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

28 September 2014

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 39 of 2014, which covers the period from 21 – 27 September 2014.

1. OPERATION SUMMARY:

a. Daily average river flows ranged from 84.2 to 122.8 kcfs. Daily average project tailwater ranged from 8.3' to 11.7' msl. Daily average powerhouse forebay elevation ranged from 75.4' to 75.9' msl. Daily average water temperatures remained at 68°F throughout the week. 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 1.2 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.

(2) From 0756 to 0855 on 24 September, spill bay 01 was dogged at 1' for maintenance on the spill bay hoist.

(3) From 0855 to 0923 on 24 September, spill bay 18 was dogged at 1' for maintenance on the spill bay hoist.

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 19 September ([teletype 'c'](#), below). Main unit drawdowns are measured every Tuesday and more frequently as needed.

(1) Table 1. Unit Outages.

Unit	OOS Date	RTS Date	Reason
1	0756 on 22 Sep	0846 on 22 Sep	Thrust bearing oil line leak
5	1021 on 02 Sep	0830 on 25 Sep	Annual maint & wicket bushings
6	0640 on 25 Sep	0733 on 25 Sep	Switching for unit 5 return
7	0640 on 25 Sep	0733 on 25 Sep	Switching for unit 5 return
8	0640 on 25 Sep	0733 on 25 Sep	Switching for unit 5 return
11	0900 on 09 Sep 2012	---	High thrust bearing temps
12	2056 on 21 Sep	---	T11 bi-annual maintenance
13	1014 on 03 Sept	---	4-year overhaul

14	2056 on 21 Sep	---	T11 bi-annual maintenance
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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
9/21	0.2	0.3
9/22	0.2	0.3
9/23	0.3	0.6
9/24	0.7	1.0
9/25	0.1	0.1
9/26	0.1	0.1
9/27	0.1	0.2

2. ACTIVITIES:

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

(1) FV3-9 was closed for cleaning from 0721 to 0726 on 22 September and from 0754 to 0802 on 24 September.

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

c. Dewatering and Fish Salvage. The following fish salvages occurred this week:

(1) On 23 September, Project Biologists recovered 10 redear sunfish, 3 suckers, 5 sculpins, and 1 northern pikeminnow from the unit 05 tail logs. All fish were released to the tailrace in good condition.

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
9/21	0	17	0
9/22	0	11	0
9/23	2	9	0

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9/24	3	18	0
9/25	1	10	0
9/26	0	8	0
9/27	2	13	0

b. CRITFC – AFF. Adult salmonid sampling continues.

c. NOAA Fisheries. Lamprey trapping at the AFF and Cascade Island continues. Lamprey structure design testing in the FERL commenced 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: 11 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.

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

4. FISHWAYS:

a. Project biologists inspected 21 – 27 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				
9/25	PH1CC	N and S entr diff > 2.0'	Weir gate calibration	Returned to auto
9/21	A-branch	Water level > 1.1'	Unknown	None
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

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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.

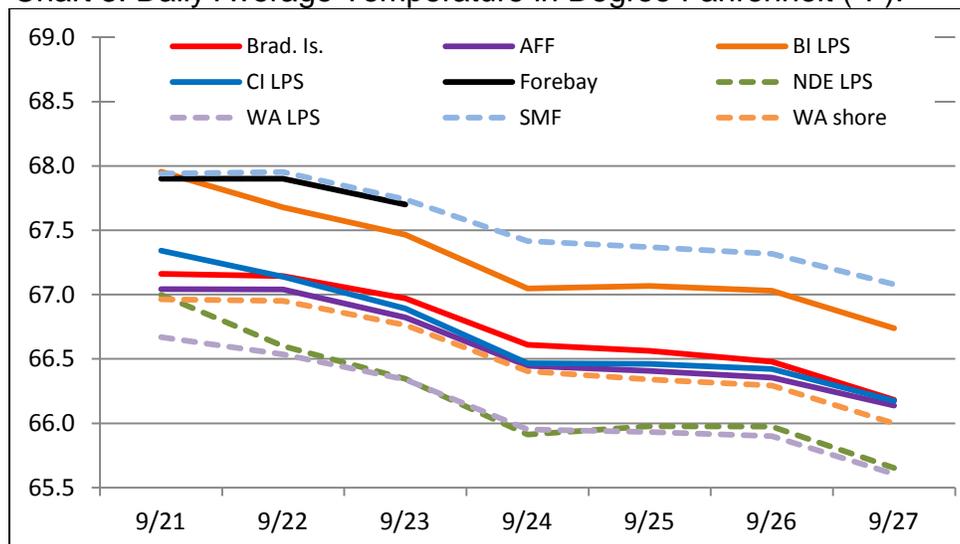
c. Fishway Temperatures. Temperatures are taken from 01 March through 30 November. Forebay temperatures through 23 September can be found [online](#).

(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
9/21	67.2	67.0	67.9	67.0	67.9	68.0	67.3	66.7	67.0
9/22	67.1	67.0	68.0	67.0	67.9	67.7	67.1	66.5	66.6
9/23	67.0	66.8	67.7	66.8	67.7	67.5	66.9	66.3	66.3
9/24	66.6	66.4	67.4	66.4	<i>removed</i>	67.0	66.5	66.0	65.9
9/25	66.6	66.4	67.4	66.3	---	67.1	66.5	65.9	66.0
9/26	66.5	66.4	67.3	66.3	---	67.0	66.4	65.9	66.0
9/27	66.2	66.1	67.1	66.0	---	66.7	66.2	65.6	65.7

*The BON forebay sensor was removed for the season on 24 September. BON Fisheries thanks the USGS for accommodating our request to retain the site until after the high temperature season.

(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 23 September.

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

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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. Reinstallation is tentatively scheduled for December; it will require the ITS to be closed.

(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:

a. Navigational lock mooring dolphin. Installation by a contractor is currently scheduled for the week of 10 November. During that time the lock will need to be shut down for two days.

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.

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c. 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.

d. A teletype sent on 23 September updates previous teletypes for treaty fisheries requesting that BON forebay operate within a 1.5' band, hard constraint. It extends the requested period from 22 through 26 September. Specified times are listed within.

e. A teletype sent on 23 September requests that BON forebay operate within a 1.5' band, hard constraint, from 0600 on 29 September through 1800 on 03 October, for treaty fisheries.

f. A teletype sent on 26 September requests that from 0800 to 1900 on 30 September, BON tailwater be kept as low as possible while meeting daily minimum flow requirements. This operation is for a contractor to access and reinforce two TDG sensor pipes on the shore of the spillway. Treaty fishing requirements take precedence.

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