

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 09 of 2019, which covers the period from 24 February – 02 March.

## 1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 130.4 to 154.3 kcfs. Daily average powerhouse forebay elevation ranged from 74.8' to 76.4' msl. Daily average project tailwater ranged from 11.7' to 13.8' msl. Secchi disk measurements ranged from 5.0' to 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. PH2 became the priority powerhouse at 1053 on 28 February. 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

- 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	1049 on 28 Feb	Winter Maint.
F1	0936 on 01 Dec	1053 on 28 Feb	Winter Maint.
F2	1843 on 02 Mar	2019 on 02 Mar	RS (3.7' drawdown)

- e. Table 3. Fish unit drawdowns, in feet.

	F1	F2
28 Feb	0.7'	1.2'
01 Mar	1.3'	2.3'
02 Mar	1.7'	3.7'

**2. MAINTENANCE ACTIVITIES:**

a. Auxiliary Water System Closures.

(1) FV1-1 was closed from 1505 to 1620 on 28 February for trash rack cleaning.

(2) FV3-7 was closed from 1405 to 1428 on 28 February for trash rack cleaning.

(3) FV3-9 was closed from 1405 to 1428 on 28 February for trash rack cleaning.

b. STS/VBS Inspections. Nothing to report.

c. Dewatering and Fish Salvages. Nothing to report.

**RESEARCH:**

a. Fisheries Field Unit (USACE, Portland District) - Fish counting.

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

**3. FISHWAYS:**

a. Project biologists inspected from 26 February – 02 March.

b. Fish passage plan observations.

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

Date	Location	FPP Violation	Cause	Response
<b>Bradford Island</b>				
2/27-3/2	A-Branch	Differential > 1.1'	Unknown	NA
2/28-3/2	FV3-4	Open 50%	Ice caused malfunction	WO
<b>Cascades Island – Nothing to report.</b>				
<b>Washington Shore– Nothing to report.</b>				

(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 did not occur this reporting week.
- (3) SLEDs are installed at Bradford and Cascades Island entrances.
  - PH2 SLEDs were installed on 25 February.

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 due to weather related issues.
- (3) The B2CC is operating from 0900 – 1500 daily per 15 January teletype.
- (4) The DSM returned to service at approximately 1630 on 26 February.
- (5) STSs are installed.

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 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.
- d. 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.
- e. A teletype sent on 20 February replaces the teletype sent on 15 January and 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.

MICHAEL ADAMS, P.E.  
Operations Manager  
Bonneville Project