

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)
 SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 14 of 2018, which covers the period from 01—07 April.

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 191.5 to 253.4 kcfs. Daily average powerhouse forebay elevation ranged from 72.5' to 74.7' msl. Daily average project tailwater ranged from 16.4' to 19.9' msl. Secchi disk measurements ranged from 4.0' to 6.0'. Daily average water temperature ranged from 45°F to 46°F.
- b. Daily average spill ranged from 1.2 to 20.4 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	---	OH
07	0922 on 06 April	---	Underrated disconnect
08	0921 on 06 April	---	Underrated disconnect
11	0702 on 04 April	1239 on 04 April	PNNL Equipment Install
12	1242 on 04 April	1606 on 04 April	PNNL Equipment Install
13	0710 on 05 April	0941 on 05 April	PNNL Equipment Install
14	0944 on 05 April	1225 on 05 April	PNNL Equipment Install
15	1227 on 05 April	1543 on 05 April	PNNL Equipment Install
16	0702 on 06 April	0937 on 06 April	PNNL Equipment Install
17	0942 on 06 April	1224 on 06 April	PNNL Equipment Install
18	1228 on 06 April	1526 on 06 April	PNNL Equipment Install

- 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
4/1	-	-
4/2	-	-
4/3	0.1'	0.2'
4/4	0.2'	0.3'
4/5	0.4'	0.5'
4/6	0.1'	0.3'
4/7	0.2'	0.4'

2. MAINTENANCE ACTIVITIES:

f. Auxiliary Water System Closures. Nothing to report.

g. STS/VBS Inspections.

Unit	Date	Run Hours	Comments
11	5/5	315	OK
12	5/5	671	OK
13	5/5	672	OK
14	5/5	664	OK
15	5/5	660	OK
16	5/5	444	OK
17	5/5	676	OK
18	5/5	675	OK

h. Dewatering and Fish Salvages. On 03 April project biologists salvaged 24 juvenile salmonids from the unit 4 scroll case and 2 from the unit 4 draft tube. All fish were released to tailwater in good condition.

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: 12 steelhead. For “Kelt Trigger” purposes, the season-to-date total is 17. 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 1, 3-7 April.
- b. Fish passage plan observations.

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

Date	Location	FPP Items	Cause	Response
4/2,7	BON	No Inspection	Lack of personnel	NA
BRADFORD ISLAND - Nothing to report				
CASCADES ISLAND				
4/1	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. 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 was not conducted.
- (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 was opened from 1130 to 1249 on 06 April to flush debris. It was opened for the season at 0141 on 07 April due to the start of spring spill, and the kelt trigger was reached at 1243 on the same day (07 April).
- (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
4/1	11	0	0	0	0
4/2	-	-	-	-	-
4/3	-	-	-	-	-
4/4	2	0	0	0	0
4/5	16	0	0	0	0
4/6	6	0	0	0	0
4/7	4	0	0	0	0

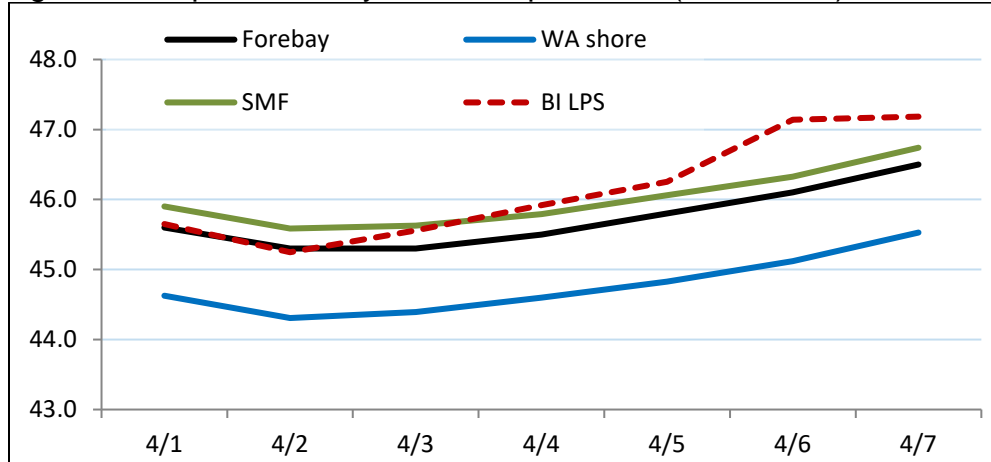
4. WATER QUALITY MONITORING:

a. Fishway Temperatures. Temperatures are taken from 01 March through 30 November. *Not all temperatures are included in this weeks report. Those missing will be in next weeks report.

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

Date	Forebay	WA shore	SMF	BI LPS
4/1	45.6	44.6	45.9	45.7
4/2	45.3	44.3	45.6	45.2
4/3	45.3	44.4	45.6	45.6
4/4	45.5	44.6	45.8	45.9
4/5	45.8	44.8	46.1	46.3
4/6	46.1	45.1	46.3	47.1
4/7	46.5	45.5	46.7	47.2

(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 teletypes sent on 04 and 07 April updated previous teletypes regarding spill priority lists and spill caps for lack of load conditions until further notice.
- c. A teletype sent on 03 April states tha Bonneville dam is to operate in accordance with the 2018 Spring Fish Operations Plan (FOP) to provide spill for fish passage through 15 June.

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