

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)
 SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 08 of 2019, which covers the period from 17 - 23 February.

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 127.7 to 157.1 kcfs. Daily average powerhouse forebay elevation ranged from 75.1' to 75.7' msl. Daily average project tailwater ranged from 12.3' to 14.2' msl. Secchi disk measurements remained at 7.0'. Daily average water temperature ranged from 36°F to 37°F.
- b. Daily average spill ranged from 1.1 kcfs to 1.2 kcfs.
- c. Unit Operation. PH1 remains the priority powerhouse. Main unit drawdowns are measured every Monday and more frequently as needed.

(1) Table 1. Main Unit Outages.

Unit	OOS Date	RTS Date	Reason
0	0840 on 08 Nov	---	Bad Turbine Bearings
11	1139 on 23 Feb	1459 on 23 Feb	PO STS Install
12	0919 on 23 Feb	1136 on 23 Feb	PO STS Install
13	0700 on 23 Feb	0917 on 23 Feb	PO STS Install
14	0002 on 19 Feb	1629 on 19 Feb	PO Thrust Collar Insp.
14	1433 on 22 Feb	1647 on 22 Feb	PO STS Install
15	0700 on 16 Feb	1338 on 18 Feb	Forebay Dredge Work
15	1143 on 22 Feb	1433 on 22 Feb	PO STS Install
16	0700 on 16 Feb	1339 on 18 Feb	Forebay Dredge Work
16	0918 on 22 Feb	1143 on 22 Feb	PO STS Install
17	0700 on 16 Feb	1352 on 18 Feb	Forebay Dredge Work
17	0700 on 22 Feb	0918 on 22 Feb	PO STS Install
18	0700 on 16 Feb	1352 on 18 Feb	Forebay Dredge Work
18	1159 on 21 Feb	1522 on 21 Feb	PO STS Install

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

(1) Fish Unit Outages. Fish Units are periodically placed into reserve service (RS) to float trash when debris differentials become excessive and trash raking is not possible.

Table 2. Fish Unit Outages

Unit	OOS Date	RTS Date	Reason
F2	0835 on 01 Dec	---	Winter Maint.
F1	0936 on 01 Dec	---	Winter Maint.

e. Table 3. Fish unit drawdowns, in feet. Nothing to report.

2. MAINTENANCE ACTIVITIES:

a. Auxiliary Water System Closures.

(1) FV1-1 was closed from 1336 to 1417 on 19 February for trash rack cleaning.

(2) FV1-1 was closed from 1258 to 1333 on 21 February for trash rack cleaning.

b. STS/VBS Inspections. Installed from 21-23 February.

c. Dewatering and Fish Salvages. Nothing to report.

RESEARCH:

a. Normandeau – Fish counting.

(1) Daytime video (0400 to 2000) began on 01 December. Fish counts can be viewed [here](#).

3. FISHWAYS:

a. Project biologists inspected from 19 - 21 February.

b. Fish passage plan observations.

(1) Table 4. FPP out of criteria items.

Date	Location	FPP Violation	Cause	Response
Bradford Island				
2/19-21	A-Branch	Differential > 1.1'	Unknown	NA
Cascades Island – Nothing to report.				
Washington Shore - Dewatered!				

(2) Bonneville had the majority of its avian lines broken due to ice storms during the 2016/17 winter and PH2 lines are still awaiting reinstallation. On 30 Jan, Spillway and Corner Collector (B2CC) avian lines were removed to facilitate rock removal from the Spillway apron.

(3) On 01 May 2018, FG6-11 was found broken partially open. The diffuser shaft had broken away from the motor. Due to the subsidence issues at Cascades Island, repairs cannot occur until crane support is allowed in the vicinity.

(4) On 18 August 2018, FG6-12 was found to be mechanically bound in the open position. FG6-12 should only be open with tailwaters ranging from 11.0'-33.0'. Due to the subsidence issues at Cascades Island, repairs cannot occur until

crane support is allowed in the vicinity.

- (5) On 13 September 2018, FG6-14 was manually closed, due to issues surrounding FG6-11 and FG6-12 (see above). Through trial and error this was found to help facilitate FPP entrance differential criteria and alleviate “boiling” from adjacent diffusers within the Cascades Island fishway. FG6-14 should be open during tailwaters of 9.0’-28.0’.

c. Adult Fishways.

- (1) The AFF was taken out of service on 07 November.
- (2) Sensor calibration occurred on 20 February
- (3) SLEDs are installed at Bradford and Cascades Island entrances.
 - (a) PH2 SLEDs were removed on 03 December.

d. Juvenile Fishways.

- (1) The ITS was taken out of service on 30 December due to lower gate failure. A teletype sent on 20 February allows opening to pass debris for minimal amount of time needed.
- (2) The hydro-cannon remains offline.
- (3) The B2CC is operating from 0900 – 1500 daily per 15 January teletype. The B2CC may be closed for human safety reasons during PH2 dredging operations scheduled 16-20 February per teletype sent on 15 February.
- (4) The DSM was taken out of service on 19 December.
- (5) STSs were installed between 21-23 February.

e. Lamprey Fishways. All lamprey passage systems remain offline.

f. Avian Monitoring. Avian counts are recorded 01 April – 31 October.

4. WATER QUALITY MONITORING:

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

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 30 August outlines the wintertime spill priority list and wintertime spill caps for all Columbia Basin projects and BPA.
- b. A teletype sent on 21 December updates the Chum Salmon spawning tailwater requirements until further notice.
- c. A teletype sent on 15 January states effective 16 January until further notice to operate the B2 Corner Collector (B2CC) from 0900 -1500 daily. The goal of this operation is to provide a surface bypass route for Steelhead kelts which the PH1 ITS is unavailable.
- d. A teletype sent on 01 February states effective immediately until further notice to operate PH2 with the following unit priority: 11, 12, 13, 14, 15, 16, 17, 18. Continue operating PH1 in the order defined in the 2018 Fish Passage Plan (FPP) Table BON-13 that was revised 06/14/2018. The purpose of this operation is to prioritize units near the PH2 corner collector (B2CC), which is operating due to the outage of the ITS.
- e. A teletype sent on 14 February requests to operate forebay above a minimum of 76.0 feet, soft constraint and above 75.5 feet, hard constraint and up to a maximum of 77.0 feet, hard constraint from 26 February – 01 March from 1200-1600. The purpose of this operation is to support the safe navigation of barges used in construction activities for the BNSF railroad bridge replacement at the mouth of the Wind River.
- f. A teletype sent on 15 February adds language to teletypes sent on 01 and 07 February to allow the closure of the B2CC during forebay dredging.
- g. A teletype sent on 16 February cancels the teletype sent on 07 February, and sets guidelines for accommodating dredge work in the PH2 forebay.
- h. A teletype sent on 16 February requests that forebay operate above a minimum of 75.0 feet, soft constraint effective as soon as practicable. The purpose of this operation is to support the protection of salmon redds during the cleanup of a diesel fuel spill along I-84 in the Gorge near Lindsey Creek.
- i. A teletype sent on 18 February cancels the teletype sent on 16 February that set guidelines for accommodating dredge work in the PH2 forebay.

- j. A teletype sent on 20 February replaces the teletype sent on 15 February and outlines the operation of the B2CC as a surface passage route for steelhead kelts in place of the ITS. ITS may be operated to pass debris for minimal amount of time needed.

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