

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)
 SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 15 of 2018, which covers the period from 08-14 April.

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 264.3 to 297.1 kcfs. Daily average powerhouse forebay elevation ranged from 73.5' to 74.9' msl. Daily average project tailwater ranged from 20.9' to 22.4" msl. Secchi disk measurements ranged from 4.0' to 6.0'. Daily average water temperature ranged from 46°F to 47°F.
- b. Daily average spill ranged from 31.8 to 127.3 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
04	0822 on 02 April	---	5 year overhaul
05	1323 on 12 April	1402 on 12 April	Switching bank 7/8
06	1323 on 12 April	1402 on 12 April	Switching bank 7/8
07	0922 on 06 April	---	Underrated disconnect
08	0921 on 06 April	---	Underrated disconnect

- 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
4/8	0.3'	0.4'
4/9	0.3'	0.4'
4/10	0.5'	0.7'
4/11	0.3'	0.4'
4/12	0.4'	0.4'
4/13	0.5'	1.1'
4/14	0.6'	0.8'

2. MAINTENANCE ACTIVITIES:

f. Auxiliary Water System Closures.

(1) FV1-1 was closed from 1104 to 1129 on 09 April, and from 0719 to 0730 on 11 April to clean trash rakes.

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 PDS and fish/debris separator was light to moderate consisting mostly of sticks and other woody debris. The kelt trigger for B2CC operations was reached with a cumulative total of 20 fish as of 1200 on 07 April. Detailed fallback observations for Kelt Trigger purposes are available at the [FPC website](#). Fallbacks observed this week: 16 steelhead and 2 salmon. No fish collections for research purposes were conducted this week.

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 began on 10 April. Equipment installation began on 22 February.

3. FISHWAYS:

a. Project biologists inspected 08-14 April.

b. Fish passage plan observations.

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

Date	Location	FPP Items	Cause	Response
BRADFORD ISLAND				
4/12	A-Branch	Differential > 1.1'	Unknown	NA
CASCADES ISLAND – Nothing to report				
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. PH2 lines are the last to await installation.

(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 14 April.

(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 is in 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.

Date	Gulls	Cormorants	Terns	Wh. Pelicans	Grebes
4/8	0	0	0	0	0
4/9	41	1	0	0	0
4/10	6	0	0	0	0
4/11	76	1	0	0	0
4/12	65	0	0	0	0
4/13	43	0	0	0	0
4/14	0	0	0	0	0

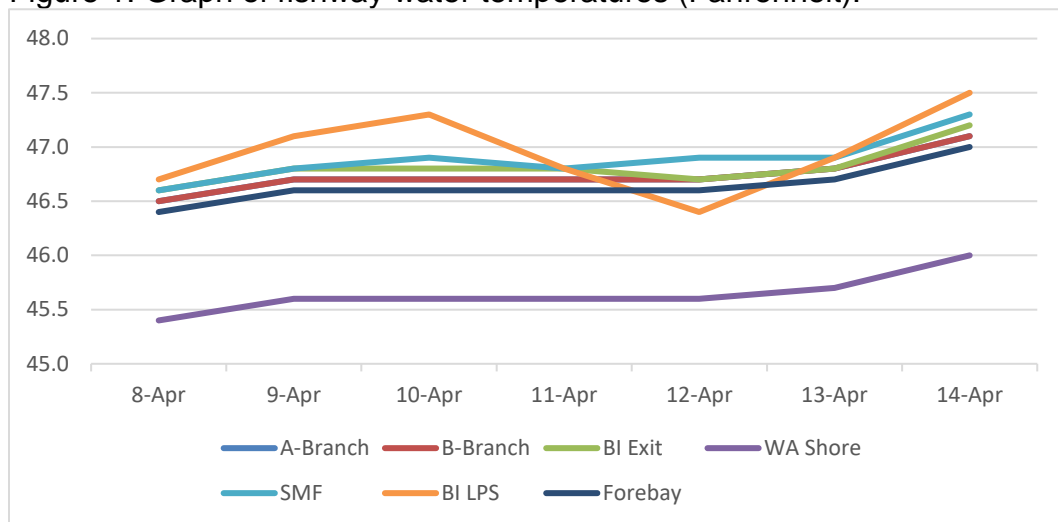
4. WATER QUALITY MONITORING:

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	Forebay
8-Apr	46.5	46.5	46.6	45.4	46.6	46.7	46.4
9-Apr	46.7	46.7	46.8	45.6	46.8	47.1	46.6
10-Apr	46.7	46.7	46.8	45.6	46.9	47.3	46.6
11-Apr	46.7	46.7	46.8	45.6	46.8	46.8	46.6
12-Apr	46.7	46.7	46.7	45.6	46.9	46.4	46.6
13-Apr	46.8	46.8	46.8	45.7	46.9	46.9	46.7
14-Apr	47.1	47.1	47.2	46.0	47.3	47.5	47.0

(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 03 April states that Bonneville dam is to operate in accordance with the 2018 Spring Fish Operations Plan (FOP) to provide spill for fish passage through 15 June.
- c. A teletype sent on 09 April cancels a previous tailwater restriction intended for Chum Salmon egg incubation.
- d. A teletypes sent on 14 April provides updates on spill and gas cap standards that should be followed until further notice.

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