



DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, PORTLAND DISTRICT  
BONNEVILLE LOCK AND DAM PROJECT  
PO BOX 150  
CASCADE LOCKS OR 97014-0150

CENWP-OD-B

8 May 2014

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 18 of 2014, which covers the period from 27 April – 03 May 2014

**1. OPERATION SUMMARY:**

a. Daily average river flows ranged from 253.1 to 291.9 kcfs. Daily average project tailwater ranged from 20.3' to 22.4' msl. Daily average powerhouse forebay elevation ranged from 73.3' to 75.1' msl. Daily average water temperatures ranged from 50°F to 51°F this reporting week. Secchi disk measurements ranged from 3.5' 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 100.1 to 106.7 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	0814 on 21 Apr	---	Stator cleaning
5	1037 on 30 Apr	1054 on 30 Apr	Bank 5/6 testing
6	1046 on 17 Mar	0832 on 01 May	5 yr overhaul
7	1003 on 30 Apr	1101 on 30 Apr	Bank 5/6 testing
8	1003 on 30 Apr	1102 on 30 May	Bank 5/6 testing
11	0900 on 09 Sep 2012	---	High thrust bearing temps
13	0719 on 14 Apr	---	Digital Governor & 4 yr Overhaul
15	1320 on 22 Apr	---	Ground on stator
F1	0815 on 30 Apr	2223 on 30 Apr	GW leak near stator

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

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necessary, during nighttime hours to float debris. Gatewell drawdowns are measured on Tuesdays and more frequently as needed.

## 2. ACTIVITIES:

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

(1) FV3-9 was closed for cleaning from 0659 until 0705 on 01 May.

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

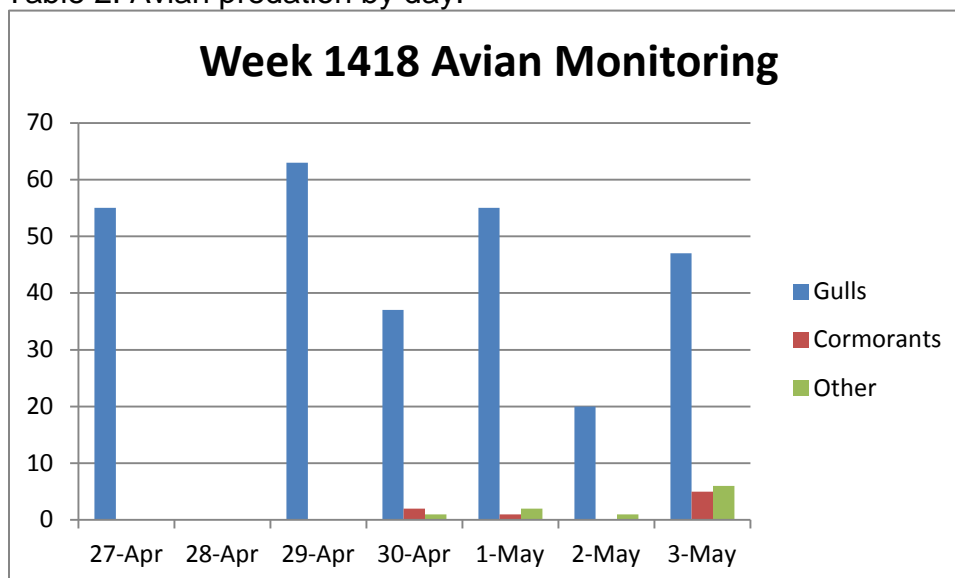
c. Dewatering and Fish Salvage. The following dewatering or salvage activity occurred this week:

(1) On 28 April, Project Biologists recovered approximately 45 sculpin spp. from the Unit 6 tail logs. All fish were returned to the tailrace in good condition.

## 3. RESEARCH:

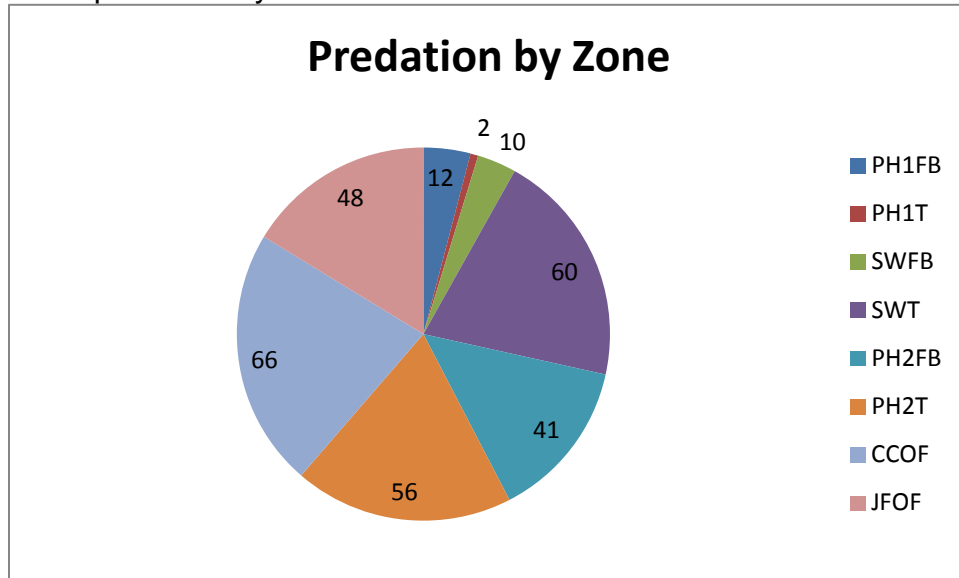
a. Avian Monitoring. Avian abundance is documented daily during fishway inspections by a Project Biologist. Due to low bird populations at the dam during winter months, bird numbers are recorded 7 days a week between the dates of 01 April and 31 October. Avian monitoring occurs as often as possible outside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

(1) Table 2. Avian predation by day.



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(2) Avian predation by zone.



(3) Avian Predation Map.



b. CRITFC – AFF. Sampling continues.

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

d. 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

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at: [http://www.nwd-wc.usace.army.mil/tmt/documents/fish/2014/sea\\_lion\\_hazing2014.html](http://www.nwd-wc.usace.army.mil/tmt/documents/fish/2014/sea_lion_hazing2014.html).

e. 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.

f. Normandeau – Fish Counting. Visual counting continues.

g. PSMFC – Smolt Monitoring Program. Juvenile fish condition and index monitoring commenced on 04 March. No research fish were collected this week. Separation by Code is active for NOAA studies. NOAA PIT tagged approximately 4,000 subyearling Chinook (obtained from Spring Creek NFH) for Corner Collector detection efficiency testing. Fallbacks recorded crossing the separator bars this reporting week: 24 steelhead, 10 salmon, and 4 unknown salmonids. Gas Bubble Trauma (GBT) examinations began on 20 April and are typically performed two days per week through the end of spill. Results of this week’s Gas Bubble Trauma (GBT) examinations: 200 yearling Chinook and steelhead examined with no GBT symptoms observed. Please follow this link (<http://www.fpc.org/CurrentDaily/Gbtsum.txt>) to the FPC web page for further details.

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

i. University of Idaho – AFF. USACE-funded adult salmonid sampling continues.

**4. FISHWAYS:**

a. Project biologists inspected 27 April – 03 May.

b. Fish Passage Plan Observations.

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

Date	Location	FPP Items	Cause	Response
<b>BRADFORD ISLAND (BI)</b>				
4/29, 5/1, 3	A-Branch	Water level > 1.1'	Unknown	None
<b>CASCADES ISLAND (CI) – No Violations</b>				
<b>WASHINGTON SHORE (WS)</b>				
4/30	Fish Unit 1	OOS	GW Leak near stator	Repaired

(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.

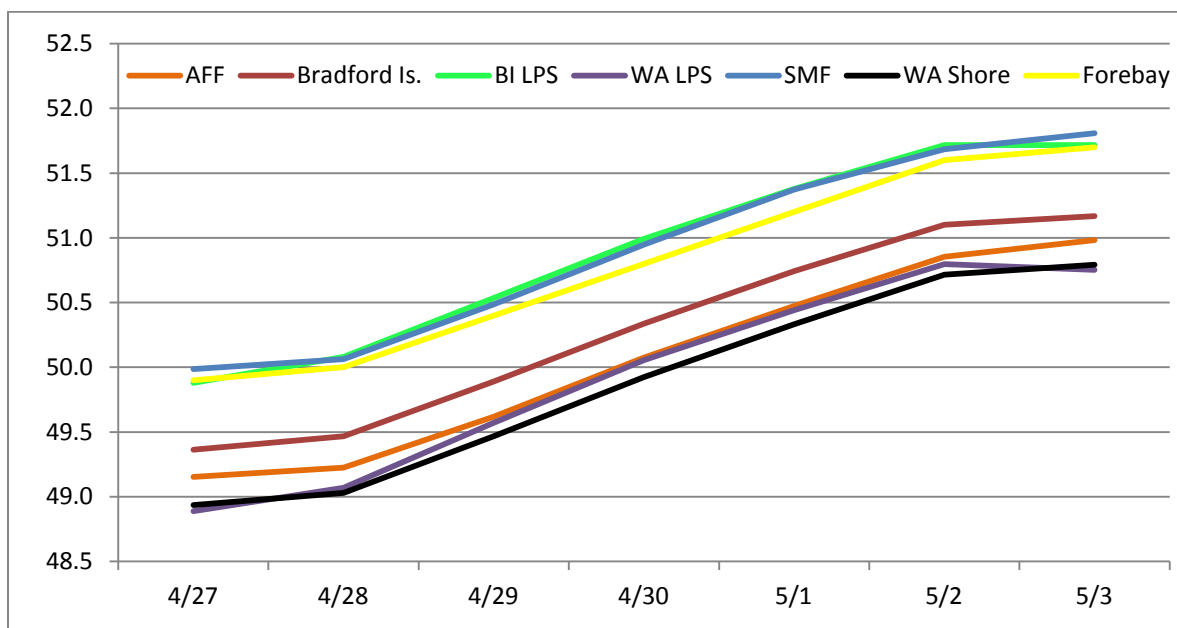
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c. Fishway Temperatures. Temperatures are taken from 01 March through 30 November. Forebay temperatures are found [online](#).

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

Date	Bradford Is.	WA shore	SMF	AFF	Forebay	BI LPS	WA AWS LPS
4/27	49.4	48.9	50.0	49.2	49.9	49.9	48.9
4/28	49.5	49.0	50.1	49.2	50	50.1	49.1
4/29	49.9	49.5	50.5	49.6	50.4	50.5	49.6
4/30	50.3	49.9	50.9	50.1	50.8	51.0	50.1
5/1	50.7	50.3	51.4	50.5	51.2	51.4	50.4
5/2	51.1	50.7	51.7	50.9	51.6	51.7	50.8
5/3	51.2	50.8	51.8	51.0	51.7	51.7	50.8

(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 03 May.

(2) 11 of 12 floating orifice gates (FOGs) are installed. A repaired FOG was

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reinstalled in 16B – N (slot 12) on 22 April. One gate remains out for maintenance. FOG SLEDs are 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) The BI LPS was returned to service on 23 April.

(3) 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 17 March states that effective 17 March at 0800 hours, operate the B2CC continuously through 31 August at 2400.

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b. 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.

c. A teletype sent on 22 April clarified FPP language regarding PH2 unit operation. The intent of the operation is to maintain PH2 units no higher than the 1% mid-range to reduce gateway turbulence for fish passage. In order to achieve this, PH1 units may be operated above the 1% upper limit up to BOP.

d. A teletype sent on 25 April updates the spill caps and lack of load conditions to be used from 26 April to 10 June.

e. A teletype sent on 30 April states that, effective as a hard constraint from 07 May until 11 May, operate PH2 units no higher than the 1% mid-range to reduce gateway turbulence and improve passage conditions for approximately 4.6 million juvenile tule fall chinook released from Spring Creek NFH on 06 May.

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