

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)
 SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 04 of 2019, which covers the period from 20-26 January.

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 112.7 to 140.1 kcfs. Daily average powerhouse forebay elevation ranged from 74.6' to 75.2' msl. Daily average project tailwater ranged from 11.8' to 13.2' msl. Secchi disk measurements remained at 7.0'. Daily average water temperature remained at 40°F.
- b. Daily average spill ranged from 1.0 kcfs to 1.1 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
1	0028 on 03 Dec	---	5 Year Overhaul

- 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 0830 to 1130 on 24 Jan for ROV inspection
- (2) FV3-7 was closed from 0830 to 1130 on 24 Jan for ROV inspection and from 1506 to 1523 on 24 Jan for trash rack cleaning
- (3) FV3-9 was closed from 1506 to 1523 on 24 Jan for trash rack cleaning
- (4) FV4-3 was closed from 1210 to 1240 on 24 Jan for ROV inspection
- (5) FV4-4 was closed from 1210 to 1240 on 24 Jan for ROV inspection
- (6) FV5-3 was closed from 1355 to 1425 on 24 Jan for ROV inspection
- (7) FV5-4 was closed from 1355 to 1425 on 24 Jan for ROV inspection
- (8) FV5-9 was manually set to 0.5' from 1355 to 1425 on 24 Jan for ROV inspection

b. STS/VBS Inspections. Nothing to report.

c. Dewatering and Fish Salvages. Nothing to report.

3. RESEARCH:

a. Normandeau – Fish counting.

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

4. FISHWAYS:

a. Project biologists inspected from 22-24 January.

b. Fish passage plan observations.

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

Date	Location	FPP Violation	Cause	Response
Bradford Island				
1/22-24	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. All zones had been installed besides PH2. PH2 lines are awaiting installation. Numerous lines have since been broken again by high flows and debris at Cascades Island and Spillway locations.
- (3) On 01 May, 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, 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, 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 24 January.
- (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.
- (2) The hydro-cannon remains offline.
- (3) The B2CC is operating from 0900 – 1500 daily per teletype sent on 15 Jan.
- (4) The DSM was taken out of service on 19 December.
- (5) STSs were removed between 17-19 December.

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

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

5. 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.

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