

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)
 SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 13 of 2018, which covers the period from 25-31 March.

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 186.4 to 204.6 kcfs. Daily average powerhouse forebay elevation ranged from 72.8' to 73.6' msl. Daily average project tailwater ranged from 16.3' to 17.1' msl. Secchi disk measurements ranged from 5.0' to 6.0'. Daily average water temperature ranged from 44°F to 45°F.
- b. Daily average spill ranged from 0.9 to 3.6 kcfs.
- c. Unit Operation. PH2 remains the priority powerhouse. Main unit drawdowns are measured every Monday and more frequently as needed.

(1) Table 1. Unit Outages.

Unit	OOS Date	RTS Date	Reason
01	0559 on 26 March	0927 on 20 March	OOS for water leak repair
10	0815 on 26 March	1209 on 26 March	Trash raking
11	1250 on 26 March	1419 on 26 March	Trash Raking
12	1421 on 26 March	1525 on 26 March	Trash Raking
16	0019 on 19 March	1541 on 27 March	Planned Outage, Annual, FGE work, thrust collar inspection

- d. Fish Units. Second Powerhouse fish units provide attraction flow for the Washington Shore (WS) fish ladder.
- e. Table 2. Fish unit drawdowns, in feet.

Date	F1	F2
3/25	0.1'	0.1'
3/26	0.3'	0.3'
3/27	0.4'	0.5'
3/28	-	-
3/29	0.2'	0.2'
3/30	0.3'	0.2'
3/31	0.2'	0.3'

2. MAINTENANCE ACTIVITIES:

- f. Auxiliary Water System Closures. Nothing to report.
- g. STS/VBS Inspections. Nothing to report.
- h. Dewatering and Fish Salvages. Nothing to report.

2. RESEARCH:

- a. USACE - Fisheries Field Unit (FFU) Pinniped Monitoring Program. Observations for pinniped abundance and predation began on 02 Jan. The FFU observes five days each week.
- b. Normandeau – Fish counting. Daytime visual counting (0500 to 2100) began on 01 April.
- c. PSMFC – Smolt Monitoring. Sample collections at the SMF began at 0700 on 02 March. Debris at the primary dewatering structure (PDS) and fish/debris separator was light consisting mostly of sticks. Fallbacks observed this week: two steelhead. For “Kelt Trigger” purposes, the season-to-date total is 5. No fish collections for research purposes were conducted this week. More details can be found on the [FPC web page](#).
- d. USDA – Pinniped hazing. Deck-based hazing began 01 March.
- e. CRITFC – Sea lion hazing. Hazing by boat began 05 March.
- f. PNNL – FGE testing. A hydroacoustic study at the PH2 gatewells as part of biological testing of the FGE mods will begin on 10 April. Equipment installation began on 22 February.

3. FISHWAYS:

- a. Project biologists inspected 25-31 March.
- b. Fish passage plan observations.

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

Date	Location	FPP Items	Cause	Response
3/22	BON	No Inspection	Lack of personnel	NA
BRADFORD ISLAND - Nothing to report				
CASCADES ISLAND				
3/29,30,31	CI	Entrance Diff <1'	FV 5-4 broken and tagged out for repairs	Repair FV 5-4
WASHINGTON SHORE - Nothing to report				

(2) Bonneville had the majority of its avian lines broken due to ice storms during the 2016/17 winter. Avian lines began replacement on 19 March. The B2CC and Spillway are currently installed. The remaining areas are waiting on procurement of additional materials.

(3) PH2 diffuser B4 was discovered to have its stem bent on 24 May 2017. This likely occurred while trying to close and the valve is believed to be open. It should be closed at tailwaters above 31.0' and below 11.0' msl.

c. Adult Fishways.

(1) The AFF was dewatered on 15 November.

(2) Sensor calibration occurred on 30 March.

(3) SLEDs are installed at all entrances.

(4) On 28 March, Bonneville personnel conducted an operation to clear the Cascades Island Fish Valve trash racks of a build-up of debris. A teletype was issued to allow spill in the adjacent spillbay, and a crane was used to clear the debris. The op was successful, with racks cleared and valve operation returning to normal.

d. Juvenile Fishways.

(1) The ITS remains in service.

(2) The hydro-cannon is in service.

(3) The B2CC remains out of service.

(4) The DSM is in service.

(5) STSs are installed.

e. Lamprey Fishways.

(1) The Bradford Island LPS was returned to service for the season on 06 March. All other lamprey passage systems remain off.

(2) The Bradford Island Lamprey Wetted Wall was commissioned on 17 March.

f. Avian Monitoring. Bird counts are recorded between 01 April and 31 October.

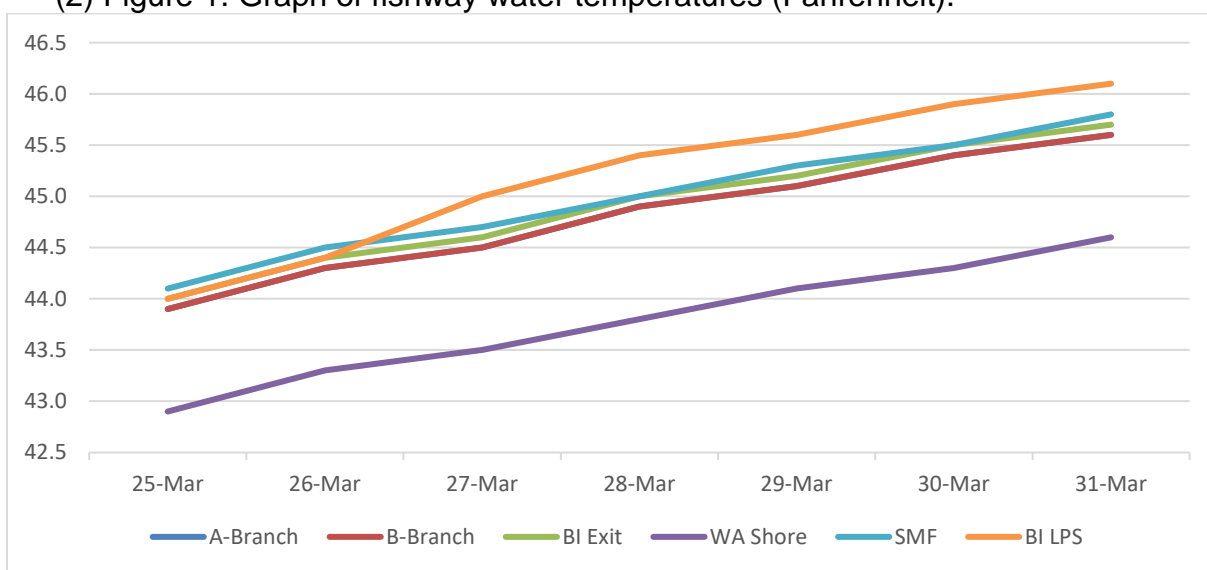
4. WATER QUALITY MONITORING:

a. Fishway Temperatures. Temperatures are taken from 01 March through 30 November.

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

Date	A-Branch	B-Branch	BI Exit	WA Shore	SMF	BI LPS
25-Mar	43.9	43.9	44.0	42.9	44.1	44.0
26-Mar	44.3	44.3	44.4	43.3	44.5	44.4
27-Mar	44.5	44.5	44.6	43.5	44.7	45.0
28-Mar	44.9	44.9	45.0	43.8	45.0	45.4
29-Mar	45.1	45.1	45.2	44.1	45.3	45.6
30-Mar	45.4	45.4	45.5	44.3	45.5	45.9
31-Mar	45.6	45.6	45.6	44.6	45.8	46.1

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



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

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

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

7. TELETYPES CURRENTLY IN EFFECT:

- a. A teletype sent on 20 December states that effective 1300 on 21 December until further notice, the Bonneville dam minimum tailwater elevation is 11.8' during all hours. The intent is to ensure sufficient tailwater elevation to protect Chum Salmon redds in the Ives/Pierce Island complex during egg incubation.
- b. A teletype sent on 22 March updates previous teletypes regarding spill priority lists and spill caps for lack of load conditions through 31 March.
- c. A teletype sent on 27 March stated that between the hours of 1230 and 1700 on 28 March, BONN may implement intermittent spill operations of up to 40 kcfs in order to clear debris from the fish valve intakes at Cascades Island.

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