

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 06 of 2017, which covers the period from 05 February to 11 February.

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 171.7 to 235.4 kcfs. Daily average powerhouse forebay elevation ranged from 73.9' to 74.7' msl. Daily average project tailwater ranged from 16' to 20.7' msl. Secchi disk measurements stayed between 6 and 7.0'. Daily average water temperature ranged from 34 to 36°F.
- b. Spill bays 01 and 18 are open 0.5' to provide attraction flow for Cascades Is. and B-branch fishways, respectively. Daily average spill ranged from 0.5 to 44.4 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	---	
12	2007 on 14 Sep	---	Exciter ground
13	0950 on 20 Jan	---	FGE Mods
14	0857 on 11 Feb	---	FGE Mods

- 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 0731 to 0745 on 06 Feb, and from 0721 to 0728 on 09 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) FV6-9 is installed. B-valves are complete. A-valves are complete. C-valve work is underway. The Emergency Relief Gate in the DSM is installed. Crowder work is underway. Fish Unit 1 is being worked on and STS maintenance is underway.

3. RESEARCH:

a. Normandeau – Fish counting. Video counting continues.

4. FISHWAYS:

a. Project biologists inspected 06, 08, and 09 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
2/8	A-branch staff gauge	Water over weir > 1.1'	FV3-7 conduit leak	Repair in 2017
CASCADES ISLAND - Nothing to report				
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.

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 occurred on 02 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 taken out of service on 11 December. The flushing valve ran until 15 December.
- (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 the first half of 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 continue to be installed at PH2, in units 11 – 14 during winter maintenance. VBS plates will also be installed.

b. Lamprey flume extensions and modifications are occurring in the upper WA shore ladder during winter maintenance. Orifice plating has been installed in the lower fishway. Rest boxes are being installed.

- c. The Navigation Lock was returned to service at 1100 on 09 February.
- d. 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 30 August provides wintertime spill and lack of load conditions to be used from 01 September 2016 through 31 March 2017.
- b. A teletype sent 13 October states effective immediately until further notice do not spill at BON for lack-of-load conditions. If spill becomes necessary, implement the modified spill patterns provided to the BON control room. This operation is to minimize erosion in the spillway tailrace at B-branch ladder.
- c. 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.
- d. 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.
- e. A teletype sent on 21 Jan states 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, if spill is imminent, an order of operations is outlined.
- f. A teletype sent on 08 Feb states that from 0800 to 1200 on 14 Feb Bonneville Dam forebay is to operate between 74.5 and 75.5 feet for shipping operations near Bingen, Washington.

JERRY A. CARROLL
Operations Manager
Bonneville Project