

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 08 of 2017, which covers the period from 19 February to 25 February.

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 253.3 to 288 kcfs. Daily average powerhouse forebay elevation ranged from 73.3' to 74.1' msl. Daily average project tailwater ranged from 21.4' to 22.5' msl. Secchi disk measurements stayed between 3 and 4.0'. Daily average water temperature ranged from 35 to 38°F.
- b. Spill bays 01 and 18 are open 0.5' to provide attraction flow for Cascades Is fishways, respectively. Daily average spill ranged from 16.5 to 47.6 kcfs.
- c. Unit Operation. PH1 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
7	0103 on 22 Feb	---	Annual, bank 7/8 outage, main unit breaker replacement
8	0103 on 22 Feb	---	
11	1216 on 23 Feb	1450 on 23 Feb	STS install
12	2007 on 14 Sep	---	Exciter ground
13	0937 on 23 Feb	1212 on 23 Feb	STS install
14	0700 on 22 Feb	0934 on 22 Feb	STS install
15	1427 on 22 Feb	1703 on 22 Feb	STS install
16	1205 on 22 Feb	1419 on 22 Feb	STS install
17	0937 on 22 Feb	1155 on 22 Feb	STS install
18	0659 on 22 Feb	0926 on 22 Feb	STS install

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

(1) F1 and F2 went OOS for winter maintenance at 0300 on 25 November.

2. MAINTENANCE ACTIVITIES:

- a. Auxiliary Water System Closures.

(1) FV1-1 was closed for cleaning from 0708 to 0726 on 21 Feb.

- b. STS/VBS inspections. No inspections were conducted this week.
- c. Dewatering and Fish Salvages. No salvages were conducted this week.
- d. Winter Maintenance update.

(1) Winter maintenance was finished up at WA shore. The ladder was brought up to functional status in preparation for watering up.

3. RESEARCH:

- a. Normandeau – Fish counting. Video counting continues.

4. FISHWAYS:

- a. Project biologists inspected 21, 22, and 23 February.
- b. Fish passage plan observations.

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

Date	Location	FPP Items	Cause	Response
BRADFORD ISLAND				
1/17 to present	A-branch	FG3-5 closed	Bad hardware alarm	See below
12/29 to present	A-branch	FG3-4 closed	Shaft/gate vibration	See below
2/21-23	A-branch staff gauge	Water over weir > 1.1'	FV3-7 conduit leak	Repair in 2017
CASCADES ISLAND				
2/19-25	CI entrance bay diffusers	Several diffusers closed	Blown gratings and diffuser plates	Repair pending coordination
WASHINGTON SHORE – OOS				

- (2) FG3-3 is currently open and unplugged. The diffuser cannot be repaired until the north PH1CC area is dewatered. The next opportunity will be the 2017-18 winter maintenance period. It should be closed below tailwaters of 8.2' msl.
- (3) The FG3-4 diffuser shaft was found to be vibrating unusually. The diffuser was closed on 29 Dec and will be kept closed until the 2017-18 dewatering to prevent further damage to the gate. FG3-5 was opened in its place, but a “bad hardware alarm” has stopped that valve from working. It will also be kept half way open.

(4) During an annual ROV inspection, several diffuser gratings and access hatches were discovered to be blown off/open in the Cascades Island Entrance Bay. In response, diffusers FG6-18,19, and 20 are being kept closed so that there is no attraction flow to those places. Repairs are pending coordination.

c. Adult Fishways.

(1) The WA shore ladder, including the UMT, is dewatered.

(2) The Cascades Island exit was opened at ~1300 on 23 November. A bulkhead is placed at the south end of the UMT to separate it from WA shore.

(3) The AFF is dewatered.

(4) Sensor calibration was completed on 24 Feb.

(5) SLEDS remain installed in the operating fishways (CI, B-branch, PH1).

d. Juvenile Fishways.

(1) The ITS remains in service.

(2) The hydro-cannon is off.

(3) The B2CC is open intermittently with spill, per FPP section 2.2.7.

(4) The DSM was returned to service on 21 Feb.

(5) Bonneville had the majority of its avian lines broken due to the ice storm (not including the lines that were already removed for the spillway work). These broken lines will be replaced in March when the spillway lines are reinstalled.

e. Lamprey Fishways.

(1) All LPSs are out of service.

f. Avian Monitoring. Bird counts are made between 01 April and 31 October.

5. WATER QUALITY MONITORING:

a. Fishway Temperatures. Temperatures are taken from 01 March through 30 November. Forebay temperatures can be found [online](#).

b. Zebra Mussel Monitoring. No signs of colonization were observed this reporting

week.

6. CONSTRUCTION:

- a. Flow control plates as part of the FGE modifications are installed in units 11, 12, and 13 at PH2. Unit 14 work is on hold pending river conditions.
- b. Lamprey flume extensions and modifications were wrapped up in the upper WA shore ladder during winter maintenance. Orifice plating has been installed in the lower fishway. Rest boxes are installed.
- c. Repairs to the B-branch apron in the south spillway tailrace started 23 January and will go through February.

7. HAZMAT, SPILLS AND CLEANUP: Nothing to report.

8. TELETYPES CURRENTLY IN EFFECT:

- a. A teletype sent on 24 February provides updated wintertime spill and lack of load conditions to be used from 23 February 2017 through 31 March 2017.
- b. A teletype sent on 04 Jan states that effective at 1400 on 04 Jan, minimum tailwater at Bonneville is 12.5 feet during all hours for Chum incubation.
- c. A teletype sent on 16 Jan states that effective immediately and continuing through 20 March, all effort be made to avoid exceeding 84.8 feet at the Dalles tailwater. The intent is to protect workers and equipment in the de-watered Nav Lock.
- d. A teletype sent on 23 Feb updates previous teletypes, stating that until further notice, spill at Bonneville is to be avoided to the greatest extent possible. The Bonneville forebay is to be held at a maximum of 75.5 feet, soft constraint, to reserve space for capturing potential spill. BPA is requested to notify the Bonneville control room at least 3 hours prior to anticipated spill, and, is spill is imminent, an order of operations is outlined.

JERRY A. CARROLL
Operations Manager
Bonneville Project