



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

24 April 2014

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 16 of 2014, which covers the period from 13 – 19 April 2014

1. OPERATION SUMMARY:

a. Daily average river flows ranged from 225.3 to 268.3 kcfs. Daily average project tailwater ranged from 18.5' to 20.5' msl. Daily average powerhouse forebay elevation ranged from 73.6' to 74.6' msl. Daily average water temperatures ranged from 49° to 50°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 100.4 to 101.9 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
6	1046 on 17 Mar	---	5 yr overhaul
11	0900 on 09 Sep 2012	---	High thrust bearing temps
13	0719 on 14 Apr	---	Digital Governor & 4 yr Overhaul
14	0746 on 14 Apr	1047 on 14 Apr	STS repairs

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. The following closures occurred this week:

(1) FV3-9 was closed for cleaning from 0658 until 0703 on 17 April.

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

c. Dewatering and Fish Salvage.

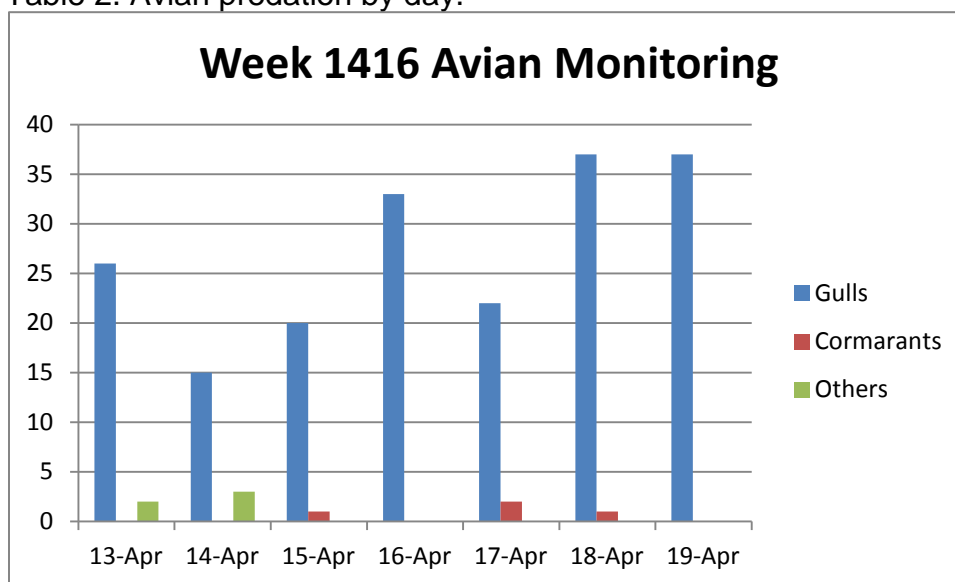
(1) On 15 April, Project Biologists recovered 8 sculpin spp. from the Unit 13 tail logs. The fish were returned to the tailrace in good condition.

(2) On 17 April, Project and District Biologists recovered 2 unclipped steelhead in chamber 3 of the Willamette Falls Locks. The fish were transported and released above the locks.

3. RESEARCH:

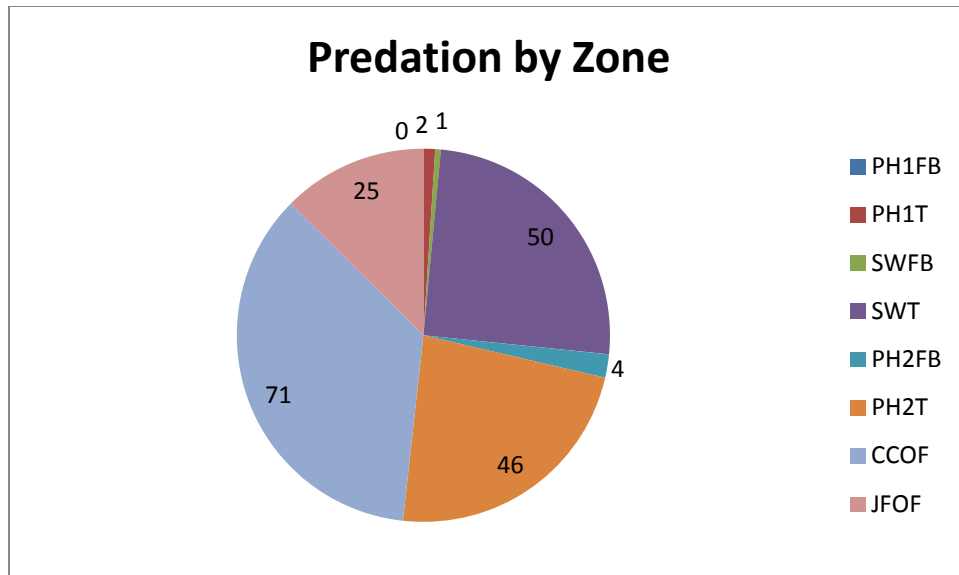
a. Avian Monitoring. Avian abundance is documented daily during fishway inspections by a Project Biologist. Due to low bird populations at the dam during winter months, bird numbers are recorded 7 days a week between the dates of 01 April and 31 October. Avian monitoring occurs as often as possible outside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

(1) Table 2. Avian predation by day.



(2) Avian predation by zone.

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(3) Avian Predation Map.



b. Battelle/PNNL – Surgical Training. Surgical training at the SMF concluded the week of 13 April.

c. CRITFC – AFF. Sampling commenced the week of 06 April.

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

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

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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. Spring Creek National Fish Hatchery completed their release of 6.15 million tule fall Chinook at 1000 on 11 April with initial arrivals appearing at the JMF at 0245 on 12 April, approximately 17 hours after release with significant numbers passing within two hours after the initial sighting. Increased sampling effort in the form of frequent sample processing was implemented to monitor the passage for condition and mortality. Daily mortality rates ranged from zero to 1.7% from 12 April through 16 April, when the vast majority had passed the project, while descaling was negligible. Fallbacks recorded crossing the separator bars this reporting week: 21 steelhead, 2 salmon, and 5 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 13 – 19 April.

b. Fish Passage Plan Observations.

(1) Table 3. FPP Out of Criteria items.

Date	Location	FPP Items	Cause	Response
BRADFORD ISLAND (BI)				
4/17-19	A-Branch	Water level > 1.1'	Unknown	None
CASCADES ISLAND (CI) – No Violations				
WASHINGTON SHORE (WS)				
4/13	Weir 37	Water level < 0.9'	Unknown	None

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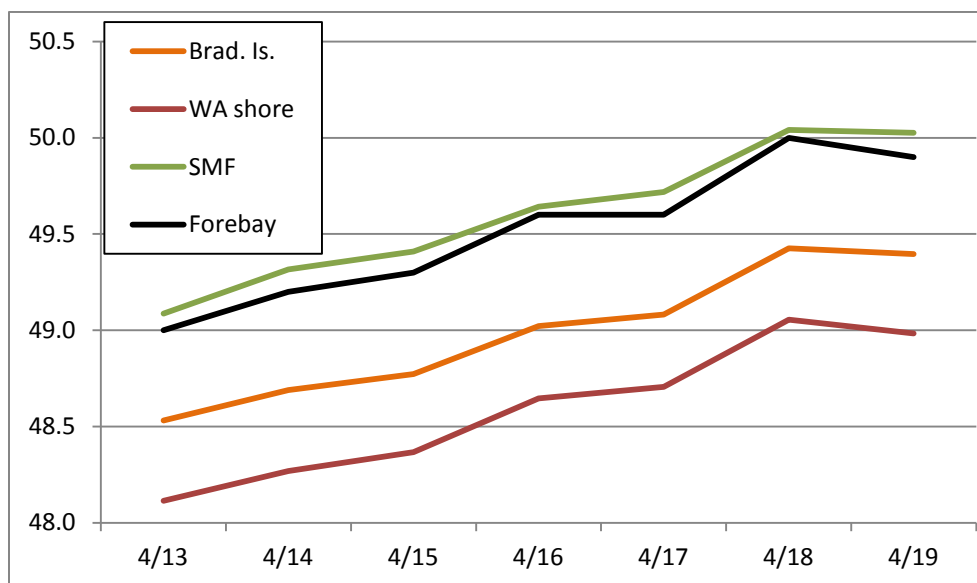
(2) PH2CC diffuser A2 is stuck closed, and the gate to B3 has been removed for repairs. Diffusers B7 and B8 have been closed until repairs to their diffuser motors can be performed. The next possible time period will be 2014/15 winter maintenance.

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

(1) Table 4. Daily Average Temperature in Degree Fahrenheit (°F).

Date	Bradford Is.	WA shore	SMF	Forebay
4/13	48.5	48.1	49.1	49.0
4/14	48.7	48.3	49.3	49.2
4/15	48.8	48.4	49.4	49.3
4/16	49.0	48.6	49.6	49.6
4/17	49.1	48.7	49.7	49.6
4/18	49.4	49.1	50.0	50.0
4/19	49.4	49.0	50.0	49.9

(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.

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(1) Calibration was checked on 16 April.

(2) 10 of 12 floating orifice gates (FOGs) are installed. Two gates remain out for maintenance. FOG SLEDs remain installed.

(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 installed a flow control plate in 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.

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b. A teletype sent on 17 March states that effective 17 March at 0800 hours, operate the B2CC continuously through 31 August at 2400.

c. 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.

d. 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.

e. 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.

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Bonneville Project