

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 13 of 2016, which covers the period from 20 to 26 March 2016.

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 201.4 to 227.1 kcfs. Daily average powerhouse forebay elevation ranged from 73.3' to 74.6' msl. Daily average project tailwater ranged from 17.7' to 19' msl. Secchi disk measurements ranged from 4' to 5'. Daily average water temperature remained at 44° F.
- b. Spill Bays 01 and 18 provide attraction flow for Cascades Island and B-branch, respectively. Daily average spill ranged from 1.2 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
8	0103 on 22 Feb	---	Breaker cubicle measurements
12	2152 on 19 Mar	1637 on 22 Mar	North servo leak, wicket gate seal replacement
17	1057 on 29 Feb	1515 on 24 Mar	North servo leak, wicket gate seal replacement
10	0948 on 21 Mar	1620 on 21 Mar	Rake Trash
F1	0332 on 22 Mar	1307 on 23Mar	PH2 collection channel work on C5 diffuser
F2	0329 on 22 Mar	1307 on 23 Mar	PH2 collection channel work on C5 diffuser

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

- (1) F1 was out of service from 0332 on 22 March to 1307 on 23 March to allow a work boat into the PH2 collection channel and place a cover on the blown grating on diffuser C5. (See [16BON03](#).)
- (2) F2 was out of service from 0329 on 22 March to 1307 on 23 March for the same work.

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

Date	F1	F2
3/20	0.1	0.5

3/21	0.3	0.6
3/22	0.4	0.5
3/23	0.6	0.7
3/24	0.3	0.4
3/25	0.3	0.4
3/26	0.1	0.2

2. ACTIVITIES:

a. Auxiliary Water System Closures

(1) FV1-1 was closed for cleaning from 0730 to 0744 on 21 March.

b. STS/VBS inspections. None.

c. Dewatering and Fish Salvages. None.

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.

c. PSMFC – Smolt Monitoring Program. Juvenile fish condition and index monitoring began at 0700 on 02 March. No research fish were collected this reporting week. Fallbacks recorded crossing the separator bars: 14 steelhead. More details can be found on the [FPC web page](#).

4. FISHWAYS:

a. Project biologists inspected 20 – 26 March.

b. Fish passage plan observations.

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

Date	Location	FPP Items	Cause	Response
BRADFORD ISLAND				
3/20,24,25	A-branch	Water over weir > 1.1'	Unknown	None
CASCADES ISLAND – Nothing to report				
WASHINGTON SHORE				
3/20-26	PH2	Diffuser A2 closed	See 4.b.2 below	None
3/22-23	PH2	Entrance diffs < 1.0'	Diffuser C5 work	None

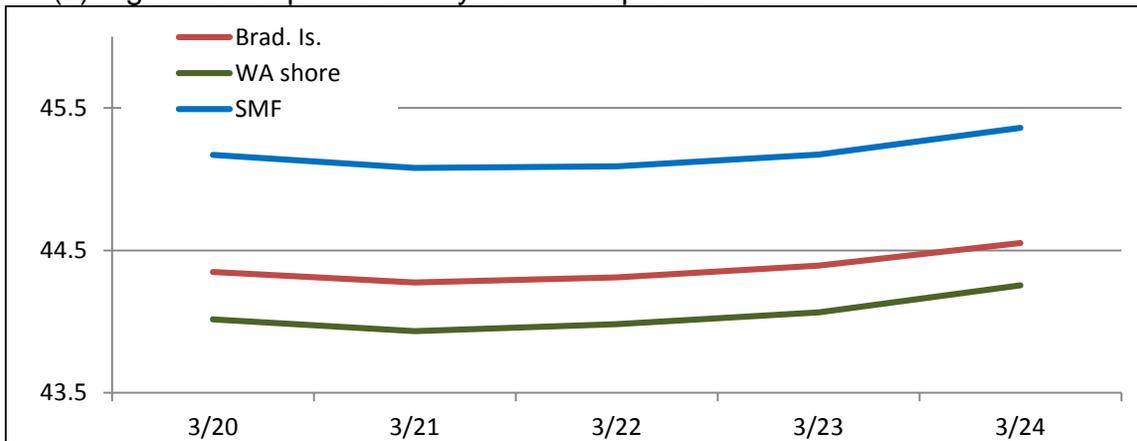
(2) PH2CC diffuser A2 was unable to be repaired during winter maintenance 2014/15 and remains closed. It should be open when tailwater is above 13.0' msl. The gate for diffuser B5 was removed for repairs and therefore cannot be closed. It should be closed below tailwaters of 12.0' msl.

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 fishway water temperatures (Fahrenheit).

Date	Fishways		
	Brad. Is.	WA shore	SMF
3/20	44.3	45.2	44.0
3/21	44.3	45.1	43.9
3/22	44.3	45.1	44.0
3/23	44.4	45.2	44.1
3/24	44.6	45.4	44.3
3/25	44.8	45.6	44.5
3/26	45.1	45.9	44.8

(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.

f. Adult Fishways.

(1) Fishway instrument calibration was checked on 23 March.

(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) All LPSs remain out of service.

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 21 March provides spill caps and lack of load conditions to be used from 0000 on 23 March through 2359 on 31 March.
- c. A teletype sent on 21 March provides spill caps and lack of load conditions to be used from 0000 on 1 April until further notice.

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