

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

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 24 of 2016, which covers the period from 05 to 11 June.

**1. OPERATION SUMMARY:**

- a. Daily average river flows ranged from 204.0 to 236.4 kcfs. Daily average powerhouse forebay elevation ranged from 73.3 to 74.3' msl. Daily average project tailwater ranged from 17.2 to 19.3' msl. Secchi disk measurements ranged from 5 to 7'. Daily average water temperature ranged from 63 to 65°F this week.
- b. Spring spill continues through 14 June. Daily average spill ranged from 99.2 to 100.7 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	---	
17	0001 on 7 Jun	2046 on 7 Jun	Quarterly thrust collar inspection

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

(1) F1 was out of service from 0030 to 1608 on 6 June due to a governor oil leak.

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

Date	F1	F2
6/5	0.2	0.2
6/6	0.3	0.5
6/7	0.3	0.3
6/8	0.2	0.1
6/9	0.2	0.1
6/10	0.4	0.2
6/11	0.0	0.0

## 2. MAINTENANCE ACTIVITIES:

### a. Auxiliary Water System Closures.

- (1) FV3-7 was closed for cleaning from 0810 to 0845 on 6 June.
- (2) FV3-9 was closed for cleaning from 0810 to 0845 on 6 June.

### b. STS/VBS inspections. Table 2a.

Unit	Date	Run Hours	Comments
11	6/6	827	OK
12	6/6	789	OK
13	6/6	819	OK
14	6/6	758	OK
15	6/6	640	OK
16	6/6	622	OK
17	6/6	839	OK
18	6/6	841	OK

### c. Dewatering and Fish Salvages.

- (1) On 7 June, Project Biologists recovered ~20 Pacific Lamprey from the unit 5 draft tube. All fish were released to the forebay in good condition.
- (2) On 8 June, Project Biologists recovered ~45 Pacific Lamprey, 1 catfish, and 1 sucker from the unit 6 draft tube. All fishes were released to the forebay in good condition.

## 3. RESEARCH:

### a. CRITFC – AFF. Adult sampling in the AFF continues.

### b. NOAA – Sort by code. Sampling as part of a NWW transportation study began the week of 24 April.

### c. Normandeau – Fish counting. Visual counting continues.

### d. PSMFC – Smolt Monitoring Program. SbyC is active for NOAA, 5 clipped juvenile salmonids were collected for UW/NOAA. 100 subyearling Chinook were examined with none exhibiting GBT symptoms. Fallbacks recorded crossing the separator bars: 9 steelhead, 7 salmon, and 1 unknown salmonids. More details can be found on the [FPC web page](#).

### e. USDA – Avian hazing. Dam-based hazing continues through 31 July.

### f. USFWS – Fish Health Center. Sort by code collection of juvenile hatchery fish began the week of 09 April.

- g. 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 05 – 11 June.
- b. Fish passage plan observations.

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

Date	Location	FPP Items	Cause	Response
<b>BRADFORD ISLAND</b>				
5/27	A-branch	Water over weir > 1.1'	FV3-7 conduit leak	Repair in 2017
<b>CASCADES ISLAND – Nothing to report</b>				
<b>WASHINGTON SHORE</b>				
6/6	Weir 37	Water over weir > 1.1'	Unknown	None
6/6	PH2 entr.	Diffs < 1.0'	F1 OOS	Repaired
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) No calibration occurred this week.
- (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) All SLEDs are installed.

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 currently being coordinated for November 2016.

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
6/5	0	10	0	0	0
6/6	0	9	0	0	0
6/7	0	0	0	0	0
6/8	0	3	0	0	0
6/9	0	0	0	0	0
6/10	0	0	0	0	0
6/11	2	0	0	0	0

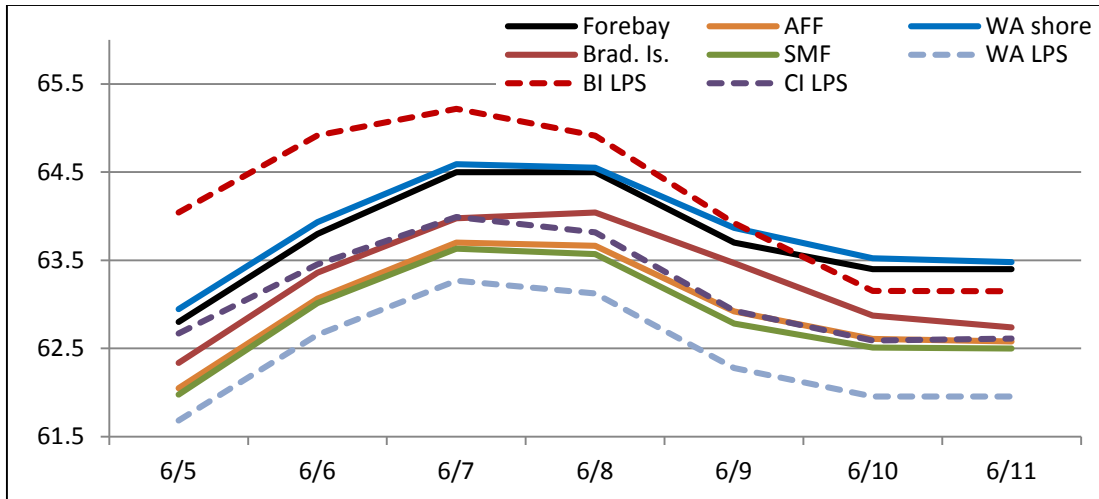
## 5. WATER QUALITY MONITORING:

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	Fishways				Lamprey		
		Brad. Is.	WA shore	AFF	SMF	BI LPS	WA LPS	CI LPS
6/5	62.8	62.3	62.0	62.1	62.9	64.0	61.7	62.7
6/6	63.8	63.4	63.0	63.1	63.9	64.9	62.7	63.5
6/7	64.5	64.0	63.6	63.7	64.6	65.2	63.3	64.0
6/8	64.5	64.0	63.6	63.7	64.5	64.9	63.1	63.8
6/9	63.7	63.5	62.8	62.9	63.9	63.9	62.3	62.9
6/10	63.4	62.9	62.5	62.6	63.5	63.2	62.0	62.6
6/11	63.4	62.7	62.5	62.6	63.5	63.1	62.0	62.6

(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 7 April states 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 6 June requests the BON pool be maintained at 73.5', soft constraint, from load drop-off on the evening of 6 June to 1800 on 10 June in order to prevent oil trapped in a submerged sewer outfall pipe due to the train derailment in Mosier, OR from escaping into the river.
- d. A teletype sent on 6 June updates the previous teletype and requests that BON pool operate between 73.0 – 73.5', soft constraint, effective immediately through 1200 on 7 June in order to provide adequate beach area for trucks to assist in the oil spill recovery efforts in Mosier.
- e. A teletype sent on 7 June requests that BON pool operate no higher than 74.0', hard constraint, and no lower than 72.5', soft constraint effective immediately through 1500 on 7 June in order to allow sampling of a manway drained of oil as well as guarding against undetected oil escaping into the river.

- f. A teletype sent on 7 June extends the previous teletype through 1200 on 8 June to provide dry conditions for continued cleaning of a manway that testing shows is still contaminated with oil.
- g. A teletype sent on 7 June requests BON pool operate no lower than 72.5', soft constraint, effective immediately through 1800 on 10 June to provide hydrostatic pressure levels on outfall pipes for cleanup efforts at the Mosier wastewater treatment plant.
- h. A teletype sent on 8 June cancels all previous teletypes in support of the Mosier train derailment oil spill response.
- i. 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.

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