

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

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 24 of 2017, which covers the period from 11 to 17 June.

**1. OPERATION SUMMARY:**

- a. Daily average river flows ranged from 333.9 to 419.4 kcfs. Daily average powerhouse forebay elevation ranged from 73.1 to 73.8' msl. Daily average project tailwater ranged from 24.4 to 28.5' msl. Secchi disk measurements ranged from 2.0 to 3.0'. Daily average water temperature ranged from at 58 to 59 °F.
- b. Summer spill began 16 June. Daily average spill ranged from 142.3 to 219.6 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
1	0802 on 15 Jun	1015 on 15 Jun	Raking trash
2	1421 on 14 Jun	1625 on 14 Jun	Raking trash
3	0958 on 14 Jun	1208 on 14 Jun	Raking trash
4	1211 on 14 Jun	1418 on 14 Jun	Raking trash
5	0000 on 12 Jun	---	Annual maintenance
6	0001 on 12 Jun	---	Annual maintenance
7	0103 on 22 Feb	---	Annual, bank 7/8 outage, main unit breaker replacement
8	0103 on 22 Feb	---	
9	0742 on 14 Jun	0954 on 14 Jun	Raking trash
10	0805 on 13 Jun	1019 on 13 Jun	Raking trash
11	1109 on 13 Jun	1405 on 13 Jun	Raking trash
12	1022 on 13 Jun	1106 on 13 Jun	Raking trash
13	0003 on 12 Jun	2015 on 12 Jun	Thrust collar inspection
11-13	1843 on 14 Jun	2210 on 14 Jun	T11 tripped offline
14	1843 on 14 Jun	2203 on 14 Jun	
16	0709 on 27 Mar	---	4-year overhaul

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

Date	F1	F2
6/11	0.5	6.0
6/12	1.1	0.1
6/13	0.2	5.8
6/14	0.1	0.5
6/15	0.2	0.6
6/16	0.2	0.6
6/17	---	5.0

## 2. MAINTENANCE ACTIVITIES:

a. Auxiliary Water System Closures.

(1) FV3-9 was closed for cleaning from 1056 to 1100 on 12 June.

b. STS/VBS inspections. None.

c. Dewatering and Fish Salvages.

(1) On 13 June, Project Biologists recovered 3 juvenile salmonids and ~3 dozen adult shad from a navigation lock tainter valve. All fishes were released to the tailrace in good condition.

## 3. RESEARCH:

a. CRITFC – Adult sampling. Annual adult sampling in the AFF continues.

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. 184 yearling Chinook, subyearling Chinook, and steelhead were examined for GBT: four fish (2.2%) were observed with symptoms. Fallbacks recorded crossing the separator bars: 1 steelhead, 10 salmon, and 1 unknown salmonid. More details can be found on the [FPC web page](#).

e. USDA – Pinniped and avian hazing. Deck-based pinniped hazing began 01 March, avian hazing 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. UI – 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 11 – 17 June.  
 b. Fish passage plan observations.

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

Date	Location	FPP Items	Cause	Response
		No sensor calibration this week		None
<b>BRADFORD ISLAND – See below</b>				
<b>CASCADES ISLAND</b>				
6/15-16	CI entrance	Entrance diff < 1'	Conduit sensor	TR submitted
<b>WASHINGTON SHORE</b>				
6/12-14	Weir 37	Water over weir > 1.2'	Trapping in AFF	None
6/11,15-17	Weir 38	Water over weir < 0.9'	Unknown	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.  
 (2) The AFF remains in service.

- (3) No sensor calibration occurred 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 remains open.
- (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 remains out of service until pumps are installed.

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

Date	Gulls	Cormorants	Terns	Wh. Pelicans	Grebes
6/11	1	1	0	0	0
6/12	1	2	0	0	0
6/13	1	0	0	0	0
6/14	4	0	0	0	0
6/15	10	2	0	0	0
6/16	0	1	0	0	0
6/17	---	---	---	---	---

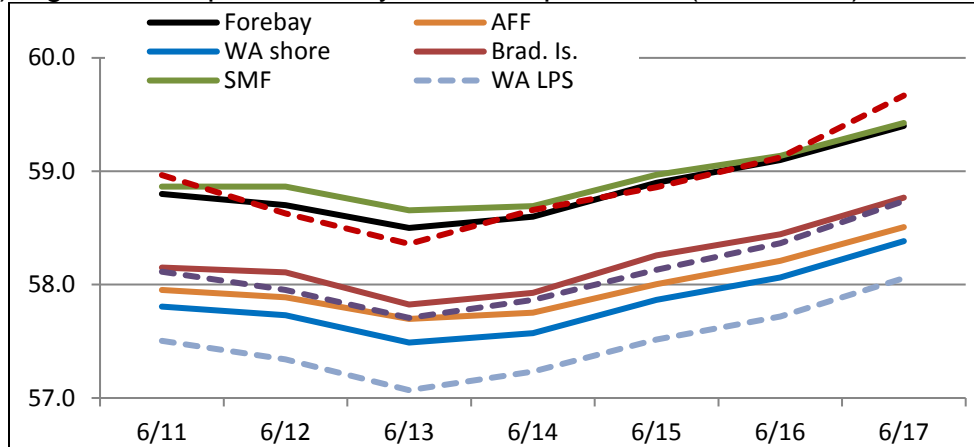
**5. WATER QUALITY MONITORING:**

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	Fishways				Lamprey		
		Brad. Is.	WA shore	AFF	SMF	BI LPS	WA LPS	CI LPS
6/11	58.8	58.2	57.8	58.0	58.9	59.0	57.5	58.1
6/12	58.7	58.1	57.7	57.9	58.9	58.6	57.3	58.0
6/13	58.5	57.8	57.5	57.7	58.7	58.4	57.1	57.7
6/14	58.6	57.9	57.6	57.8	58.7	58.7	57.2	57.9
6/15	58.9	58.3	57.9	58.0	59.0	58.9	57.5	58.1
6/16	59.1	58.4	58.1	58.2	59.1	59.1	57.7	58.4
6/17	59.4	58.8	58.4	58.5	59.4	59.7	58.1	58.7

(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 17 June provides spill caps and lack of load spill conditions to be used from 0000 on 01 April until further notice.
- c. A teletype updated on 31 May requests BON operate with an instantaneous maximum release of 480 kcfs for flood control. This was updated to 500 kcfs on 2 June.
- d. A teletype updated on 07 June requests that BON forebay be maintained between 71.5 and 73.5', soft constraint, from 09 – 11 June during the times listed within. This is for a sports festival in Hood River.
- e. 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.
- f. A teletype sent on 16 June cancels previous flood control restrictions on BON

operations.

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