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

31 August 2014

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 35 of 2014, which covers the period from 24 – 30 August 2014.

1. OPERATION SUMMARY:

a. Daily average river flows ranged from 138.3 to 153.6 kcfs. Daily average project tailwater ranged from 12.4' to 13.6' msl. Daily average powerhouse forebay elevation ranged from 74.0' to 74.6' msl. Daily average water temperatures ranged from 71° to 73 °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 operations congruent with FPP section 2.2.3 took effect on 16 June. Daily spill ranged from 92.7 to 100.3 kcfs this week.

c. Unit Operation. Powerhouse Two is the priority powerhouse. Main unit drawdowns are measured every Tuesday and more frequently as needed.

(1) Table 1. Unit Outages.

Unit	OOS Date	RTS Date	Reason
2	0854 on 07 Jul	---	5-yr overhaul, bank 1/2 annual
3	0752 on 28 Aug	1504 on 28 Aug	A-4 breaker open for BPA work
4	0752 on 28 Aug	1504 on 28 Aug	A-4 breaker open for BPA work
11	0900 on 09 Sep 2012	---	High thrust bearing temps
12	1524 on 29 Aug	2048 on 29 Aug	High STS amps – replaced C

d. 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
8/24	0.3	0.5
8/25	0.5	0.5
8/26	0.4	0.3
8/27	0.4	0.2

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8/28	0.4	0.6
8/29	0.3	0.3
8/30	0.3	0.5

2. ACTIVITIES:

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

(1) FV3-9 was closed for cleaning from 0710 to 0716 on 25 August and from 0702 to 0715 on 28 August.

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

c. Dewatering and Fish Salvage. The following dewatering or salvage activities occurred this week:

(1) On 27 August, Project Biologists salvaged ~15 sculpin spp., 3 crayfish, and 2 pumpkinseed from the Unit 02 tail longs. All fish were returned 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
8/24	2	4	0
8/25	2	7	0
8/26	0	13	0
8/27	2	4	0
8/28	0	2	0
8/29	0	3	0
8/30	1	2	0

b. CRITFC – AFF. High temperature (>70°F) sampling protocols continued until 13 August, when river temperatures reached 72°F and sampling ceased.

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 halted on 13 August when river temperatures reached 72°F. Lamprey structure design testing in the FERL is on hold until river temperatures fall below 70°C.

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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. No fallbacks were recorded crossing the separator bars this reporting week. The high temperature (>70°F) sampling protocol continues; sampling will take place every other day (0700-0700) until the daily average descends to 69.5°F. Truck releases of out-migrants from the Snake River began on 18 August. More details can be found on the [FPC web page](#).

f. USACE Fish Field Unit – Lamprey. Video recording for the purposes of exit counter validation has occurred at both the WA FV6-9 AWS LPS and BI LPS exits. Recording at BI occurred on 18 – 21 August. Flow testing at both exits occurred on 28 August.

g. 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.

h. University of Idaho – AFF. USACE-funded adult salmonid sampling halted on 28 July once river temperatures hit 70°F. Lamprey trapping and tagging at the AFF in conjunction with NOAA halted on 13 August when river temperatures reached 72°F.

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

4. FISHWAYS:

a. Project biologists inspected 24 – 30 August.

b. Fish Passage Plan Observations.

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

Date	Location	FPP Items	Cause	Response
BRADFORD ISLAND – Nothing to report				
CASCADES ISLAND – Nothing to report				
WASHINGTON SHORE				
8/30	PH2CC	Diffuser A1 halfway open	Unknown - TBD	TR in place

(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.

(3) Spill bay 17 experienced a hoist brake failure on 11 March. The gate is

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currently dogged off at 2.9 ft.

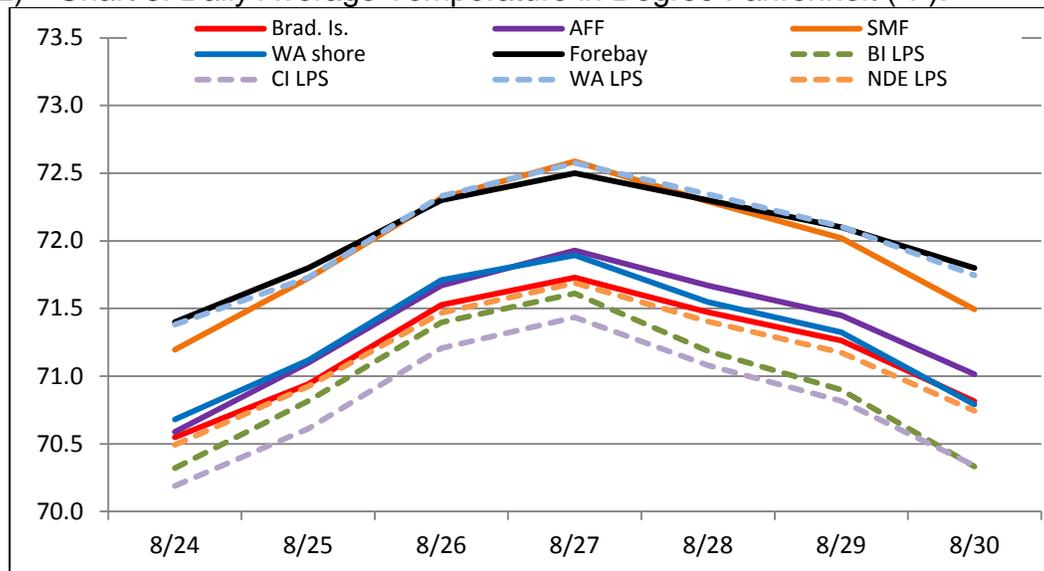
(4) Diffuser FG3-27 was discovered to be half open on 10 August. It was moved to the open position on 19 August and the gear box was restored on 28 August.

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
8/24	70.5	70.6	71.2	70.7	71.4	70.3	70.2	71.4	70.5
8/25	70.9	71.1	71.7	71.1	71.8	70.8	70.6	71.7	70.9
8/26	71.5	71.7	72.3	71.7	72.3	71.4	71.2	72.3	71.5
8/27	71.7	71.9	72.6	71.9	72.5	71.6	71.4	72.6	71.7
8/28	71.5	71.7	72.3	71.5	72.3	71.2	71.1	72.3	71.4
8/29	71.3	71.4	72.0	71.3	72.1	70.9	70.8	72.1	71.2
8/30	70.8	71.0	71.5	70.8	71.8	70.3	70.3	71.7	70.7

(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 26 August.

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(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) remains removed for ongoing 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 once repairs are complete.

(2) The DSM remains in service.

(3) The hydro-cannon remains in service.

(4) The B2CC remains open.

(5) 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, and the array will be reinstalled after spill season. The PH1, PH2, and spillway avian arrays remain intact.

(6) FGE velocity testing occurred at PH2 gatewells for units 13, 14, and 15 from 20 – 26 August.

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 17 March states that effective 17 March at 0800 hours, operate the B2CC continuously through 31 August at 2400.

b. A teletype sent on 30 June updates the spill caps and lack of load conditions to be used from 11 June through 31 August.

c. A teletype sent on 13 June lists the BON summer spill requirements in effect from 0430 on 16 June until 2400 on 31 August.

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d. 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.

e. A teletype sent on 18 August states that effective 20 – 26 August, operate turbine units 13, 14, and 15 at the requested operating points defined in the most recent test schedule provided to the control room. Gatewell velocity data will be collected at different turbine operating points within the 1% range.

f. A teletype sent on 26 August requests that from 0600 to 1200 on 1 September, outflows not exceed 150 kcfs for a cross-channel swim near Hood River.

g. A teletype sent on 26 August requests that BON pool operate within at 1.5' band, hard constraint, from 25 August through 19 September for treaty fishing.

h. 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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