

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 50 of 2015, which covers the period from 06-12 December 2015.

1. OPERATION SUMMARY:

a. Daily average river flows ranged from 117.1 to 196.7 kcfs. Daily average powerhouse forebay elevation ranged from 72.8' to 74.1' msl. Daily average project tailwater ranged from 11.7' to 12' msl. Secchi disk measurements ranged from 2.0' to 7.0' or greater all week. Daily average water temperature ranged from 45 to 46°F.

b. Spill bays 1 and 18 are open 0.5' during daytime hours to provide attraction flow to the B-branch and Cascades Island fish ladders. Daily average spill ranged from 0.5 to 5.8 kcfs.

(1) Spill bay 18 was closed at 1830 on 04 December in preparation for the Bradford Island (B-Branch) winter maintenance dewatering.

c. Unit Operation. Powerhouse two remains the priority powerhouse. Main unit draw downs are measured every Monday and more frequently as needed.

(1) Table 1. Unit Outages.

Unit	OOS Date	RTS Date	Reason
2	1015 on 07 Dec	1512 on 07 Dec	Rake trash
3	1512 on 07 Dec	1627 on 07 Dec	Rake trash
3	0730 on 08 Dec	1243 on 08 Dec	Rake Trash
4	1243 on 08 Dec	1630 on 08 Dec	Rake Trash
4	0900 on 09 Dec	1100 on 09 Dec	Rake Trash
8	1100 on 09 Dec	1617 on 09 Dec	Rake Trash
9	1053 on 17 Nov	---	5-year overhaul, bank 9/10 maint
10	1015 on 16 Nov	---	Annual maintenance and air gap
11	1003 on 31 Aug	04 Dec	Kaplan pipe leak, T11 outage
11	1915 on 09 Dec	1541 on 10 Dec	Rake Trash
12	0001 on 1 Sep	04 Dec	T11 outage
13	0001 on 1 Sep	04 Dec	T11 outage
14	0001 on 1 Sep	04 Dec	T11 outage
18	1546 on 10 Dec	1641 on 10 Dec	Rake Trash

d. Fish Units. Second Powerhouse fish units provide attraction flow for the Washington Shore (WS) fish ladder.

(1) The fish units were placed on standby to float trash, or to allow trash to be raked on units 17 and 18 without causing debris to be pulled to the fish units, during the following times:

<p>F1: 2329 on 07 Dec to 0313 on 08 Dec 0004 to 0258 on 09 Dec 1852 to 2103 on 09 Dec 1540 to 2211 on 10 Dec 0656 to 0850 on 11 Dec 0447 to 0757 on 12 Dec</p>	<p>F2: 2328 on 07 Dec to 0310 on 08 Dec 0005 to 0258 on 09 Dec 1853 to 2105 on 09 Dec 1525 to 1814 on 10 Dec 0620 to 0901 on 11 Dec 1908 on 11 Dec to 0109 on 12 Dec</p>
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(2) Table 2. Fish unit drawdowns, in feet.

Date	F1	F2
12/06	0.3	0.3
12/07	8	5
12/08	6	6
12/09	4.4	4.8
12/10	2.4	8.3
12/11	8	8
12/12	2.5	2.5

2. ACTIVITIES:

a. Auxiliary Water System Closures.

- (1) FV 3-9 0715 to 0729 on 11 Dec
- (2) FV 5-9 0828 to 0900 on 12 Dec
- (3) FV 6-9 0958 to 1024 on 08 Dec, 0847 to 0904 on 09 Dec, 0802 to 0809 on 10 Dec, 0735 to 0801 on Dec 12

b. STS/VBS inspections.

No STS's are in.

c. Dewatering and Fish Salvages.

- (1) On 04 Dec Bradford Island was taken to orifice flow. On 08 Dec Project Biologists recovered ~19 salmonids, ~135 White Sturgeon, 1 Pacific Lamprey, and ~50 resident fish (Cyprinids, Catastomids, Clupeids) from Bradford Island, A branch, and B branch fishways. The salmonids and lamprey were released in the forebay, the sturgeon were released in tailwater. The fish were found to be mostly in good condition.

3. RESEARCH:

a. Normandeau – Fish Counting. Visual counting ended and video counting began on 01 December.

4. FISHWAYS:

a. Project biologists inspected 07-09 December.

b. Fish passage plan observations.

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

Date	Location	FPP Items	Cause	Response
BRADFORD ISLAND- Dewatered				
CASCADES ISLAND				
WASHINGTON SHORE				
11/26-28	PH2CC	Diff gate B5 open	Removed for repair	See 4.b.5

(2) WG-1, one of the south PH1CC entrances, experienced a gate failure on 17 November 2014. Divers recovered the gate's picking beam on 04 August 2015. Repairs are ongoing. The gate is estimated to return to service during the 2015/16 winter maint.

(3) A-branch diffuser FG3-3 is mechanically bound. Repairs are not possible until A-branch is dewatered below tailwater during the 2015/16 winter maintenance period.

(4) B-branch gate 4N, adjacent to the fish entrance, had a bad motor. It was removed on 27 July and has been repaired. It's waiting reinstallation during the 2015/16 winter maintenance. 4N is closed and 4S is open in its place. Both gates should be open below tailwaters of 9.0 msl.

(5) PH2CC diffuser A2 was unable to be repaired during winter maintenance and remains closed. It should be open when tailwater is above 13.0 msl. The gate for diffuser B5 was removed for repairs and therefore cannot be closed. It should be closed below tailwaters of 12.0 msl.

c. Fishway Temperatures. Temperatures are taken from 01 March through 30 November. Forebay temperatures can be found [online](#).

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

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

f. Adult Fishways.

- (1) Calibration did not occur this week.
- (2) 11 of 12 floating orifice gates (FOGs) are installed; one gate is out for maintenance. FOG SLEDs are installed.
- (3) SLEDs were installed in the PH2 entrances on 26 October. The PH1 SLEDs are removed.

g. Juvenile Fishways.

- (1) The ITS remains open.
- (2) The hydro-cannon went out of service on 01 November.
- (3) The B2CC was open from approximately 0600 to 1800 this reporting week.
- (4) The DSM remains in service.

h. Lamprey Fishways.

- (1) All LPSs remain out of service.

5. CONSTRUCTION: Nothing to report.

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

7. TELETYPES CURRENTLY IN EFFECT:

a. A teletype sent on 30 March updates the spill caps and lack of load conditions to be used from 0000 on 01 April until further notice.

b. A teletype sent on 16 November states that effective 0001 on 17 November until further notice, the BON forebay operational maximum is 74.5', hard constraint. This operation is to keep the WA shore fishway within operating criteria during valve repairs that require the Cascades Island ladder to be OOS.

c. A teletype sent on 24 November states that effective immediately until no later than 15 December, operate the B2CC during daytime hours as defined in Table BON-5 in the FPP, to provide an alternate fallback route for fish since PH2 STSs are pulled.

d. A teletype sent on 25 November cancels previous teletypes restricting operation of BON forebay due to concerns of flooding the WA shore fishway; the CI fishway was returned to service and normal forebay operations may resume.

e. A teletype sent on 12 December updated previous Chum tailwater operations. Effective 0600 on 7 November until further notice, operate BON tailwater in the range of 11.5 – 12.5'. If necessary due to outflows, tailwater may be operated up to 13.0' at any time, returning to the target range whenever possible. Then if necessary, tailwater may be operated in the following order: up to 16.5 feet during nighttime hours (1700-0600) with highest elevations concentrated around 2400, then up to 18.5' from the hours 1700 – 0600, then in the range of 13.0 – 16.5' during daytime hours (0600 – 1700) and up to the maximum within ramp rate limits at night. This operation is for Chum spawning below BON at the Ives/Pierce Island complex.

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