



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

24 August 2014

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 34 of 2014, which covers the period from 17 – 23 August 2014.

**1. OPERATION SUMMARY:**

a. Daily average river flows ranged from 139.1 to 153.3 kcfs. Daily average project tailwater ranged from 12.5' to 13.5' msl. Daily average powerhouse forebay elevation ranged from 73.6' to 74.1' msl. Daily average water temperatures ranged from 71° to 73 °F. Secchi disk measurements ranged from 6.0 to 7.0' or greater.

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 93.1 to 101.1 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
11	0900 on 09 Sep 2012	---	High thrust bearing temps
17	0001 on 18 Aug	1352 on 21 Aug	Annual maintenance

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
8/17	0.3	0.3
8/18	0.2	0.1
8/19	0.1	0.2
8/20	0.3	0.2
8/21	0.2	0.1
8/22	0.3	0.6

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## 2. ACTIVITIES:

- a. Auxiliary Water System Closures. No closures occurred this week.
- b. STS/VBS inspections. No STS/VBS inspection 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
8/17	2	9	0
8/18	0	4	0
8/19	1	5	0
8/20	3	12	0
8/21	8	1	0
8/22	0	0	0
8/23	0	1	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.

- 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. Due to low sample numbers, Gas Bubble Trauma (GBT) examinations terminated for the season. 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. More details can be found on the [FPC web page](#).

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f. 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. IR camera monitoring in the Bradford Island serpentine section concluded on 20 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. WDFW Tule Counts. Tule and Up-river Bright enumeration began 19 August.

#### 4. FISHWAYS:

a. Project biologists inspected 17 – 23 August.

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.

(3) Spill bay 17 experienced a hoist brake failure on 11 March. The gate is 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 when the gear box was removed for repairs.

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

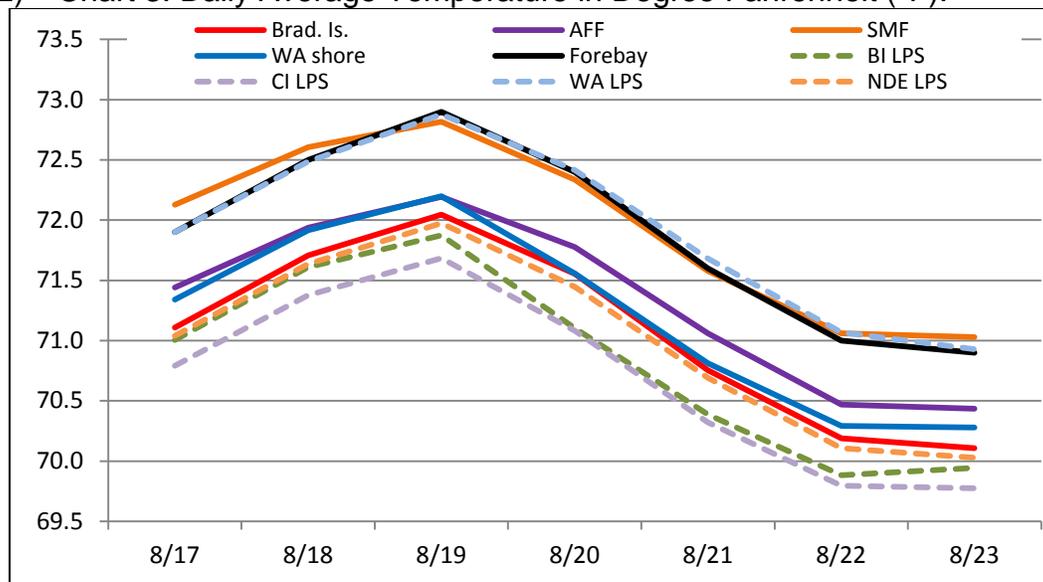
(1) Table 5. Daily Average Temperature in Degree Fahrenheit (°F).

Date	Fishways				Forebay	Lamprey systems			
	Brad. Is.	AFF	SMF	WA shore		BI LPS	CI LPS	WA LPS	NDE LPS
8/17	71.1	71.4	72.1	71.3	71.9	71.0	70.8	71.9	71.0
8/18	71.7	71.9	72.6	71.9	72.5	71.6	71.4	72.5	71.6
8/19	72.0	72.2	72.8	72.2	72.9	71.9	71.7	72.9	72.0

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8/20	71.6	71.8	72.3	71.6	72.4	71.1	71.1	72.4	71.4
8/21	70.8	71.1	71.6	70.8	71.6	70.4	70.3	71.7	70.7
8/22	70.2	70.5	71.1	70.3	71	69.9	69.8	71.1	70.1
8/23	70.1	70.4	71.0	70.3	70.9	69.9	69.8	70.9	70.0

(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 19 August.

(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.

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(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.

g. Lamprey Fishways.

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

**5. CONSTRUCTION:** Nothing to report.

**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.

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 18 August states that from 0900 to 1200 on 23 August, operate BON forebay no higher than 75.0' as a hard constraint, and no higher than 74.5' as a soft constraint. This operation is intended to expose the White Salmon River sandbar for weed and trash removal.

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