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

19 June 2014

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 24 of 2014, which covers the period from 08 – 14 June 2014

1. OPERATION SUMMARY:

a. Daily average river flows ranged from 244.5 to 314.5 kcfs. Daily average project tailwater ranged from 19.5' to 23.2' msl. Daily average powerhouse forebay elevation ranged from 73.6' to 74.8' msl. Daily average water temperatures ranged from 61°F to 62°F this reporting week. Secchi disk measurements ranged from 3.0' to 5.0'.

b. Spill Bays 01 and 18 provide attraction flow for Cascades Island and B-branch, respectively. Spring spill operations congruent with FPP section 2.2.3 took effect on 10 April. Daily spill ranged from 100.0 to 101.5 kcfs this week.

c. Unit Operation. Powerhouse Two remains the priority powerhouse. The adult trigger for PH2 upper 1% turbine operations per FPP section 5.2.1.1.d.3 took effect on 2 June.

(1) Table 1. Unit Outages.

Unit	OOS Date	RTS Date	Reason
4	0814 on 21 Apr	---	Stator cleaning
11	0900 on 09 Sep 2012	---	High thrust bearing temps

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.

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(2) Table 2. Fish unit drawdowns, in feet.

Date	F1	F2
06/08	0.4	0.4
06/09	0.2	0.1
06/10	0.3	0.5
06/11	0.3	1.3
06/12	0.3	0.2
06/13	0.5	0.4
06/14	0.3	0.4

2. ACTIVITIES:

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

(1) FV 3-7 was closed for cleaning from 0652 to 0708 on 09 June.

(2) FV 3-9 was closed for cleaning from 0652 to 0709 on 09 June

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

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

(1) Starting on 19 May, Project Biologists began recovering Pacific Lamprey from the Cascade Island AWS lamprey traps. A total of 108 fish were returned to the forebay this reporting week, all in good condition.

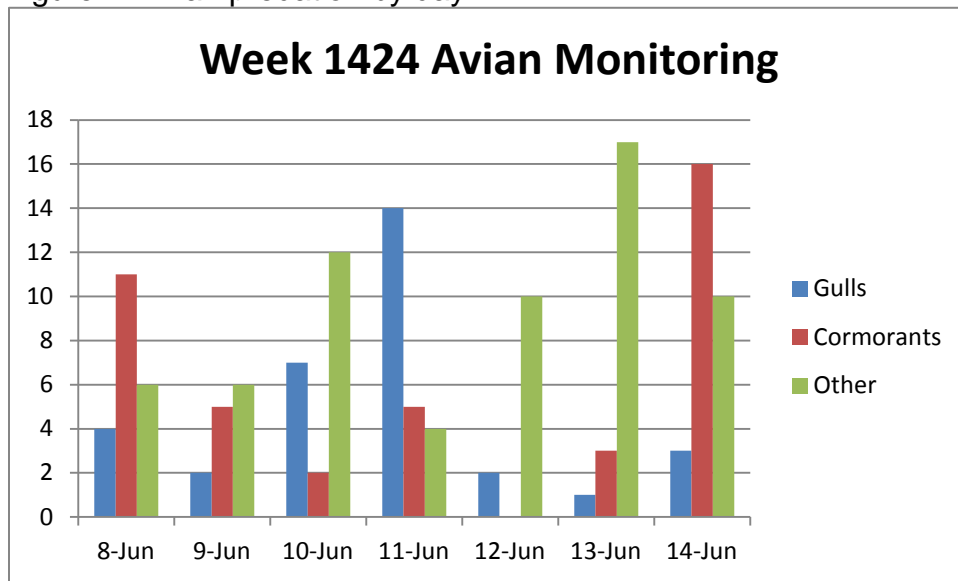
3. RESEARCH:

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.

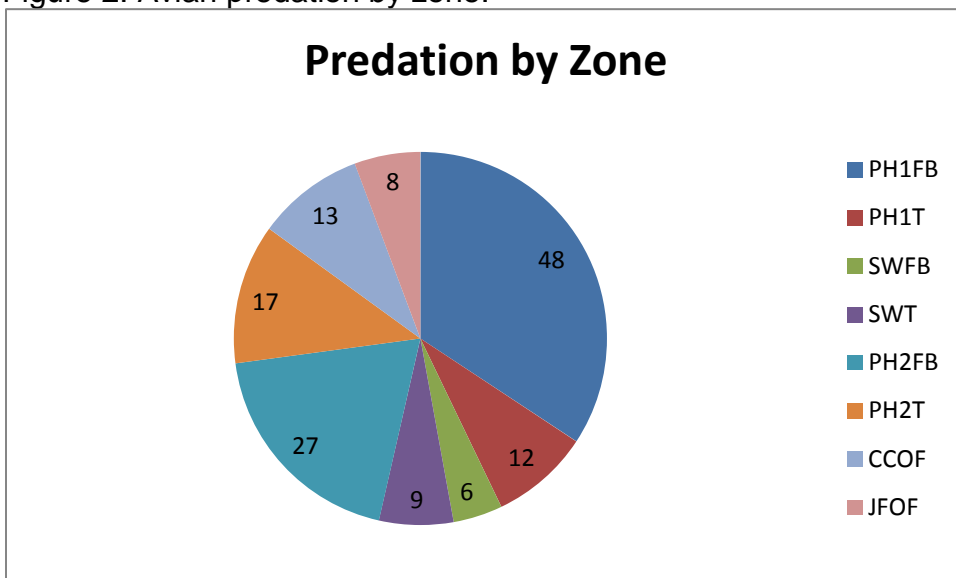
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(1) Hazing Effectiveness. Bird numbers continue to drop. The increase in the “other” category is primarily a number of Grebes occupying the PH1FB. The only other “other” species observed this week were osprey. Cormorants numbers are starting to increase primarily in the PH2FB zone.

(2) Figure 1. Avian predation by day.



(3) Figure 2. Avian predation by zone.



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(4) Figure 3. Avian Predation Map.



b. CRITFC – AFF. Sampling continues.

c. NOAA Fisheries. LPS count network improvements are ongoing. An impedance counter is currently being tested at the WA Shore AWS LPS. Lamprey trapping at the AFF in conjunction with University of Idaho continues.

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. Separation by Code is active for NOAA studies. Fallbacks recorded crossing the separator bars this reporting week: 3 steelhead, 13 salmon, and 6 unknown salmonids. Results of this week's Gas Bubble Trauma (GBT) examinations: 147 yearling Chinook, subyearling Chinook, and steelhead examined, one fish (0.7%) observed with GBT symptoms. More details can be found on the [FPC web page](#).

f. USDA - Avian Hazing. Avian hazing continues.

g. University of Idaho – AFF. USACE-funded adult salmonid sampling continues. Lamprey trapping at the AFF in conjunction with NOAA continues.

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4. FISHWAYS:

a. Project biologists inspected 08– 14 June.

b. Fish Passage Plan Observations.

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

Date	Location	FPP Items	Cause	Response
BRADFORD ISLAND				
6/9	WG-64	Closed	Unknown	Fixed
CASCADES ISLAND – Nothing to report				
WASHINGTON SHORE – Nothing to report				

(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.

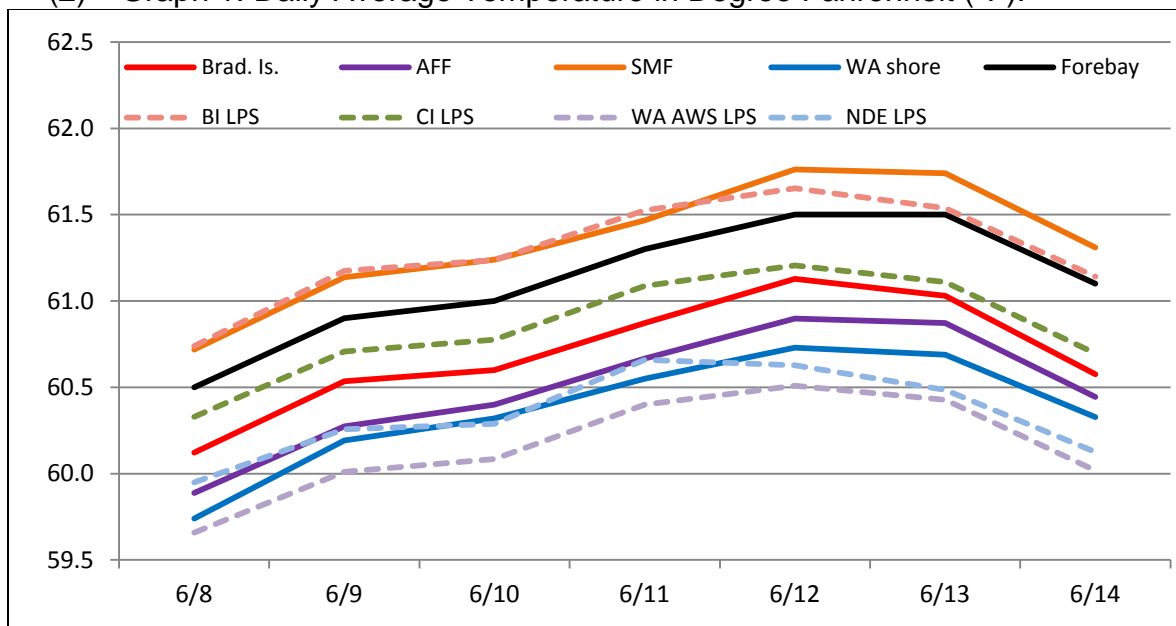
c. Fishway Temperatures . Temperatures are taken from 01 March through 30 November. Forebay temperatures can be found [online](#).

(1) Table 4. 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
6/8	60.1	59.9	60.7	59.7	60.5	60.7	60.3	59.7	59.9
6/9	60.5	60.3	61.1	60.2	60.9	61.2	60.7	60.0	60.3
6/10	60.6	60.4	61.2	60.3	61	61.2	60.8	60.1	60.3
6/11	60.9	60.7	61.5	60.6	61.3	61.5	61.1	60.4	60.7
6/12	61.1	60.9	61.8	60.7	61.5	61.7	61.2	60.5	60.6
6/13	61.0	60.9	61.7	60.7	61.5	61.5	61.1	60.4	60.5
6/14	60.6	60.4	61.3	60.3	61.1	61.1	60.7	60.0	60.1

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(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 10 June.

(2) 11 of 12 floating orifice gates (FOGs) are installed; one gate is out for maintenance. FOG SLEDs are installed.

(3) SLEDs were removed from Cascades Island and PH2 entrances on 02 June and from PH1 entrances on 04 June. The B-branch entrance SLED will be removed the week of 16 June.

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.

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- (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 BI LPS, CI LPS, NDE LPS, and WA Shore AWS LPS remain in service.

5. CONSTRUCTION:

- a. WA Shore LPS/LFS Installation. Minor modifications to the LPS continue.
- b. FGE Gatewell Flow Control. Contractors installed a flow control plate in the Unit 15A gatewell. Flow testing is underway.

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 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 10 June updates the spill caps and lack of load conditions to be used from 11 June through 31 August.

d. A teletype sent on 09 June updates BON forebay operations for treaty fisheries. From 0600 on 10 June until 1800 on 12 June, operate BON pool within a 1.5' band as a hard constraint.

e. A teletype sent on 09 June revises a previous teletype for gatewell testing in units 13, 14, and 15. Effective 2 June through 12 June, operate units 13, 14, and 15 based on the revised testing schedule. This includes operating these units outside of the mid-point operations detailed in the FPP.

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f. A teletype sent on 12 June requests that BON forebay operate within a 1.5' band as a hard constraint from 16 to 19 June and from 23 to 26 June for treaty fisheries.

g. A teletype sent on 12 June requests that BON forebay remain below 74.5' as a soft constraint from 0900 – 1300 on 14 June in order to expose the Hood River mouth sand bar for debris removal.

h. A teletype sent on 13 June requests BON forebay be maintained from 74.5' to 76.5' hard constraint and from 75.5' to 76.5' soft constraint from 1400 – 2000 on 08 August and from 1500 – 2200 on 09 August so that sailboats can be placed and removed from the water. The request may be cancelled at 1500 on 08 August if high winds occur.

i. 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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