

## MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 15 of 2016, which covers the period from 03 to 09 April.

**1. OPERATION SUMMARY:**

- a. Daily average river flows ranged from 179.4 to 264.5 kcfs. Daily average powerhouse forebay elevation ranged from 73.5' to 74.8' msl. Daily average project tailwater ranged from 15.9' to 20.9' msl. Secchi disk measurements ranged from 4' to 6' all week. Daily average water temperature ranged from 47° to 50° F.
- b. Spill Bays 01 and 18 provide attraction flow for Cascades Island and B-branch, respectively. Daily average spill ranged from 1.1 to 1.3 kcfs.
- c. Unit Operation. PH2 remains the priority powerhouse. Main unit draw downs are measured every Monday and more frequently as needed.

(1) Table 1. Unit Outages.

Unit	OOS Date	RTS Date	Reason
7	0103 on 22 Feb	---	Annual, bank 7/8 outage, main unit breaker replacement, raking trash
8	0103 on 22 Feb	---	
12	0700 on 04 April	---	Wicket Gate seal replacement

- d. Fish Units. Second Powerhouse fish units provide attraction flow for the Washington Shore (WS) fish ladder.

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

Date	F1	F2
4/3	0.5	0.5
4/4	0.6	0.8
4/5	0.6	0.9
4/6	0.4	0.6
4/7	0.7	0.8
4/8	0.4	0.6
4/9	0.5	0.8

**2. ACTIVITIES:**

- a. Auxiliary Water System Closures

- (1) FV3-7 was closed for cleaning from 1515 to 0738 on 05 April
- (2) FV1-1 was closed for cleaning from 0704 to 0712 on 07 April.
- (3) FV5-9 was closed for cleaning from 1340 to 1404 on 07 April.

b. STS/VBS inspections. Table 2a.

Unit	Date	Run Hours	Comments
11	4/4	941	OK
12	4/4	870	OK
13	4/4	977	OK
14	4/4	979	OK
15	4/4	981	OK
16	4/4	999	OK
17	4/4	422	OK
18	4/4	1002	OK

c. Dewatering and Fish Salvages.

- (1) On 06 April Project Biologists conducted a salvage on unit 12. No fish were found.

**3. RESEARCH:**

- a. Normandeau – Fish Counting. Video counting ended and visual counting began on 01 April.
- b. Fisheries Field Unit--Pinniped Observation. Observations began on 04 January.
- c. PSMFC – Smolt Monitoring Program. Juvenile fish condition and index monitoring began at 0700 on 02 March. More details can be found on the [FPC web page](#).

**4. FISHWAYS:**

- a. Project biologists inspected 03 April – 09 April.
- b. Fish passage plan observations.

- (1) Table 3. FPP out of criteria items.

Date	Location	FPP Items	Cause	Response
<b>BRADFORD ISLAND</b>				
4/3,5,6,8,9	A-branch	Water over weir > 1.1'	Unknown	None
<b>CASCADES ISLAND – Nothing to report</b>				
<b>WASHINGTON SHORE</b>				
4/6	DSM	Channel elevation < 64.2'	Unknown	Monitored

4/3-4/9	PH2	Diffuser A2 closed	See 4.b.2 below	None
4/8,9	Weir 37,38	Water level <0.9'	AFF re-watering	Increase add-in water

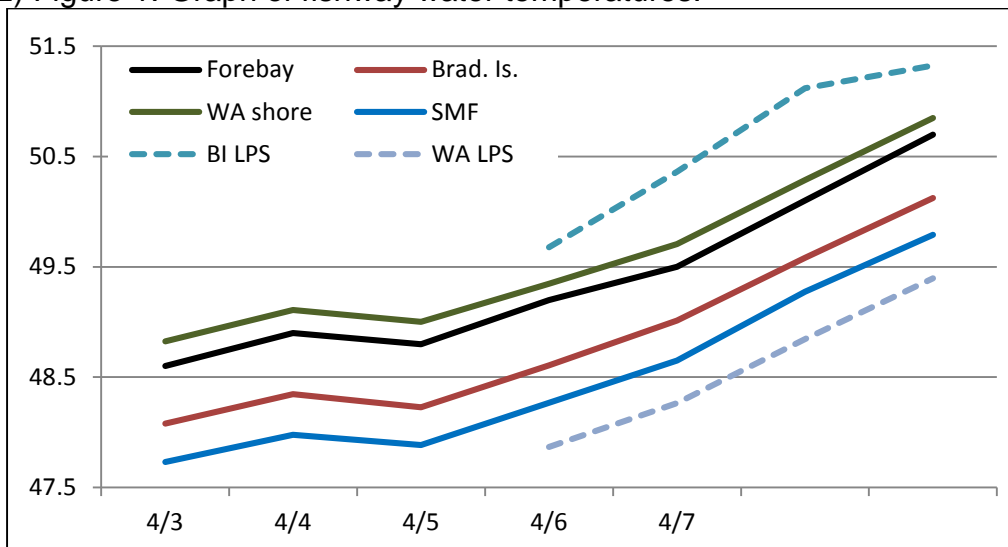
(2) PH2CC diffuser A2 was unable to be repaired during winter maintenance 2014/15 and remains closed. It should be open when tailwater is above 13.0' msl. The gate for diffuser B5 was removed for repairs and therefore cannot be closed. It should be closed below tailwaters of 12.0' msl.

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

(1) Table 4. Average daily fishway water temperatures (Fahrenheit).

Date	Forebay	Fishways			Lamprey	
		Brad. Is.	WA shore	SMF	BI LPS	WA LPS
4/3	48.6	48.1	47.7	48.8	OOS	OOS
4/4	48.9	48.3	48.0	49.1	---	---
4/5	48.8	48.2	47.9	49.0	---	---
4/6	49.2	48.6	48.3	49.3	49.7	47.9
4/7	49.5	49.0	48.7	49.7	50.4	48.3
4/8	50.1	49.6	49.3	50.3	51.1	48.8
4/9	50.7	50.1	49.8	50.9	51.3	49.4

(2) Figure 1. Graph of fishway water temperatures.



d. Zebra Mussel Monitoring. No signs of colonization were observed this reporting week.

e. Avian Monitoring. Bird counts are made between 01 April and 31 October.

(1) Table 5. Counts of tailrace foraging piscivorous birds.

Date	Gulls	Cormorants	Terns	Wh. Pelicans	Grebes
4/3	0	0	0	0	0
4/4	15	0	0	0	0
4/5	34	5	0	0	0
4/6	11	6	0	0	0
4/7	5	3	0	0	0
4/8	9	0	0	0	0
4/9	30	6	0	0	0

f. Adult Fishways.

(1) Fishway instrument calibration was checked on 06 April.

(2) Eight of 12 floating orifice gates (FOGs) are installed; the 4 middle slots have bulkheads in place. FOG sea lion bars are installed. Plywood sea lion barriers were installed on top of all FOGs on 11 February to prevent sea lions from jumping into the PH2CC.

(3) All SLEDs are installed.

g. Juvenile Fishways.

(1) The ITS remains open.

(2) The hydro-cannon is on.

(3) The B2CC remains open.

(4) The DSM remains in service.

h. Lamprey Fishways.

(1) The Bradford Island LPS and WA AWS LPS were returned to service at ~1400 on 5 April.

(2) The Cascade Island LPS was brought into service at 1350 on 08 April.

(3) Due to needed repairs, the NDE LFS/LPS will remain out of service for the 2016 season.

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

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

**7. TELETYPES CURRENTLY IN EFFECT:**

a. A teletype sent on 06 January updated previous Chum tailwater operations.

Effective immediately until further notice operate BON tailwater at a minimum of 12.5' for all hours. This operation is to protect Chum Redds below BON at the Ives/Pierce Island complex.

- b. A teletype sent on 4 April updates the spill caps and lack of load conditions to be used from 0000 on 1 April until further notice.
- c. A teletype sent on 6 April states that effective 2400 on 9 April, all tailwater operations for Chum are ended and normal tailwater operations may resume.
- d. A teletype sent on 7 April requests that from 1000 to 1300 on 11 April, lower BON forebay to the lowest available pool, at or below 72.5', soft constraint. This operation is to allow removal and service of a fish irrigation screen near Mosier.
- e. A teletype sent on 7 April states effective 10 April to 31 August, provide spring and summer spill per the 2015 Fish Operations Plan. A schedule and specific operations are provided. The B2CC will operate concurrent with spill.

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