

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

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 27 of 2016, which covers the period from 26 June to 02 July.

**1. OPERATION SUMMARY:**

- a. Daily average river flows ranged from 174.8 to 198.6 kcfs. Daily average powerhouse forebay elevation ranged from 73.9 to 74.8' msl. Daily average project tailwater ranged from 15.4' to 16.8' msl. Secchi disk measurements ranged from 6 to 7' or greater. Daily average water temperature ranged from 64 to 67° F this week.
- b. Summer spill began 15 June. Daily average spill ranged from 90.9 to 99.7 kcfs.
- c. Unit Operation. PH2 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
5	0000 on 14 Apr	---	Cubicle measurements, 230 kV disconnect broken
6	0000 on 14 Apr	---	
7	0103 on 22 Feb	---	Annual, bank 7/8 outage, main unit breaker replacement, raking trash
8	0103 on 22 Feb	---	
14	0705 on 13 Jun	----	4 year overhaul
11	0856 on 27 Jun	1624 on 27 Jun	STS cord failure

- 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
6/26	0.3	0.2
6/27	0.3	0.3
6/28	0.3	0.3
6/29	0.2	0.2
6/30	0.3	0.2
7/01	0.2	0.2
7/02	0.2	0.2

**2. MAINTENANCE ACTIVITIES:**

- a. Auxiliary Water System Closures.  
(1) FV1-1 was closed for cleaning from 0705 to 0719 on 27 June.
- b. STS/VBS inspections. None.
- c. Dewatering and Fish Salvages. None.

**3. RESEARCH:**

- a. CRITFC – AFF. Adult sampling in the AFF continues.
- b. Normandeau – Fish counting. Visual counting continues.
- c. PSMFC – Smolt Monitoring Program. 50 clipped hatchery fish were collected for UW/NOAA this week. 200 subyearling Chinook were examined with no GBT observed. Fallbacks recorded crossing the separator bars: 1 steelhead, 3 salmon. More details can be found on the [FPC web page](#).
- d. USDA – Avian hazing. Dam-based hazing continues through 31 July.
- e. USFWS – Fish Health Center. Sort by code collection of juvenile hatchery fish began the week of 09 April. Select lamprey mortalities are being held for analysis.
- f. UW/NOAA – Fish condition. Juvenile sampling at the SMF for a study of SAR and differential delayed mortality began 27 April.

**4. FISHWAYS:**

- a. Project biologists inspected 26 June – 02 July.
- b. Fish passage plan observations.

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

Date	Location	FPP Items	Cause	Response
<b>BRADFORD ISLAND – Nothing to report</b>				
<b>CASCADES ISLAND</b>				
6/26	UMT	Water over weir < 1.1'	Unknown	None
<b>WASHINGTON SHORE</b>				
6/26	Weir 37	Water over weir < 1.2'	Unknown	None
7/2	Weir 38	Water over weir < 1.2'	Unknown	None

ongoing	PH2	Diffuser A2 closed	See 4.b.2 below	None
---------	-----	--------------------	-----------------	------

- (2) PH2CC diffuser A2 was unable to be repaired during winter maintenance 2014/15 and remains closed. It should be open when tailwater is above 13.0' msl. The gate for diffuser B5 was removed for repairs and therefore cannot be closed. It should be closed when tailwater is below 12.0' msl or above 28.0' msl.

c. Adult Fishways.

- (1) The WA shore ladder went to shad mode on 01 June, the Bradford ladder on 02 June. (Changes water levels over ladder weirs from 1.0 to 1.3 ft.)
- (2) The AFF remains in service.
- (3) Fishway sensor calibrations occurred on 22 June.
- (4) Eight of 12 floating orifice gates (FOGs) are installed; the 4 middle slots have bulkheads in place. FOG sea lion bars are installed. Plywood sea lion barriers were installed on top of all FOGs on 11 February to prevent sea lions from jumping into the PH2CC.
- (5) The PH2 entrance SLEDs were removed on 16 June. The B-branch and PH1 entrance SLEDs were removed the week of 20 June. The CI SLED remains installed due to a lack of crane availability.

d. Juvenile Fishways.

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

e. Lamprey Fishways.

- (1) The Bradford Island LPS, WA AWS LPS, and the Cascade Island LPS remain in service.
- (2) Due to needed repairs, the NDE LFS/LPS will remain out of service for the 2016 season. Repairs are coordinated for November 2016 (see [16BON11](#)).

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

(1) Table 5. Counts of tailrace foraging piscivorous birds.

Date	Gulls	Cormorants	Terns	Wh. Pelicans	Grebes
6/26	0	2	0	0	0
6/27	0	0	0	0	0
6/28	14	7	0	0	0
6/29	10	3	0	0	0
6/30	3	2	0	0	0
7/1	0	0	0	0	0
7/2	0	5	0	0	0

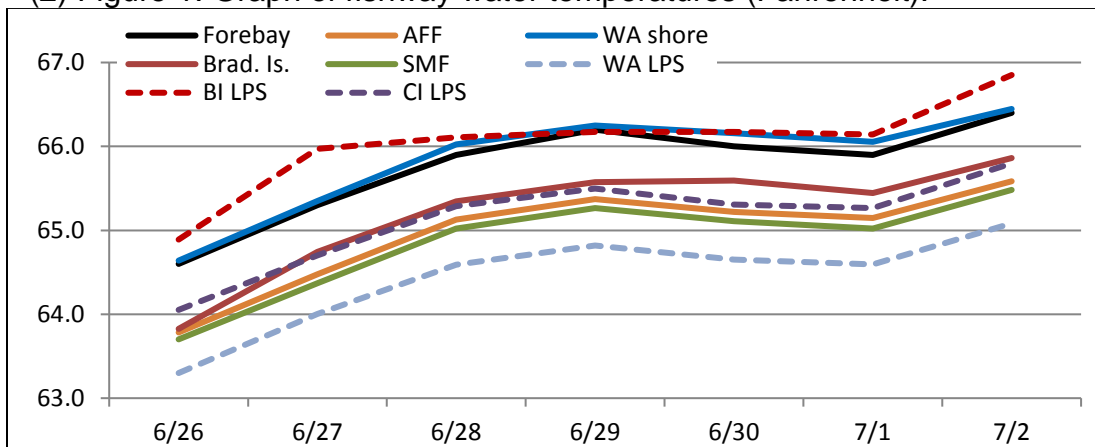
## 5. WATER QUALITY MONITORING:

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	Fishways						Lamprey	
	Forebay	Brad. Is.	WA shore	AFF	SMF	BI LPS	WA LPS	CI LPS
6/26	64.6	63.8	63.7	63.8	64.6	64.9	63.3	64.1
6/27	65.3	64.7	64.4	64.5	65.4	66.0	64.0	64.7
6/28	65.9	65.3	65.0	65.1	66.0	66.1	64.6	65.3
6/29	66.2	65.6	65.3	65.4	66.2	66.2	64.8	65.5
6/30	66.0	65.6	65.1	65.2	66.2	66.2	64.7	65.3
7/1	65.9	65.4	65.0	65.1	66.1	66.1	64.6	65.3
7/2	66.4	65.9	65.5	65.6	66.4	66.9	65.1	65.8

(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 on 23 April updates the spill caps and lack of load conditions to be used from 0000 on 1 April until further notice.
- b. A teletype sent on 30 June updates a previous teletype stating that effective 10 April to 31 August, provide spring and summer spill per the 2015 Fish Operations Plan. A schedule and specific operations are provided. The B2CC will operate concurrent with spill.
- c. A teletype sent on 10 June requests that BON pool operate within a 1.5' band, hard constraint, from 16 – 30 June for the periods and times listed within for summer treaty fishing.
- d. A teletype sent on 29 June requests that BON pool operate within a 1.5' band, hard constraint, from 05 – 14 July for the periods and times listed within for summer treaty fishing.

JERRY A. CARROLL  
Operations Manager  
Bonneville Project