

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 10 of 2016, which covers the period from 28 February to 05 March 2016.

1. OPERATION SUMMARY:

a. Daily average river flows ranged from 166.5 to 218.9 kcfs. Daily average powerhouse forebay elevation ranged from 73.1' to 74.8' msl. Daily average project tailwater ranged from 15.3' to 18.5' msl. Secchi disk measurements ranged from 4' to 6'. Daily average water temperature remained at 42 °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 1.2 kcfs.

(1) Spill bay 18 was closed at 1830 on 04 December for the Bradford Island winter maintenance. It was reopened at 1400 on 25 February.

(2) Due to a ROV inspection in the tailrace (see [16BON05](#)) spill bay 1 remained closed on 22 Feb until 1630.

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
8	0103 on 22 Feb	---	
17	1057 on 29 Feb	---	Wicket gate seal replacement

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

(1) F2 was taken out of service for a 2 year overhaul at 0001 on 15 Dec. It returned to service at 1700 on 17 Feb but remained in standby under single unit operations until the PH2CC C-valve diffusers could be opened to prevent high AWS conduit pressures. PH2 went to normal fishway operations at 0939 on 1 March.

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

Date	F1	F2
02/28	0.3	---
2/29	0.2	---
3/1	0.2	0.2
3/2	0.5	0.9
3/3	0.4	1.1
3/4	0.2	0.9
3/5	0.6	1.7

2. ACTIVITIES:

a. Auxiliary Water System Closures

(1) FV1-1 was closed for cleaning from 0730 to 0817 on 1 March and from 0727 to 0740 on 3 March.

b. STS/VBS inspections - Table 2a

Unit	Date	Comments
11	24 Feb	STS installed
12-15	23 Feb	STS installed
16-18	22 Feb	STS installed

c. Dewatering and Fish Salvages

(1) On 1 March, Project Biologists inspected the U17 draft tube. No fish were found.

3. RESEARCH:

a. Normandeau – Fish Counting. Visual counting ended and video counting began on 01 December.

b. Fisheries Field Unit--Pinniped Observation. Observations began on 04 January, 2016.

c. PSMFC – Smolt Monitoring Program. Juvenile fish condition and index monitoring began at 0700 on 2 March. No research fish were collected. These fallbacks were recorded crossing the separator bars (through Friday): 9 steelhead, 2 unknown salmonids. The kelt trigger was reached at 1130 on 5 March. More details can be found on the [FPC web page](#).

4. FISHWAYS:

- a. Project biologists inspected 29 February – 5 March.
- b. Fish passage plan observations.

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

Date	Location	FPP Items	Cause	Response
BRADFORD ISLAND				
2/29-3/5	A-branch	FG3-3 half open	Limits need reset	TR in place
3/3	A-branch	Water over weir > 1.0'	Unknown	None
CASCADES ISLAND – Nothing to report				
WASHINGTON SHORE				
2/29-3/5	PH2	Diffuser A2 closed	See 4.b.2 below	None

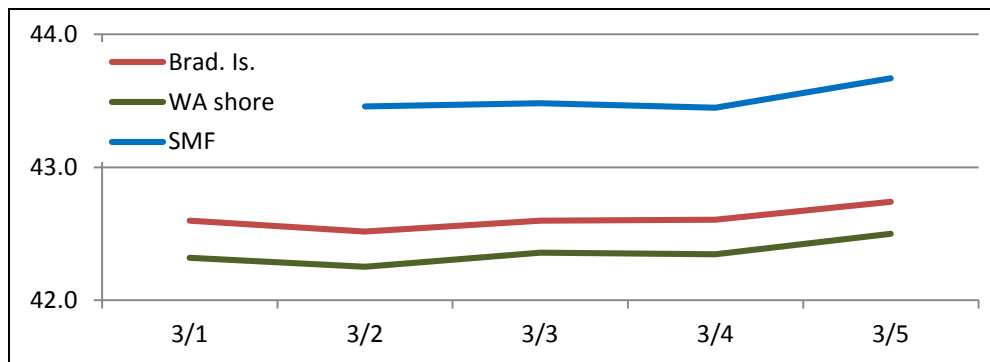
(2) PH2CC diffuser A2 was unable to be repaired during winter maintenance 2014/15 and remains closed. It should be open when tailwater is above 13.0 msl. The gate for diffuser B5 was removed for repairs and therefore cannot be closed. It should be closed below tailwaters of 12.0 msl.

c. Fishway Temperatures. Temperatures are taken from 01 March through 30 November. Forebay temperatures can be found [online](#). The BON site is not yet active.

(1) Table 4. Average daily water temperatures measured at fish facilities (Fahrenheit).

Date	Fishways		
	Brad. Is.	WA shore	SMF
3/1	42.6	42.3	---
3/2	42.5	42.3	43.5
3/3	42.6	42.4	43.5
3/4	42.6	42.3	43.4
3/5	42.7	42.5	43.7

(2) Figure 1. Graph of water temperatures measured at fish facilities.



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.

f. Adult Fishways.

(1) No fishway instrument calibration occurred this week.

(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) The PH2 adult fishway returned to normal operations at 0939 on 1 March.

(4) All SLEDs are installed.

g. Juvenile Fishways.

(1) The ITS was closed from 0645 to 0900 on 3 March for log removal.

(2) The hydro-cannon remains off.

(3) The kelt trigger was reached at 1130 on 5 March and the B2CC was opened.

(4) The DSM remains in service.

h. Lamprey Fishways.

(1) All LPSs remain out of service.

5. CONSTRUCTION:

a. The Navigational Lock went out of service for annual maintenance at 0600 on 5 March.

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 3 March states that from 0900 to 1500 on 8 March, the BON

forebay should not exceed 74.5', soft constraint, to facilitate vegetative planting near Meyers State Park.

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