

## MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 43 of 2017, which covers the period from 22-28 October.

**1. OPERATION SUMMARY:**

- a. Daily average river flows ranged from 89.8 to 117.6 kcfs. Daily average powerhouse forebay elevation ranged from 73.7' to 76.1' msl. Daily average project tailwater ranged from 7.8' to 12.6' msl. Secchi disk measurements ranged from 0.5' to 4.0'. Daily average water temperature ranged from 56°F to 59°F.
- b. Daily average spill ranged from 1.0 to 1.1 kcfs.
- c. Unit Operation. PH2 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
0	0624 on 24 Oct	1149 on 24 Oct	Trash rack inspection
7	0103 on 22 Feb	1654 on 25 Oct	Annual, bank 7/8 outage, main unit breaker replacement
8	0103 on 22 Feb	1654 on 25 Oct	
5	0839 on 23 Oct	0904 on 23 Oct	Switching to restore bank 7/8
5	1537 on 23 Oct	1615 on 23 Oct	Switching to restore bank 7/8
5	1642 on 24 Oct	1654 on 24 Oct	Switching to restore bank 7/8
6	0839 on 23 Oct	0904 on 23 Oct	Switching to restore bank 7/8
6	1537 on 23 Oct	1615 on 23 Oct	Switching to restore bank 7/8
6	1642 on 24 Oct	1654 on 24 Oct	Switching to restore bank 7/8
17	0717 on 10 Oct	---	4 Year Overhaul
18	0930 on 21 Aug	---	Exciter trip

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

(1) Table 2. Fish unit drawdowns, in feet.

Date	F1	F2
10/22	0.8'	0.9'
10/23	0.1'	0.1'
10/24	0.3'	0.9'
10/25	0.2'	0.2'
10/26	1.0'	1.0'
10/27	0.3'	0.5'
10/28	2.0'	3.6'

**2. MAINTENANCE ACTIVITIES:**

- a. Auxiliary Water System Closures.
  - (a) FV 1-1 was closed for cleaning from 0702 to 0721 on 23 October, 1330 to 1350 on 24 October, 0721 to 0733 on 25 October, and 0704 to 0719 on 26 October.
- b. STS/VBS inspections. None.
- c. Dewatering and Fish Salvages. None.

**3. RESEARCH:**

- a. Normandeau – Fish counting. Visual counting continues.
- b. PSMFC – Smolt Monitoring. Outfall hydro-cannons are operational. Avian hazing concluded for the season on 31 July. Spill and corner collector operations for the juvenile fish passage season concluded just after midnight on 01 September. Gas Bubble Trauma (GBT) monitoring activities have concluded for the season. Please follow [this link](#) to the FPC web page for further details. Truck releases of summer/fall out-migrants originating from Snake River dams began on 16 August and occur every other day. Fallbacks observed this week: 12 steelhead, 45 salmon and 13 unknown salmonids. No fish were collected for research this week.
- c. WDFW – Seine Mortality Study. Sampling concluded on 25 October.

**4. FISHWAYS:**

- a. Project biologists inspected 22-28 October.
- b. Fish passage plan observations.
  - (1) Table 3. FPP out of criteria items.

Date	Location	FPP Items	Cause	Response
<b>BRADFORD ISLAND</b>				
10/25,27-28	PH1CC	N-Diff > 2.0'	Unknown	NA
<b>CASCADES ISLAND - Nothing to report</b>				
<b>WASHINGTON SHORE</b>				
10/24-25,27	Weir 38	Differential < 0.9'	Unknown	NA

- (1) 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.
- (2) The FG3-4 diffuser shaft was found to be vibrating unusually. The diffuser was closed on 29 Dec 2016 to prevent further damage to the gate. The next

opportunity for repair is the 2017-18 winter maintenance period.

- (3) FG3-8 was found to be banging loudly on 11 May. It was closed until repairs can be made. It should be open above tailwaters of 28.2' msl.
- (4) Bonneville had the majority of its avian lines broken due to ice storms during the 2016/17 winter. Avian lines will be replaced after the new FY & pending results from hydro surveys scheduled to occur 25-26 September.
- (5) PH2 diffuser B4 was discovered to have its stem bent on 24 May. It likely occurred while trying to close and is believed to be open. It should be closed at tailwaters above 31.0' and below 11.0' msl.
- (6) The NDE cannot open past 5' putting the entrance into FPP violation for submergence (>13.0'). It is believed to be full of sand. The NDE gate will have to be removed at a future date and the sand sucked in order for this entrance be in compliance.

b. Adult Fishways.

- (1) The AFF remains in service.
- (2) Sensor calibration occurred on 26 October.
- (3) SLEDs are installed in all fishway entrances.

c. Juvenile Fishways.

- (1) The ITS remains in service.
- (2) The hydro-cannon is on.
- (3) The B2CC is out of service.
- (4) The DSM remains in service.

d. Lamprey Fishways.

- (1) The WA AWS, CI, and BI LPS all remain in service. The NDE LFS/LPS went out of service for the season at approximately 1030 on 24 August due to extremely low fish counts.

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

Date	Gulls	Cormorants	Terns	Wh. Pelicans	Grebes
10/22	20	100	0	0	0
10/23	0	0	0	0	0
10/24	250	100	0	0	0
10/25	0	0	0	0	0
10/26	0	0	0	0	0
10/27	0	0	0	0	0
10/28	4	2	0	0	0

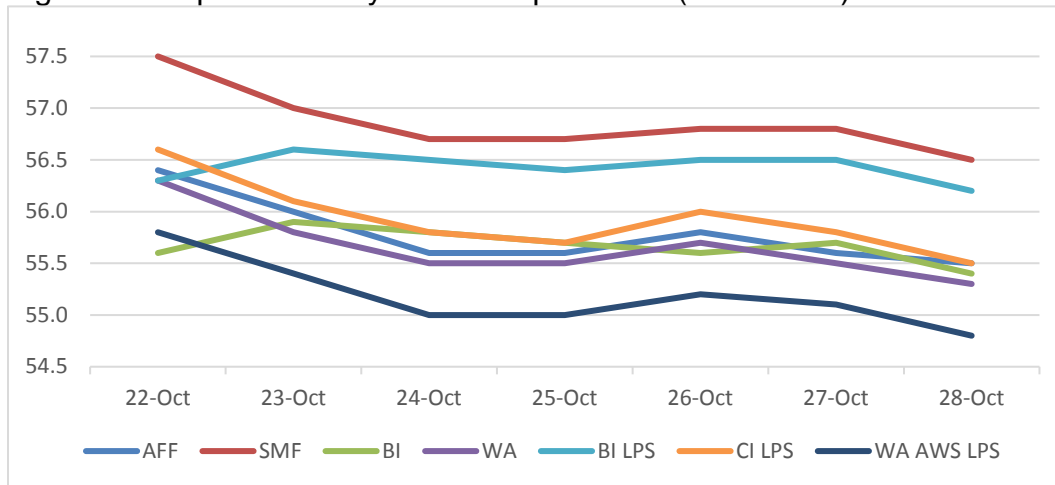
## 2. WATER QUALITY MONITORING:

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

(1) Table 4. Average daily fishway water temperatures (Fahrenheit).

Date	AFF	SMF	BI	WA	BI LPS	CI LPS	WA AWS LPS
22-Oct	56.4	57.5	55.6	56.3	56.3	56.6	55.8
23-Oct	56.0	57.0	55.9	55.8	56.6	56.1	55.4
24-Oct	55.6	56.7	55.8	55.5	56.5	55.8	55.0
25-Oct	55.6	56.7	55.7	55.5	56.4	55.7	55.0
26-Oct	55.8	56.8	55.6	55.7	56.5	56.0	55.2
27-Oct	55.6	56.8	55.7	55.5	56.5	55.8	55.1
28-Oct	55.5	56.5	55.4	55.3	56.2	55.5	54.8

b. Figure 1. Graph of fishway water temperatures (Fahrenheit).



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

3. **CONSTRUCTION:** Nothing to report.

**4. HAZMAT, SPILLS AND CLEANUP:** Nothing to report.

**5. TELETYPES CURRENTLY IN EFFECT:**

- a. A teletype updated on 21 June provides spill caps and lack of load spill conditions to be used from 0000 on 01 April until further notice.
- b. A teletype sent on 23 October requests that from 0700 to 1700 on 30 October, BON pool be held below 73.0' soft constraint and 73.5' hard constraint to facilitate work along the Hood River waterfront at the Port of Hood River. The goal of this teletype is to hold the Columbia River at 74.0' in Hood River.

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