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

24 September 2014

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 38 of 2014, which covers the period from 14 – 20 September 2014

1. OPERATION SUMMARY:

a. Daily average river flows ranged from 85.4 to 100.8 kcfs. Daily average project tailwater ranged from 8.2' to 9.6' msl. Daily average powerhouse forebay elevation ranged from 75.6' to 76.0' msl. Daily average water temperatures ranged from 67° to 69°F. Secchi disk measurements remained at 7.0' or greater all week.

b. Spill Bays 01 and 18 provide attraction flow for Cascades Island and B-branch, respectively. Summer spill ended on 31 August. Daily spill ranged from 1.3 to 1.4 kcfs this week.

(1) Due to a failed hoist brake, spill bay 17 has been operated manually since 11 March. It is scheduled to return to service by the end of November.

c. Unit Operation. Powerhouse Two is the priority powerhouse. Split flow operations per FPP section 2.1.1.1 were implemented on 03 September. Additional split flow operations were implemented on 04 September (MFR [14BON61](#)) and on 19 September ([teletype 'f'](#), below). Main unit drawdowns are measured every Tuesday and more frequently as needed.

(1) Table 1. Unit Outages.

Unit	OOS Date	RTS Date	Reason
5	1021 on 02 Sep	---	Annual maint & wicket bushings
11	0900 on 09 Sep 2012	---	High thrust bearing temps
13	1014 on 03 Sept	---	4-year overhaul
15	0048 on 08 Sep	0721 on 19 Sep	T12 annual maintenance
16	0048 on 08 Sep	0721 on 19 Sep	T12 annual maintenance
17	0048 on 08 Sep	0721 on 19 Sep	T12 annual maintenance
18	0048 on 08 Sep	0721 on 19 Sep	T12 annual maintenance

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) Table 2. Fish unit drawdowns, in feet.

Date	F1	F2
9/14	02	0.3
9/15	0.2	0.3
9/16	0.1	0.4
9/17	0.3	0.4
9/18	0.3	0.4
9/19	0.1	0.2
9/20	0.2	0.3

2. ACTIVITIES:

a. Auxiliary Water System Closures. The following closures occurred this week:

(1) FV3-9 was closed for cleaning from 1504 to 1539 on 17 September.

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

c. Dewatering and Fish Salvage. No dewatering or salvage activities occurred this week.

3. RESEARCH:

a. Avian Monitoring. Bird numbers are recorded 7 days a week between the dates of 01 April and 31 October.

(1) Table 3. Counts of tailrace foraging piscivorous birds.

Date	Gulls	Cormorants	Terns
9/14	0	12	0
9/15	0	12	0
9/16	2	3	0
9/17	1	48	0
9/18	2	13	0
9/19	0	3	0
9/20	0	72	0

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b. CRITFC – AFF. CRITFC commenced sampling on 16 September after a halting on 9 September when no-picket lead operations were implemented at the AFF.

c. NOAA Fisheries. An impedance counter is currently being tested at the WA Shore AWS LPS. Lamprey trapping at the AFF continues. Lamprey structure design testing in the FERL is scheduled to continue on 22 September.

d. Normandeau – Fish Counting. Visual counting continues.

e. PSMFC – Smolt Monitoring Program. Juvenile fish condition and index monitoring continues. No research fish were collected this week. Fallbacks recorded crossing the separator bars this reporting week: ten salmon. Truck releases of out-migrants from the Snake River began on 18 August. More details can be found on the [FPC web page](#).

f. USFWS - Fish Health. When possible, shad and lamprey mortalities are being held for inclusion in the National Wild Fish Health Survey. CRITFC is also testing lamprey mortalities for contaminants in conjunction with USFWS.

g. University of Idaho – AFF. USACE-funded adult salmonid sampling continues. The UI portion of lamprey tagging concluded on 02 September.

h. WDFW Tule Counts. Tule and Up-river Bright enumeration began 19 August.

4. FISHWAYS:

a. Project biologists inspected 14 – 20 September.

b. Fish Passage Plan Observations.

(1) Table 4. FPP Out of Criteria items.

Date	Location	FPP Items	Cause	Response
BRADFORD ISLAND – Nothing to report				
9/16,20	A-branch	FG3-3 open	Motor overheating	TR in place
CASCADES ISLAND – Nothing to report				
WASHINGTON SHORE – Nothing to report				

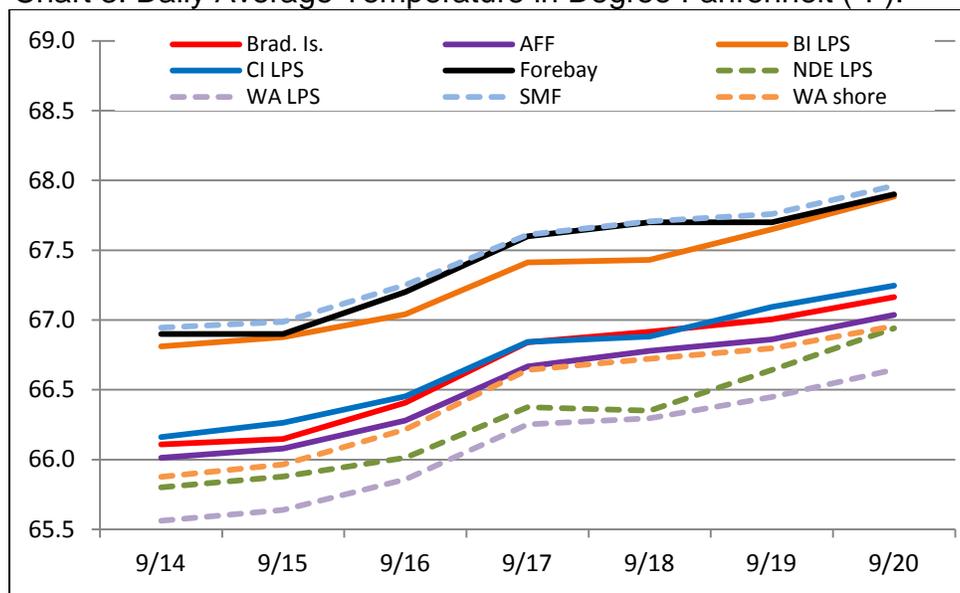
(2) PH2CC diffuser A2 is stuck closed, and the gate to B3 has been removed for repairs. Diffusers B7 and B8 have been closed until repairs to their diffuser motors can be performed. The next possible time period will be 2014/15 winter maintenance.

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

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

Date	Fishways				Forebay	Lamprey systems			
	Brad. Is.	AFF	SMF	WA shore		BI LPS	CI LPS	WA LPS	NDE LPS
9/14	66.1	66.0	66.9	65.9	66.9	66.8	66.2	65.6	65.8
9/15	66.1	66.1	67.0	66.0	66.9	66.9	66.3	65.6	65.9
9/16	66.4	66.3	67.3	66.2	67.2	67.0	66.5	65.9	66.0
9/17	66.8	66.7	67.6	66.6	67.6	67.4	66.8	66.3	66.4
9/18	66.9	66.8	67.7	66.7	67.7	67.4	66.9	66.3	66.3
9/19	67.0	66.9	67.8	66.8	67.7	67.6	67.1	66.4	66.6
9/20	67.2	67.0	68.0	67.0	67.9	67.9	67.2	66.6	66.9

(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) Calibration was checked on 20 September.

(2) 11 of 12 floating orifice gates (FOGs) are installed; one gate is out for maintenance. FOG SLEDs are installed.

(3) All SLEDs are removed.

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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. The ITS will need to be closed for reinstallation; no date has been scheduled.

(2) The DSM remains in service.

(3) The hydro-cannon remains in service.

(4) The B2CC remains closed.

(5) The PH1, PH2, and spillway avian arrays remain intact. The B2CC avian array was removed on 09 – 10 October 2013 to facilitate the WA Shore LFS repairs. The anchor line was replaced on 27 March. The array will be reinstalled once a date is agreed upon by the USDA installers.

g. Lamprey Fishways.

(1) The BI LPS, CI LPS, NDE LPS, and WA Shore AWS LPS remain in service.

5. CONSTRUCTION:

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

7. TELETYPES CURRENTLY IN EFFECT:

a. A teletype sent on 08 September updates operations for treaty fishing to include a higher operating band. Operate BON pool within at 1.5' band, hard constraint, from 25 August through 19 September for treaty fishing.

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

c. A teletype sent on 04 September states that effectively immediately until further notice, operate four priority units at PH1 in order to provide additional split in flow and improve fish crowding in the WA shore ladder.

d. A teletype sent on 05 September updates the previous split flow teletype to include wording to try to split flows as evenly as possible between PH1 and PH2 with a bias toward PH2.

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e. A teletype sent on 12 September updates a previous request that BON maintain a pool level between 75.0' and 76.5' during the following testing times in order to maintain better egress conditions in the TDA tailrace. TDA is conducting an adult attraction spill test from 09 – 15 September daily from 0400 – 1600 hours.

f. A teletype sent on 18 September states that effective 19 September at 0400 until Washington shore fish counts lower to less than 18,000 adult salmonids per day, operate BON turbine units in the following order: one priority unit at PH2, remaining PH1 units in priority order, then remaining PH2 units in priority order. This teletype is an effort to improve adult fish collection for researchers on the Washington shore.

g. A teletype sent on 18 September requests that BON forebay operate within a 1.5' band, hard constraint, from 22 through 25 September for treaty fisheries. Specified times are listed within.

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