

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 29 of 2016, which covers the period from 10 July to 16 July.

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 139.1 to 158.7 kcfs. Daily average powerhouse forebay elevation ranged from 73.7' to 75.5' msl. Daily average project tailwater ranged from 12.6' to 14' msl. Secchi disk measurements 6 to 7' or greater. Daily average water temperature ranged from 68° F to 69° F this week.
- b. Summer spill began 15 June. Daily average spill ranged from 93.9 to 95.3 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	---	
11	0001 on 11 Jul	---	T11 outage
12	0001 on 11 Jul	---	T11 outage
13	0001 on 11 Jul	---	T11 outage
14	0705 on 13 Jun	----	4 year overhaul

- 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
7/10	0.1	0.1
7/11	0.1	0.1
7/12	0.2	0.3
7/13	0.4	0.3
7/14	0.4	0.4
7/15	0.1	0.1
7/16	0.2	0.2

2. MAINTENANCE ACTIVITIES:

Auxiliary Water System Closures. None.

- a. STS/VBS inspections. None.
- b. 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. U of W/ NOAA concluded their study this week. 200 subyearling Chinook were examined with 1 fish exhibiting GBT observed (0.5%). No fallbacks were recorded crossing the separator bars this reporting week. 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 and concluded this week.

4. FISHWAYS:

- a. Project biologists inspected 03-09 July.
- b. Fish passage plan observations.

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

Date	Location	FPP Items	Cause	Response
BRADFORD ISLAND				
7/15	SCH	Differential <1.0'	Unknown	None
7/10-11	A-Branch	Differential >1.1'	Unknown	None
7/10-11	B-Branch	Differential >1.1'	Unknown	None
7/11	BI Weir	Differential >1.1'	Unknown	None
CASCADES ISLAND				

7/15	Entrance differential	Differential >2.0'	Unknown	None.
WASHINGTON SHORE				
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 and Cascades Island ladders went back to Salmon mode on 06 July, the Bradford ladder on 11 July. This changes water levels over ladder weirs from 1.3 to 1.0 ft.
- (2) The AFF remains in service.
- (3) Fishway sensor calibrations occurred on 13 July.
- (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
7/10	0	0	0	0	0
7/11	4	6	0	0	0
7/12	0	4	0	0	0
7/13	0	8	0	0	0
7/14	2	2	0	0	0
7/15	2	3	0	0	0
4/16	3	2	0	0	0

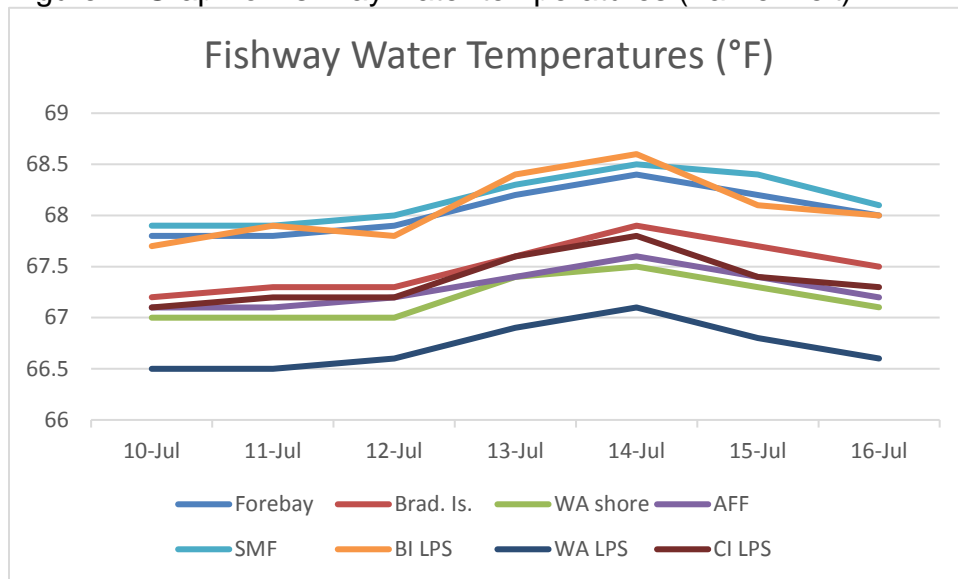
5. WATER QUALITY MONITORING:

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
7/10	67.8	67.2	67.0	67.1	67.9	67.7	66.5	67.1
7/11	67.8	67.3	67.0	67.1	67.9	67.9	66.5	67.2
7/12	67.9	67.3	67.0	67.2	68.0	67.8	66.6	67.2
7/13	68.2	67.6	67.4	67.4	68.3	68.4	66.9	67.6
7/14	68.4	67.9	67.5	67.6	68.5	68.6	67.1	67.8
7/15	68.2	67.7	67.3	67.4	68.4	68.1	66.8	67.4
7/16	68.0	67.5	67.1	67.2	68.1	68.0	66.6	67.3

(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 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.
- b. A teletype sent on 30 June stated 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 05 July updates spring and summer spill for fish passage, removing alternating spill treatments from 05 July – 31 August due to erosion at Bradford Island B-Branch.
- d. A teletype sent on 07 July requests that BON pool be maintained above 73.5', hard constraint from 1000 to 1600 hours on 16 and 17 August for outrigger races near Stevenson.
- e. A teletype sent on 16 July cancels the previous teletype regarding the outrigger races near Stevenson.

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