

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)  
 SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 12 of 2018, which covers the period from 18-24 March.

**1. OPERATION SUMMARY:**

- a. Daily average river flows ranged from 198.5 to 212.6 kcfs. Daily average powerhouse forebay elevation ranged from 72.7' to 73.7' msl. Daily average project tailwater ranged from 17.0' to 17.7' msl. Secchi disk measurements ranged from 5.0' to 7.0'+. Daily average water temperature ranged from 42°F to 44°F.
- b. Daily average spill ranged from 1.2 to 1.3 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
02	1300 on 20 March	1402 on 20 March	Forced OOS, Replace exciter brushes
10	1359 on 19 March	1549 on 19 March	Trash raking, high debris drawdown
11	0736 on 08 Jan	0824 on 20 March	FGE Work / Turbine Integrity Inspection
15	0032 on 19 March	1624 on 19 March	Thrust collar inspection
16	0019 on 19 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
3/18	0.2'	0.3'
3/19	0.1'	0.1'
3/20	0.1'	0.1'
3/21	0.3'	0.3'
3/22	0.1'	0.1'
3/23	0.1'	0.2'
3/24	0.1'	0.2'

## 2. MAINTENANCE ACTIVITIES:

- f. Auxiliary Water System Closures.
  - (1) FV1-1 was closed from 1005 to 1030 on 22 March for trash rack cleaning.
- 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 video counting (0400 to 2000) began on 01 March.
- 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 2. 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 18-21, & 23-24 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
<b>BRADFORD ISLAND</b>				
3/18,19,	A-Branch	Differential > 1.1'	Unknown	NA
<b>CASCADES ISLAND - Nothing to report</b>				
<b>WASHINGTON SHORE - Nothing to report</b>				
3/23	NDE	Entrance diff <1'	Unknown	Monitor

(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 24 March.

(3) SLEDs are installed at all entrances.

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.

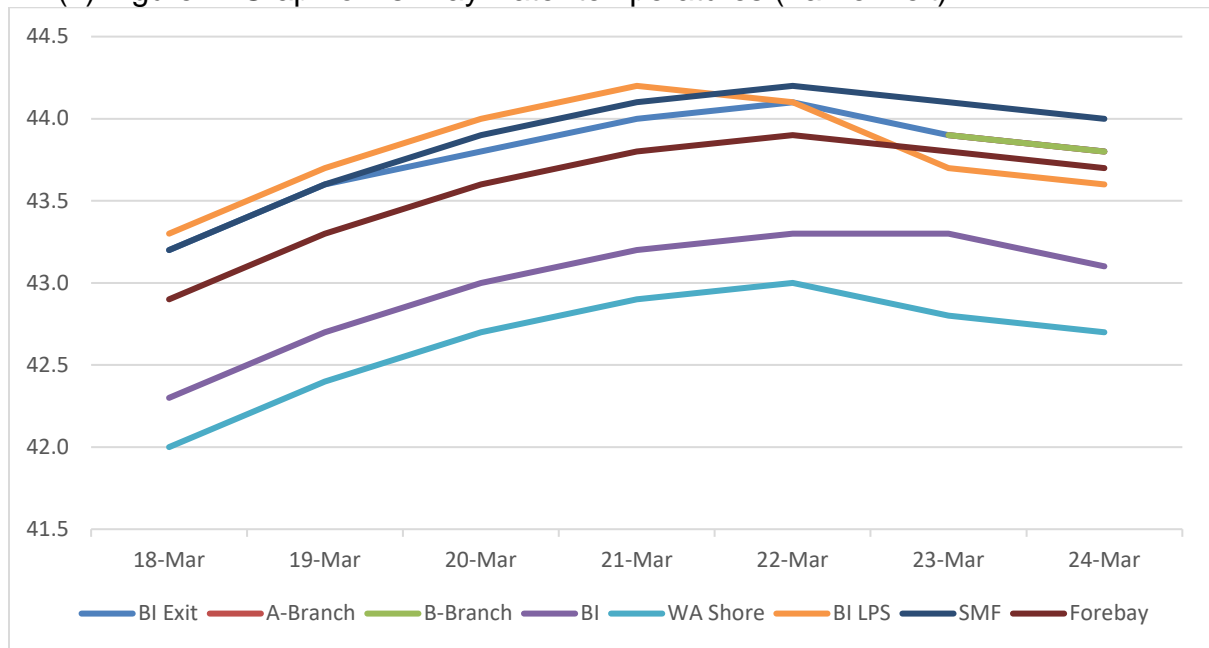
**4. WATER QUALITY MONITORING:**

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

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

Date	BI Exit	A-Branch	B-Branch	BI	WA Shore	BI LPS	SMF	Forebay
18-Mar	43.2	---	---	42.3	42.0	43.3	43.2	42.9
19-Mar	43.6	---	---	42.7	42.4	43.7	43.6	43.3
20-Mar	43.8	---	---	43.0	42.7	44.0	43.9	43.6
21-Mar	44.0	---	---	43.2	42.9	44.2	44.1	43.8
22-Mar	44.1	---	---	43.3	43.0	44.1	44.2	43.9
23-Mar	43.9	43.9	43.9	43.3	42.8	43.7	44.1	43.8
24-Mar	43.8	43.8	43.8	43.1	42.7	43.6	44.0	43.7

(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 31 August sets wintertime (01 September 2017 through 31 March 2018) spill priority lists and spill caps for lack of load conditions.
- b. 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.
- c. A teletype sent on 22 March updates previous teletypes regarding spill priority lists and spill caps for lack of load conditions.

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