



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

16 April 2014

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 15 of 2014, which covers the period from 06 – 12 April 2014

1. OPERATION SUMMARY:

a. Daily average river flows ranged from 219.4 to 261.3 kcfs. Daily average project tailwater ranged from 18.2' to 20.2' msl. Daily average powerhouse forebay elevation ranged from 73.6' to 74.9' msl. Daily average water temperatures ranged from 45° to 48°F this reporting week. Secchi disk measurements ranged from 4.0' to 5.0'.

b. Spill Bays 01 and 18 are open 6" during daylight hours to provide attraction flow for Cascades Island and B-branch, respectively. Summer spill operations congruent with FPP section 2.2.3 took effect on 10 April. Daily spill ranged from 20.8 to 100.4 kcfs this reporting week.

(1) Spill bay 17 experienced a hoist brake failure on 11 March. The gate was on sill until 09 April, when it was dogged off at 2.9 ft.

c. Unit Operation. Powerhouse Two remains the priority powerhouse.

(1) Unit Outages. Table 1. Unit Outages.

Unit	OOS Date	RTS Date	Reason
4	0630 on 07 Apr	1615 on 07 Apr	Inspection
6	1046 on 17 Mar	---	5 yr overhaul
11	0900 on 09 Sep 2012	---	High thrust bearing temps
14	1213 on 07 Apr	1626 on 07 Apr	Repair STS
15	0716 on 05 Mar	1554 on 10 Apr	Digital Governor & 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 on Tuesdays and more frequently as needed.

2. ACTIVITIES:

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- a. Auxiliary Water System Closures. No closures occurred this week.
- b. STS/VBS inspections. Table 2. STS and VBS inspection.

<i>Unit</i>	<i>Date</i>	<i>Run Hours</i>	<i>Comments</i>
11	---	---	OOS
12	4/08	1008	Ok
13	4/08	1018	Ok
14	4/08	1010	Ok
15	4/08	---	OOS
16	4/08	1002	Ok
17	4/08	999	Ok
18	4/08	934	Ok

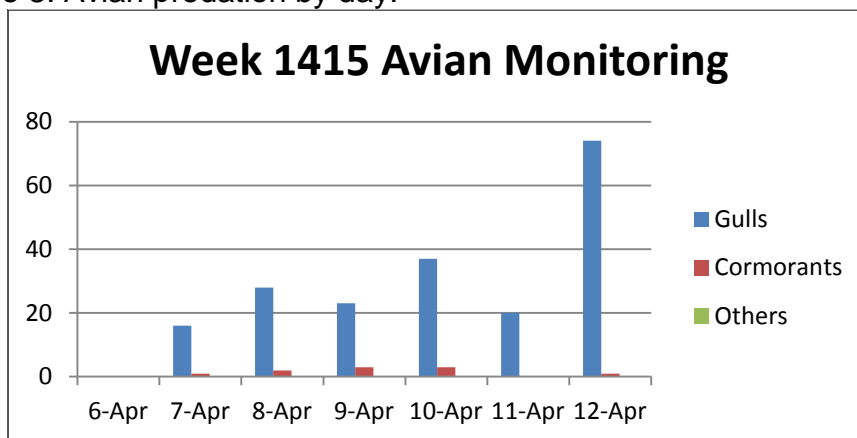
- c. Dewatering and Fish Salvage.

(1) On 08 April, Project Biologists recovered 8 sculpin spp. from the Unit 15 tail logs. All fish were returned to the tailrace in good condition.

3. RESEARCH:

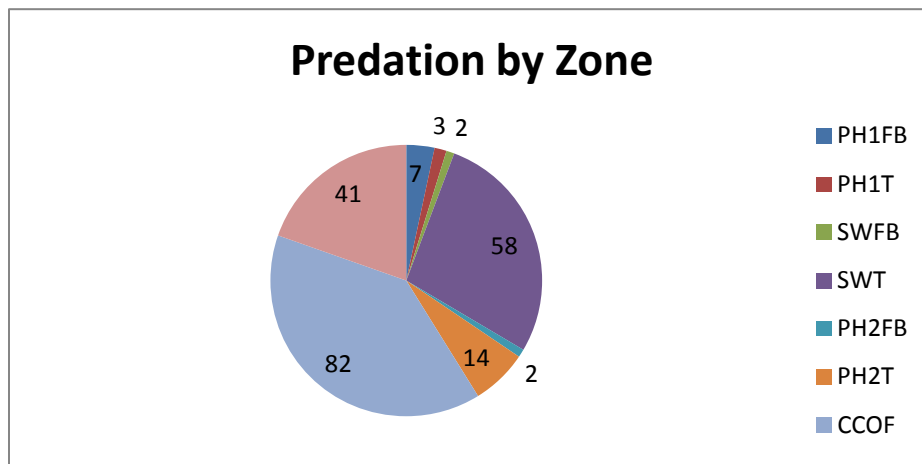
a. Avian Monitoring. Avian abundance is documented daily during fishway inspections by a Project Biologist. Due to low bird populations at the dam during winter months, bird numbers are recorded 7 days a week between the dates of 01 April and 31 October. Avian monitoring occurs as often as possible outside of these dates and during the non-fish passage season.

- (1) Table 3. Avian predation by day.



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(2) Avian predation by zone.



(3) Avian Predation Map.



b. Battelle/PNNL – Surgical Training. Surgical training at the SMF commenced on 10 March, in preparation for survival studies at upstream dams.

c. CRITFC – AFF. Sampling is scheduled to commence on 05 April.

d. CRITFC – Sea Lion Hazing. Boat-based hazing continues.

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e. Fisheries Field Unit – Kelt Video Monitoring. Video recording of the separator bars ended on 10 April.

f. Fisheries Field Unit – Sea Lion Observations. Observations commenced on 09 January and will continue until the end of May. Bi-weekly pinniped reports can be found at: http://www.nwd-wc.usace.army.mil/tmt/documents/fish/2014/sea_lion_hazing_2014.html.

g. NOAA Fisheries. LPS count network improvements are ongoing. An impedance counter is currently being tested at the Bradford Island LPS and WA Shore AWS LPS.

h. Normandeau – Fish Counting. Visual counting began on 01 April.

i. PSMFC – Smolt Monitoring Program. Juvenile fish condition and index monitoring commenced on 04 March. No research fish were collected this week. Fallbacks recorded crossing the separator bars this reporting week: 20 steelhead, 4 salmon, and 3 unknown salmonid.

j. USDA - Sea Lion and Avian Hazing. Land based hazing continues.

k. University of Idaho – AFF. USACE-funded adult salmonid sampling commenced on 08 April.

4. FISHWAYS:

a. Project biologists inspected 06 – 12 April.

b. Fish Passage Plan Observations.

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

Date	Location	FPP Items	Cause	Response
SPILLWAY				
4/6-8	SW Bay 17	Spill pattern	Hoist break failure – on sill	Repairs pending
BRADFORD ISLAND (BI)				
4/8-11	A-Branch	Water level > 1.1'	Unknown	None
CASCADES ISLAND (CI)				
3/30	UMT staff gauge	Water level < 0.9'	Unknown	None
WASHINGTON SHORE (WS) – No violations to report				

(2) PH2CC diffuser A2 is stuck closed, and the gate to B3 has been removed for

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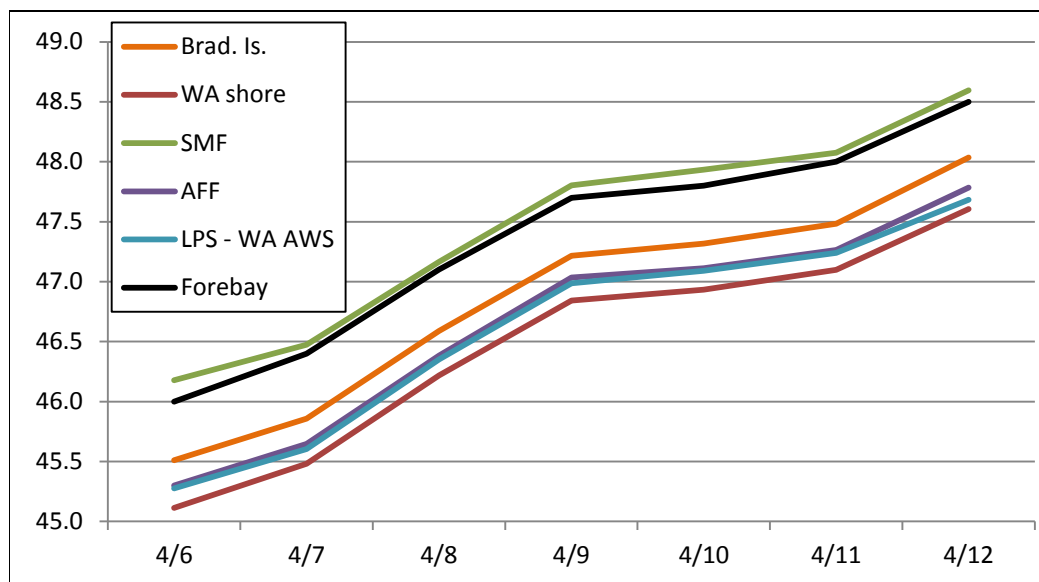
repairs. Diffusers B7 and B8 have been closed until repairs to their diffuser motors can be performed. The next possible time period will be 2014/15 winter maintenance.

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

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

Date	Bradford Is.	WA shore	SMF	AFF	LPS - WA AWS	Forebay
4/6	45.5	45.1	46.2	45.3	45.3	46.0
4/7	45.9	45.5	46.5	45.6	45.6	46.4
4/8	46.6	46.2	47.2	46.4	46.4	47.1
4/9	47.2	46.8	47.8	47.0	47.0	47.7
4/10	47.3	46.9	47.9	47.1	47.1	47.8
4/11	47.5	47.1	48.1	47.3	47.2	48.0
4/12	48.0	47.6	48.6	47.8	47.7	48.5

(2) Graph 1. 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 08 April.

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(2) 10 of 12 floating orifice gates (FOGs) are installed. Two gates remain out for maintenance. Stab plates were removed and SLEDs installed on 31 March.

(3) SLEDs are currently installed at all fishway entrances.

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.

g. Lamprey Fishways.

(1) The WA Shore AWS LPS was returned to service on 01 April.

(2) All other LPSs remain dewatered.

5. CONSTRUCTION:

a. WA Shore LPS/LFS Installation. Repairs and modifications to the LPS continue.

b. FGE Gatewell Flow Control. Contractors will install a flow control plate to the Unit 15A gatewell in preparation for flow testing in spring and summer.

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

7. TELETYPES CURRENTLY IN EFFECT:

a. A teletype sent on 15 January states that effective immediately operate Unit 04 in a last-on/first-off basis due to required maintenance.

b. A teletype sent on 17 March states that effective 17 March at 0800 hours,

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operate the B2CC continuously through 31 August at 2400.

c. A teletype sent on 12 April updates the spill caps and lack of load conditions to be used from 0000 on 01 April to 2359 on 28 April.

d. A teletype sent on 09 April lists the spring spill requirements for the spillway and B2CC, effective from 0001 on 10 April until 2400 on 15 June.

e. A teletype sent on 10 April states that effective 0001 on 12 April, operate turbine units as described within to provide improved PH2 passage conditions for Spring Creek Hatchery juvenile fish. This operation is effective until 0900 on April 17 as a hard constraint and until 0900 on 22 April as a soft constraint. Dates may be adjusted by BON Fisheries based on observations at the SMF.

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Bonneville Project