

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 26 of 2017, which covers the period from 25 June to 01 July.

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 235.5 to 313.0 kcfs. Daily average powerhouse forebay elevation ranged from 73.1' to 73.8' msl. Daily average project tailwater ranged from 18.9' to 23' msl. Secchi disk measurements ranged from 3.0' to 4.0' all week. Daily average water temperature ranged from 63°F to 65°F.
- b. Summer spill began 16 June. Daily average spill ranged from 90.8 to 101.2 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
5	0000 on 12 Jun	1450 on 29 Jun	Annual maintenance
6	0001 on 12 Jun	1457 on 29 Jun	Annual maintenance
7	0103 on 22 Feb	---	Annual, bank 7/8 outage, main unit breaker replacement
8	0103 on 22 Feb	---	
11	1045 on 26 Jun	1355 on 26 Jun	Rake trash
17	0702 on 27 Jun	---	FGE Mods
17	1619 on 28 Jun	---	Forced out- STS stuck in slot
18	0849 on 26 Jun	1043 on 26 Jun	Rake trash

- d. Fish Units. Second Powerhouse fish units provide attraction flow for the Washington Shore (WS) fish ladder. Nighttime operations for lamprey began 01 June.

- (1) Unit F1 was placed in reserve service to float debris from 1849 to 1922 on 24 June.
- (2) Unit F2 was placed in reserve service to float debris from 2003 until nighttime lamprey ops took effect on 23 June, and from 1926 to 2003 on 24 June.
- (3) Table 2. Fish unit drawdowns, in feet.

Date	F1	F2
6/25	0.2	1.6
6/26	0.2	0.8
6/27	0.1	1.9
6/28	0.2	1.0

6/29	0.1	1.2
6/30	0.1	0.7
7/01	1.0	0.3

2. MAINTENANCE ACTIVITIES:

- a. Auxiliary Water System Closures.
 - 1. FV 3-9 was closed for cleaning from 0712 to 0753 on 29 June.
 - 2. FV 3-7 was closed for cleaning from 1529 to 1605 on 29 June.
- b. STS/VBS inspections. None.
- c. Dewatering and Fish Salvages. None.

3. RESEARCH:

- a. CRITFC – Adult sampling. Annual adult sampling in the AFF continues Monday through Friday.
- b. Normandeau – Fish counting. Visual counting continues.
- c. PNNL – FGE testing. A hydroacoustic study at the PH2 gatewells as part of biological testing of the FGE mods continues through 15 July.
- d. PSMFC – Smolt Monitoring. SbyC is active for NOAA. 200 yearling Chinook, subyearling Chinook, and steelhead were examined for GBT: two fish (1.0%) were observed with symptoms. Fallbacks recorded crossing the separator bars: 6 steelhead, 23 salmon, and 3 unknown salmonids. More details can be found on the [FPC web page](#).
- e. USDA – Avian hazing. Deck-based hazing began on 01 April.
- f. USFWS – Fish Health Survey. Juvenile and adult shad, and juvenile hatchery Chinook will be collected from the fish facilities as part of the annual survey. BON mortalities will also be sent to the USFWS for pathogen analysis.
- g. University of Idaho – Video monitoring. A DIDSON camera study began in late April to monitor fish in the UMT junction area near the new LPS extension.

4. FISHWAYS:

- a. Project biologists inspected 25 June, & 27 June – 01 July.

b. Fish passage plan observations.

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

Date	Location	FPP Items	Cause	Response
BRADFORD ISLAND				
6/25-7/1	A-Branch	>1.4'	A-branch diffusers	None
6/25,27,30,7/1	B-Branch Entrance	>2.0'	Level Sensors	Ops Adjusted
CASCADES ISLAND – Nothing to report				
WASHINGTON SHORE				
6/25,28	Weir 37	Water over weir <1.2'	Unknown	None
6/25,27-28	Weir 38	Water over weir <1.2'	Unknown	None
6/26	BON	No Fishway Inspection	NA	None

- (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 2017 to prevent further damage to the gate. The next opportunity for repair is the 2017-18 winter maintenance period.
- (4) 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.
- (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 when high flow conditions reduce to a level that allows safe access to these tailrace locations.
- (6) 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.

c. Adult Fishways.

- (1) The Bradford Island fish ladders went to shad mode at 1500 on 02 June. The Washington shore fish ladders went to shad mode at 1225 on 25 June.
- (2) The AFF remains in service.
- (3) Sensor calibration did not occur this week.
- (4) SLEDs are installed in all fishway entrances.

d. Juvenile Fishways.

- (1) The ITS remains in service.
- (2) The hydro-cannon is on.
- (3) The B2CC was closed from 0620 to 0840 on 29 June for repair on PNLL barge (FGE testing).
- (4) The DSM remains in service.

e. Lamprey Fishways.

- (1) The Bradford Is, Cascades Is, and WA shore AWS LPSs remain in service.
- (2) The NDE LFS/LPS was returned to service at ~1500 on 21 June.

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

Date	Gulls	Cormorants	Terns	Wh. Pelicans	Grebes
6/25	3	1	0	0	0
6/26	-	-	-	-	-
6/27	0	0	0	0	0
6/28	0	0	0	0	0
6/29	0	0	0	0	0
6/30	0	0	0	0	0
7/1	0	0	0	0	0

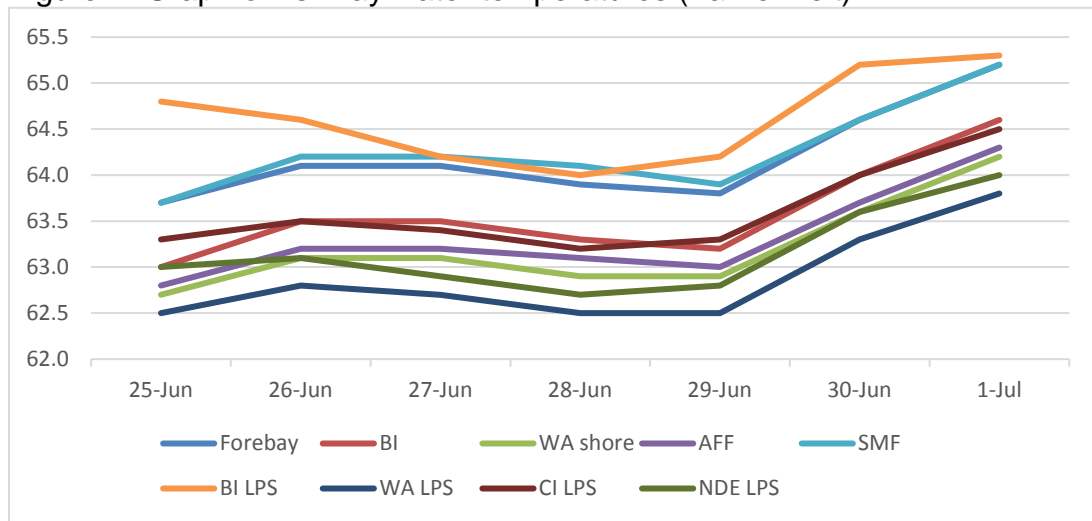
5. WATER QUALITY MONITORING:

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	Forebay	BI	WA shore	AFF	SMF	BI LPS	WA LPS	CI LPS	NDE LPS
25-Jun	63.7	63.0	62.7	62.8	63.7	64.8	62.5	63.3	63.0
26-Jun	64.1	63.5	63.1	63.2	64.2	64.6	62.8	63.5	63.1
27-Jun	64.1	63.5	63.1	63.2	64.2	64.2	62.7	63.4	62.9
28-Jun	63.9	63.3	62.9	63.1	64.1	64.0	62.5	63.2	62.7
29-Jun	63.8	63.2	62.9	63.0	63.9	64.2	62.5	63.3	62.8
30-Jun	64.6	64.0	63.6	63.7	64.6	65.2	63.3	64.0	63.6
1-Jul	65.2	64.6	64.2	64.3	65.2	65.3	63.8	64.5	64.0

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



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

6. CONSTRUCTION: Nothing to report.

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

8. TELETYPES CURRENTLY IN EFFECT:

- a. A teletype sent 06 April states effective 10 April – 31 August, operate BON pursuant to the 2017 FOP, as described within.
- b. 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.
- c. A teletype sent on 15 June requests that BON pool operate within a 1.5' band, hard constraint, between from 0600 on 19 June to 1800 on 22 June and again from 0600 on 26 June to 1800 on 29 June for treaty fishing.
- d. A teletype sent on 28 June requests that BON pool operate within a 1.5' band, hard constraint, between from 0600 on 03 July to 1800 06 July for treaty fishing.

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