



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, PORTLAND DISTRICT
BONNEVILLE LOCK AND DAM PROJECT
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CENWP-OD-B

23 November 2014

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 47 of 2014, which covers the period from 16 – 22 November 2014

1. OPERATION SUMMARY:

a. Daily average river flows ranged from 119.3 to 147.9 kcfs. Daily average project tailwater ranged from 12.3' to 12.7' msl. Daily average powerhouse forebay elevation ranged from 73.1' to 74.2' msl. Daily average water temperatures ranged from 49° to 51°F. Secchi disk measurements ranged from 6.0' to 7.0' or higher.

b. Spill Bay 1 is open 6" during daylight hours to provide attraction flow for Cascades Island. Spill bay 18 is closed due to ongoing work at Bradford Island (see [14BON08](#)). Daily spill remained at 0.5 kcfs this week.

(1) Due to a failed hoist brake, spill bay 17 has been operated manually since 11 March. It requires final electrical testing before being returned to service, likely late November or early December.

c. Unit Operation. Powerhouse Two is 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
1	1345 on 20 Nov	1119 on 20 Nov	Raking trash
1	0731 on 21 Nov	0914 on 21 Nov	Raking trash
2	0916 on 21 Nov	1340 on 21 Nov	Raking trash
3	0959 on 18 Nov	1629 on 18 Nov	Raking trash
6	1346 on 21 Nov	1615 on 21 Nov	Raking trash
10	1046 on 29 Nov	1629 on 19 Nov	Raking trash
11	0900 on 09 Sep 2012	---	High thrust bearing temps
16	1418 on 17 Nov	1542 on 17 Nov	Raking trash
17	1310 on 17 Nov	1417 on 17 Nov	Raking trash
18	0840 on 17 Nov	1308 on 17 Nov	Raking trash
18	0730 on 20 Nov	0849 on 20 Nov	Raking trash
18	1035 on 20 Nov	1119 on 20 Nov	Raking trash

d. Unit 11 is estimated to return to service December 2014.

e. Fish Units. Second Powerhouse fish units provide attraction flow for the Washington Shore (WS) fish ladder. The units may be placed on standby, as necessary, during nighttime hours to float debris. Gatewell drawdowns are measured daily.

(1) The fish units have been placed on standby intermittently during the day this week, between trash rack raking, due to large amounts of debris loading and consequent high differentials.

(2) FU1 was out of service for trash raking from 1314 to 1409 and from 1611 to 1705 on 17 November.

(3) FU2 was out of service for trash raking from 1314 to 1407 and from 1609 to 1704 on 17 November and from 1244 to 1313 on 19 November.

(4) Table 2. Fish unit draw downs, in feet.

Date	F1	F2
11/16	0.2	0.2
11/17	1.0	1.0
11/18	1.5	7.5
11/19	0.3	0.3
11/20	1.0	2.0
11/21	0.3	0.3
11/22	0.1	0.1

2. ACTIVITIES:

a. Auxiliary Water System Closures.

(1) FV3-9 went OOS at 0653 on 08 November for the BI bridge repair work.

(2) FV1-1, 3-7, 4-3, & 4-4 went OOS at 0715 on 08 November for the BI bridge repair work.

(3) FV6-9 was closed for cleaning from 0720 to 0728 on 17 November and from 1326 to 1333 on 19 November.

b. STS/VBS inspections. No inspections occurred this week.

c. Dewatering and Fish Salvage.

(1) On 19 November, the Adult Fish Facility (AFF) was dewatered. Project Biologists recovered approximately 40 White Sturgeon, 3 steelhead, 30 suckers, and 15 peamouth. All fish were returned to the tailrace, one

steelhead in fair condition, the rest in good condition.

3. RESEARCH:

- a. Normandeau – Fish Counting. Video monitoring continues.
- b. University of Idaho – NDE LFS. DIDSON and ACDV work at the NDE lamprey flume and fish entrance occurred on 18 – 20 November.

4. FISHWAYS:

- a. Project biologists inspected 16 – 22 November.
- b. Fish passage plan observations.

(1) Table 4. FPP out of criteria items.

Date	Location	FPP Items	Cause	Response
11/19		No inspection by bio	AFF dewatering	None
BRADFORD ISLAND – Nothing to report				
CASCADES ISLAND				
11/22	UMT	Water level < 0.9'	Unknown	None
WASHINGTON SHORE				
11/16-18	Weir 37	Water level > 1.1'	Debris loading	None
11/16	SUE, SDE	Entrance diff < 1.0'	Fish units on standby due to debris	FU trash raking when possible

(2) WG-1, one of the entrances on the south side of PH1CC, experienced a gate failure on 17 November. The gate fell and the picking beam fell into the water. A response is being evaluated.

(3) PH2CC diffusers A2 and B4 are stuck closed, and the gate to B3 has been removed for repairs. Diffusers B7 and B8 have been closed until repairs to their diffuser motors can be performed. Repairs are planned for the winter maintenance period, scheduled to begin on 01 December.

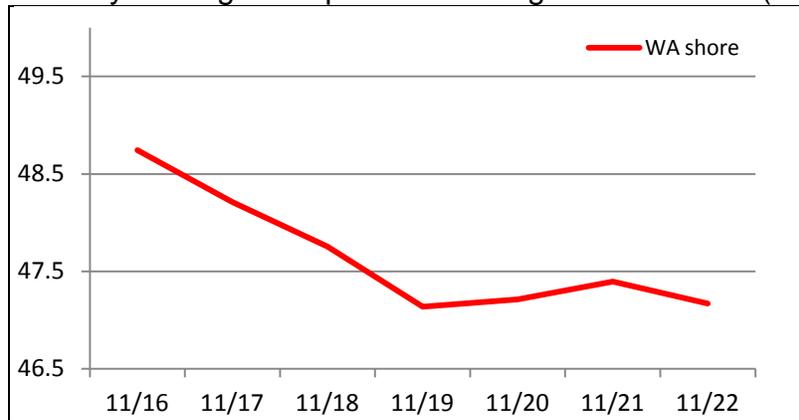
(4) A-branch diffuser FG3-3 is mechanically bound. Repairs may not be possible until A-branch is dewatered past tailwater, during the 2015/16 winter maintenance period.

- c. Fishway Temperatures. Temperatures are taken from 01 March through 30 November.

(1) Table 5. Daily Average Temperature in Degree Fahrenheit (°F).

	Fishways
Date	WA shore
11/16	48.7
11/17	48.2
11/18	47.8
11/19	47.1
11/20	47.2
11/21	47.4
11/22	47.2

(2) Chart 3. Daily Average Temperature in Degree Fahrenheit (°F).



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

e. Adult Fishways.

(1) The Bradford Island ladders were dewatered to tailwater on 10 November for BI bridge repair work and the FV3-7 conduit inspection. See [14BON08](#).

(2) Calibration was not checked this week.

(3) 11 of 12 floating orifice gates (FOGs) are installed; one gate is out for maintenance. FOG SLEDs are installed.

(4) All SLEDs are removed.

f. Juvenile Fishways.

(1) The south end gate of the Ice and Trash Sluiceway (ITS) was removed for repairs. Plating has been placed over the bottom of the guide slot to minimize fish impacts. Reinstallation dates are currently being coordinated.

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- (2) The DSM remains in service.
- (3) The hydro-cannon remains out of service.
- (4) The B2CC was opened at 1200 on 13 November. See [teletype d](#), below.

g. Lamprey Fishways.

- (1) All LPSs remain out of service.

5. CONSTRUCTION:

a. Repairs to the bridge spanning the upper Bradford Island fish ladder commenced on 03 November. The ladder will be dewatered for ~2 weeks starting 10 Nov for a FV3-7 conduit inspection. The Bradford ladder will be watered up on 24 November and construction is scheduled to be completed on 30 November.

b. Navigational lock mooring dolphin. Installation by a contractor is currently scheduled for January. During that time the lock will need to be briefly shut down.

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

7. TELETYPES CURRENTLY IN EFFECT:

a. A teletype sent on 29 August provides the spill caps and lack of load conditions to be used from 1 September through 31 December.

b. A teletype sent on 29 October states that effective 0600 on 01 November until further notice, operate BON tailwater as follows to improve Chum spawning conditions. At all hours, operate tailwater from 11.5' – 12.5'. If necessary, tailwater may be operated up to 13.0' at any time, returning to original range when possible. A nighttime tailwater of 16.5' concentrating at 2400 hours is possible, moving to 18.5' if necessary. If outflows demand, operate tailwater at 13.0' – 16.5' during daytime and up to the maximum within ramp rate limits during nighttime.

c. A teletype sent on 10 November states that in order to keep the latest tailwater range for Chum spawning, effective 01 November until spawning is declared complete or no later than 2400 on 15 January (whichever first), BON Project outflows may be decreased to as low as 58 kcfs as long as at least a minimum stage of 3.0 at the Vancouver gauge is met. This change has been incorporated into the BON Water Control Manual.

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d. A teletype sent on 12 November states that effective immediately until further notice, BON is authorized to remove STSs from PH2 turbine units due to high debris loading. The B2CC will be opened prior to operating any unscreened units.

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