

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 02 of 2017, which covers the period from 08 – 14 January.

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 168.4 to 199.8 kcfs. Daily average powerhouse forebay elevation ranged from 72.5' to 73.4' msl. Daily average project tailwater ranged from 15' to 17.3' msl. Secchi disk measurements ranged from 6 to 7.0' or greater. Daily average water temperature ranged from 34 to 37°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 0.8 to 1.0 kcfs.
- c. Unit Operation. PH1 remains the priority powerhouse. Main unit draw downs 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	0006 on 15 Dec	---	Annual maintenance, FGE mods
12	2007 on 14 Sep	---	Exciter ground
3	0747 on 09 Jan	1301 on 09 Jan	Rake Trash
4	1303 on 09 Jan	1639 on 09 Jan	Rake Trash
5	0751 on 09 Jan	1134 on 09 Jan	Rake Trash
2	1238 on 09 Jan	1602 on 09 Jan	Rake Trash
11	1029 on 11 Jan	1426 on 11 Jan	Rake Trash
10	0750 on 12 Jan	1114 on 12 Jan	Rake Trash
9	1116 on 12 Jan	1407 on 12 Jan	Rake Trash
6	1457 on 12 Jan	1623 on 12 Jan	Rake Trash
1	0708 on 13 Jan	0949 on 13 Jan	Rake Trash
3	0951 on 13 Jan	1355 on 13 Jan	Rake Trash
4	1356 on 13 Jan	1544 on 13 Jan	Rake Trash
18	0715 on 14 Jan	1033 on 14 Jan	Rake Trash
17	1033 on 14 Jan	1316 on 14 Jan	Rake Trash
16	1316 on 14 Jan	1544 on 14 Jan	Rake Trash

- 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 0730 to 0904 on 09 Jan, from 1015 to 1034 on 14 Jan.
- (2) FV3-7 was closed for cleaning from 0949 to 1009 and 1527 to 1606 on 09 Jan, from 0715 to 0800 on 12 Jan, and from 1035 to 1103 on 14 Jan.
- (3) FV3-9 was closed for cleaning from 1009 to 1028 on 09 Jan, from 0715 to 0800 on 12 Jan, and from 2315 to 0204 on 14 Jan.
- (4) FV5-9 was closed for cleaning from 1105 to 1128 on 09 Jan.

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 has been rehabbed. New gates for diffusers B5 and B6 have been installed. Diffusers A1 and A2 were removed and are undergoing rehab. The Emergency Relief Gate in the DSM is undergoing maintenance. Grating replacement is occurring in the PH2 collection channel.
- (2) Fishway maintenance has been slowed by weather conditions. Nav lock maintenance is continuing..

3. RESEARCH:

a. Normandeau – Fish counting. Video counting continues.

4. FISHWAYS:

- a. Project biologists inspected 10 and 12 January.
- b. Fish passage plan observations.

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

Date	Location	FPP Items	Cause	Response
BRADFORD ISLAND – Nothing to report				
1/10-1/12	FG3-5	Closed	Tripping	See below
1/10-1/12	A-branch	FG3-4 closed	Shaft/gate vibration	See below
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.
- (4) FG3-5 was continuously tripping and was closed to prevent damage. FV3-6 will be opened in its place as dictated by tailwater.

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 did not occur this week.
- (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.

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.
- c. The Navigation Lock was taken out of service at 0600 on 12 December for extended maintenance as part of an extended winter maintenance coordinated for the Columbia River system. It will return to service on 9 February.
- d. Repairs to the B-branch apron in the south spillway tailrace will occur starting 09 January.

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 28 October states the during the official Chum spawning period but no later than 15 January, project outflows may be decreased to 58 kcfs, hard constraint, as long as the Vancouver gauge is maintained at 3.0' or higher. When outflows are reduced due to high water, there is no daily minimum outflow if the 3.0' requirement at the Vancouver gauge is met.
- d. A teletype sent on 21 December states that effective at 1400 on 21 December, until further notice, minimum tailwater elevation is 13.0' during all hours. The intent is to ensure sufficient tailwater elevation to protect Chum redds in the Ives/Pierce Island area during the egg incubation period.
- e. A teletype sent on 04 Jan states that effective at 1400 on 04 January, minimum tailwater at Bonneville is 12.5 feet during all hours for Chum incubation.

- f. A teletype sent on 06 Jan sets a modified spill pattern and a 3 hour minimum notification time for spill for erosion repairs along Bradford Island B branch bank. It also sets a maximum forebay elevation of 75.5 for capturing potential spill and providing time for notification.
- g. A teletype sent on 11 Jan states that on 14 Jan , a spill test will be conducted at Bonneville to evaluate the spill discharge that may be tolerated by the contractor working in the B-branch erosion repairs. The spill test will begin at approximately 1000 hours and last no more than 2 hours.

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