 Nov	EAL Testing
17	0717 on 10 Oct	1346 on 22 Nov	4 Year Overhaul
18	0930 on 21 Aug	---	Exciter trip

- d. Fish Units. Second Powerhouse fish units provide attraction flow for the Washington Shore (WS) fish ladder.
- e. Table 2. Fish unit drawdowns, in feet.

Date	F1	F2
11/26	1.5'	1.5'
11/27	3.3'	2.8'
11/28	0.0'	0.5'
11/29	0.3'	1.2'
11/30	0.1'	0.2'
12/01	0.3'	0.3'
12/02	0.1'	0.2'

**2. MAINTENANCE ACTIVITIES:**

- a. Auxiliary Water System Closures. Nothing to report.
- b. STS/VBS inspections. Nothing to report.

c. Dewatering and Fish Salvages.

- (1) On 27 November ~125 salmonids, 1 Pacific Lamprey, and ~50 native species were salvaged from the Bradford Island fishway exit to the Junction Pool.\
- (2) On 29 November ~12 salmonids and ~30 native species were salvaged from A-Branch.
- (3) On 30 November ~8 salmonids, and ~20 native species were salvaged from B-branch.

**3. RESEARCH:**

- a. Normandeau – Fish counting. Visual counting continues.

**4. FISHWAYS:**

- a. Project biologists inspected 26, 28-30 November.
- b. Fish passage plan observations.

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

Date	Location	FPP Items	Cause	Response
11/27	BON	No Inspection	BI Fishway Dewatering	NA
<b>BRADFORD ISLAND - Nothing to report</b>				
<b>CASCADES ISLAND - Nothing to report</b>				
<b>WASHINGTON SHORE - Nothing to report</b>				

- (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 new FY & pending results from hydro surveys scheduled to occur 25-26 September.
- (2) PH2 diffuser B4 was discovered to have its stem bent on 24 May. It likely occurred while trying to close and is believed to be open. It should be closed at tailwaters above 31.0' and below 11.0' msl.
- (3) The NDE cannot open past 5' putting the entrance into FPP violation for submergence (>13.0'). It is believed to be full of sand. The NDE gate will have to be removed at a future date and the sand sucked in order for this entrance be in compliance.

b. Adult Fishways.

- (1) The AFF was dewatered on 15 November.
- (2) Sensor calibration did not occur this reporting week.

- (3) SLEDs are installed at Cascades Island and PH2 entrances. PH1 and B-branch entrances were removed on 22 Nov in preparations for the Bradford Island fishway dewatering.

c. Juvenile Fishways.

- (1) The ITS remains in service.
- (2) The hydro-cannon is on.
- (3) The B2CC is out of service.
  - (a) The B2CC was open from 1405 to 1655 on 27 November to float trash.
- (4) The DSM remains in service.

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. Forebay temperatures can be found [online](#).

- (1) Table 4. Average daily fishway water temperatures (Fahrenheit).
  - (a) Due to sensor malfunction no data was recorded at Washington Shore week 48.
  - (b) Bradford Island Fishway began orifice flows at approximately 1030 on 24 November.

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

**3. CONSTRUCTION:** Nothing to report.

**4. HAZMAT, SPILLS AND CLEANUP:**

At 1340 on 26 November, oil sheen was observed in the Nav Lock. The Willamette Champion dispatched by Olympic Tug & Barge deck hands investigated and observed oil seeping from a barrel on the deck. It was estimated that less than 1 quart of oil made its way into the Nav Lock.

**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 this operations is to improve conditions at the Ives/Piece island complex for Chum Salmon spawning.
  
- c. A teletype sent on 28 November states that on 04 December from 0900 until 1500, operate the forebay above 73.5' and above as a soft constraint, for a hydrographic survey on the Wind River in Skamania County, WA.

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