

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 44 of 2017, which covers the period from 29 October – 04 November.

1. OPERATION SUMMARY:

a. Daily average river flows ranged from 81.2 to 115.9 kcfs. Daily average powerhouse forebay elevation ranged from 73.1' to 75.3' msl. Daily average project tailwater ranged from 8.0' to 10.9' msl. Secchi disk measurements ranged from 5' to 7'. Daily average water temperature ranged from 54°F to 56°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) F2 went out into reserve service (RS) from 1744 to 2013 on 29 October to float trash.

(2) Table 1. Unit Outages.

Unit	OOS Date	RTS Date	Reason
11	0907 on 01 Nov	1236 on 01 Nov	BPA work
12	0907 on 01 Nov	1235 on 01 Nov	BPA work
13	0908 on 01 Nov	1238 on 01 Nov	BPA work
14	0908 on 01 Nov	1239 on 01 Nov	BPA work
15	0903 on 30 Oct	1413 on 30 Oct	BPA work
16	0903 on 30 Oct	1423 on 30 Oct	BPA work
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)

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

Date	F1	F2
10/29	0.1'	3.0'
10/30	0.1'	0.1'
10/31	0.2'	0.2'
11/01	0.4'	0.7'
11/02	0.1'	0.2'
11/03	0.1'	0.4'
11/04	0.2'	1.4'

2. MAINTENANCE ACTIVITIES:

- a. Auxiliary Water System Closures.
 - (a) FV 1-1 was closed for cleaning from 0955 to 1030 on 30 October, 0701 to 0715 on 31 October, and 0719 to 0723 on 02 November.
 - (b) FV 3-7 was closed for cleaning from 1120 to 1150 on 30 October, and 0729 to 0800 on 31 October.
 - (c) FV 3-9 was closed for cleaning from 1120 to 1150 on 30 October, and 0729 to 0800 on 31 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. Smolt monitoring operations concluded for the season at Bonneville Juvenile Fish Monitoring Facility at 0700 on Tuesday, 31 October. The system was placed in bypass mode at that time. Full flow PIT tag interrogation will remain active until the 2-mile pipe is dewatered, typically around mid-December. 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: 6 Steelhead, 29 Salmon and 2 unknown salmonids. No fish were collected for research this week.

4. FISHWAYS:

- a. Project biologists inspected 29 October to 04 November.
- b. Fish passage plan observations.
 - (1) Table 3. FPP out of criteria items.

Date	Location	FPP Items	Cause	Response
BRADFORD ISLAND				
10/29,11/1-4	A-Branch	Differential > 1.1'	Unknown	NA
11/4	PH1CC S-Diff	< 1.0'	Unknown	NA
11/3	PH1CC N-Diff	> 2.0'	Unknown	NA
CASCADES ISLAND - Nothing to report				
WASHINGTON SHORE				
10/31,11/2-4	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 did not occur this reporting week.
- (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 NDE LFS/LPS went out of service for the season on 24 August due to extremely low fish counts. The BI, CI, and WA AWS LPSs were taken out of service on 31 October.

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

Date	Gulls	Cormorants	Terns	Wh. Pelicans	Grebes
10/29	0	0	0	0	0
10/30	0	0	0	0	0
10/31	0	0	0	0	0
11/1	0	0	0	0	0
11/2	33	0	0	0	0
11/3	6	0	0	0	0
11/4	0	0	0	0	0

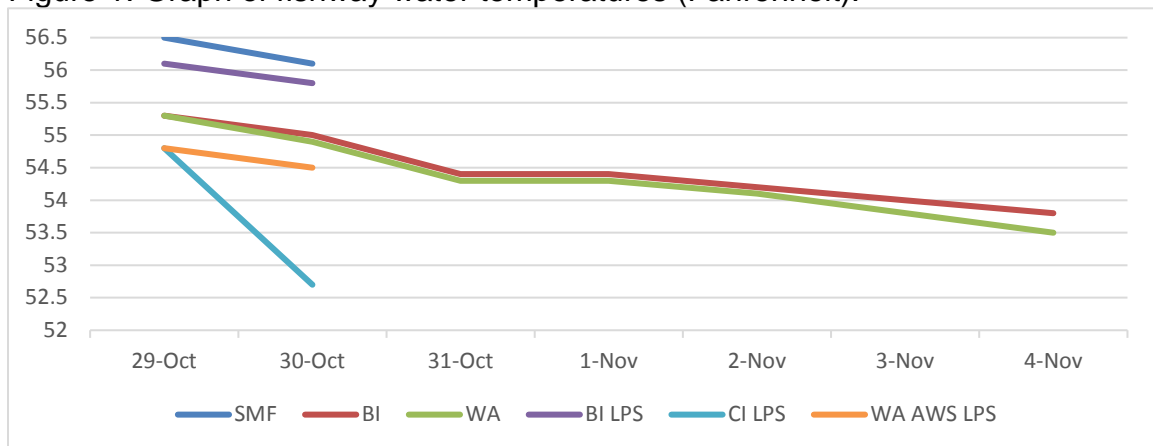
2. WATER QUALITY MONITORING:

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	SMF	BI	WA	BI LPS	CI LPS	WA AWS LPS
29-Oct	56.5	55.3	55.3	56.1	54.8	54.8
30-Oct	56.1	55	54.9	55.8	52.7	54.5
31-Oct	-	54.4	54.3	-	-	-
1-Nov	-	54.4	54.3	-	-	-
2-Nov	-	54.2	54.1	-	-	-
3-Nov	-	54	53.8	-	-	-
4-Nov	-	53.8	53.5	-	-	-

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.
- c. A teletype sent on 02 October outlines operations for Chum spawning. Effective 0600 on 07 November until further notice, as project outflows increase, operate the Bonneville tailrace at all hours in the range of 11.5' to 13.0'. Then if necessary to increase project outflow, tailwater may be operated up to 16.5' from 1700 to 0600, while concentrating the highest elevations around 2400. Then, if necessary operate up to 18.5' from 1700 to 0600. Then, if increasing river flows preclude the ability to manage the tailwater within the steps above, operate to provide a tailwater in the range of 13.0' to 16.5' during daytime hours (0600 to 1700) and up to the maximum within project 24-ramp rate limits during nighttime hours (1700-0600). The goal of this operations is to improve conditions at the Ives/Piece island complex for Chum Salmon spawning.

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