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

14 September 2014

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 37 of 2014, which covers the period from 07 – 13 September 2014

**1. OPERATION SUMMARY:**

a. Daily average river flows ranged from 82.3 to 104.3 kcfs. Daily average project tailwater ranged from 8.6' to 10.0' msl. Daily average powerhouse forebay elevation ranged from 75.3' to 76.2' msl. Daily average water temperatures ranged from 68° to 70°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 1.7 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, special split flow operations were implemented on 04 September. See MFR [14BON61](#). 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
8	1454 on 12 Sep	1533 on 12 Sep	Breaker failure
11	0900 on 09 Sep 2012	---	High thrust bearing temps
13	1014 on 03 Sept	---	4-year overhaul
15	0048 on 08 Sep	---	T12 annual maintenance
16	0048 on 08 Sep	---	T12 annual maintenance
17	0048 on 08 Sep	---	T12 annual maintenance
18	0048 on 08 Sep	---	T12 annual maintenance

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

e. The T12 annual maintenance is scheduled for completion on 19 September.

f. 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
9/07	0.4	0.6
9/08	0.4	0.5
9/09	0.2	0.5
9/10	0.3	0.6
9/11	0.6	1.1
9/12	1.0	1.1
9/13	0.4	0.4

**2. ACTIVITIES:**

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

- (1) FV1-1 was closed for cleaning from 0822 to 0839 on 08 September.
- (2) FV3-7 was closed for cleaning from 0720 to 0734 on 13 September and from 0652 to 0757 on 08 September.
- (3) FV3-9 was closed for cleaning from 0720 to 0734 on 13 September and from 0652 to 0757 on 08 September.

b. STS/VBS inspections.

Unit	Date	Run Hours	Comments
11	---	---	OOS
12	9/08	766	OK
13	9/08	294	OK
14	9/08	286	OK
15	9/08	119	OOS
16	9/08	58	OK
17	9/08	379	OK
18	9/08	762	OK

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.

<b>Date</b>	<b>Gulls</b>	<b>Cormorants</b>	<b>Terns</b>
9/07	0	12	0
9/08	0	5	0
9/09	0	5	0
9/10	1	89	0
9/11	0	30	0
9/12	4	5	0
9/13	0	38	0

b. CRITFC – AFF. CRITFC has not sampled since no-picket lead operations were implemented at the AFF on 9 September. See MFR [14BON63](#).

c. NOAA Fisheries. An impedance counter is currently being tested at the WA Shore AWS LPS. Lamprey trapping at the AFF in conjunction with University of Idaho resumed on 02 September when river temperatures fell below 72°F. Lamprey structure design testing in the FERL is on pause.

d. Normandeau – Fish Counting. Visual counting continues.

e. PSMFC – Smolt Monitoring Program. Juvenile fish condition and index monitoring continues. 60 juvenile shad were collected for the Columbia River Fish Health Laboratory (USFWS). Fallbacks recorded crossing the separator bars this reporting week: two salmon and one unknown salmonid. 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 through the no-picket lead operations at the AFF. The UI portion of lamprey tagging concluded on 02 September for the season.

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

**4. FISHWAYS:**

- a. Project biologists inspected 07 – 13 September.
- b. Fish Passage Plan Observations.

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

Date	Location	FPP Items	Cause	Response
<b>BRADFORD ISLAND – Nothing to report</b>				
<b>CASCADES ISLAND – Nothing to report</b>				
<b>WASHINGTON SHORE – Nothing to report</b>				

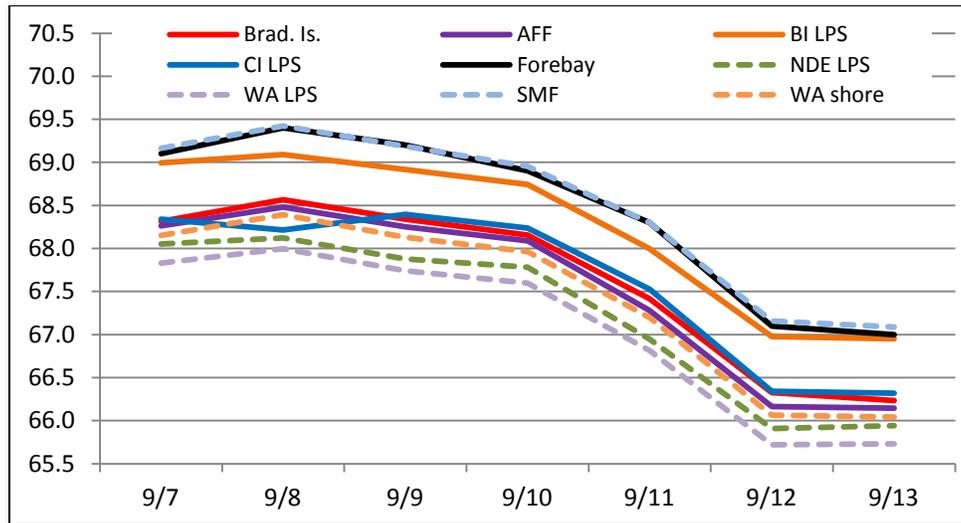
(2) PH2CC diffuser A2 is stuck closed, and the gate to B3 has been removed for repairs. Diffusers B7 and B8 have been closed until repairs to their diffuser motors can be performed. The next possible time period will be 2014/15 winter maintenance.

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					Lamprey systems			
	Brad. Is.	AFF	SMF	WA shore	Forebay	BI LPS	CI LPS	WA LPS	NDE LPS
9/7	68.3	68.3	69.2	68.2	69.1	69.0	68.3	67.8	68.1
9/8	68.6	68.5	69.4	68.4	69.4	69.1	68.2	68.0	68.1
9/9	68.3	68.3	69.2	68.1	69.2	68.9	68.4	67.7	67.9
9/10	68.2	68.1	69.0	68.0	68.9	68.7	68.2	67.6	67.8
9/11	67.4	67.3	68.3	67.2	68.3	68.0	67.5	66.8	66.9
9/12	66.3	66.2	67.2	66.1	67.1	67.0	66.3	65.7	65.9
9/13	66.2	66.1	67.1	66.0	67.0	66.9	66.3	65.7	65.9

(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 10 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.

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 closed at 0010 on 01 September.

(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.

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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 12 August requests that BON forebay operate within a 1.5' band, hard constraint, from 18 August through 19 September for treaty fisheries. Specified times are listed within.

b. 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.

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

d. 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.

e. 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.

f. 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.

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