

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 39 of 2016, which covers the period from 18 to 24 September.

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 79.2 to 111 kcfs. Daily average powerhouse forebay elevation ranged from 74.9' to 75.4' msl. Daily average project tailwater ranged from 8.4' to 10.8' msl. Secchi disk measurements remained at 7' or greater. Daily average water temperature ranged from 65 to 67° F this week.
- b. Spill bays 01 and 18 are open 0.5 ft to provide attraction flow for Cascades Is. and B-branch fishways, respectively. Daily average spill ranged from 1.2 to 1.6 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
7	0103 on 22 Feb	---	Annual, bank 7/8 outage, main unit breaker replacement
8	0103 on 22 Feb	---	
11	0835 on 19 Sep	11 on 19 Sep	Rake Trash
12	2007 on 14 Sep	---	Exciter ground
15	1013 on 06 Sep	---	T-12 outage
16	0001 on 07 Sep	---	T-12 outage
17	0001 on 07 Sep	---	T-12 outage
18	0657 on 06 Sep	---	T-12 outage, 4-yr maint, FGE mods

- 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
9/18	---	0.4
9/19	0.8	---
9/20	0.4	0.5
9/21	---	0.5
9/22	---	0.6
9/23	---	---
9/24	0.0	0.6

2. MAINTENANCE ACTIVITIES:

a. Auxiliary Water System Closures.

(1) FV1-1 was closed for cleaning from 0707 – 0715 on 19 Sept.

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. No research fish were collected this week. GBT monitoring has concluded for the season. Truck transport releases from the Snake basin began 17 August. Fallbacks recorded crossing the separator bars this week: 4 salmon and 1 unknown salmonid. More details can be found on the [FPC web page](#).

d. WDFW – Tule counting. Tule counting continues.

e. USFWS – Fish Health Center. Select lamprey mortalities are being held for analysis.

4. FISHWAYS:

a. Project biologists inspected 18 – 24 September.

b. Fish passage plan observations.

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

Date	Location	FPP Items	Cause	Response
BRADFORD ISLAND				
9/11-13	FG3-3	Diffuser open	Needs repair	See 4.b.3 below
CASCADES ISLAND – Nothing to report				
WASHINGTON SHORE				
9/18-20	SDE, NDE	Diff < 1'	Single fish unit due to low water levels	None
9/22	Weir 37	Water over weir > 1.1'	Blow-off valve out	Being repaired
Ongoing	PH2	Diffuser B5 open	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.
- (3) 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.

c. Adult Fishways.

- (1) The AFF remains in service.
- (2) Sensor calibration occurred on 24 September.
- (3) 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.
- (4) All SLEDS remain installed.

d. Juvenile Fishways.

- (1) The ITS remains in service.
- (2) The hydro-cannon remains on.
- (3) The B2CC was opened to float trash from 1201 to 1255 on 19 Sept.
- (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 4. Counts of tailrace foraging piscivorous birds.

Date	Gulls	Cormorants	Terns	Wh. Pelicans	Grebes
9/18	21	13	0	0	0

9/19	21	2	0	0	0
9/20	36	100+	0	0	0
9/21	25	5	0	0	0
9/22	42	17	0	0	0
9/23	19	24	0	0	0
9/24	14	60+	0	0	0

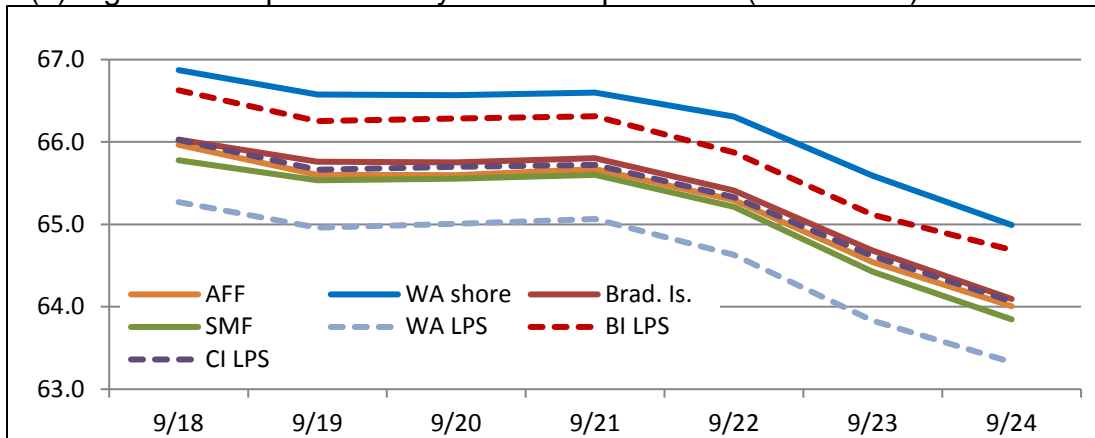
5. WATER QUALITY MONITORING:

a. Fishway Temperatures. Temperatures are taken from 01 March through 30 November. Forebay temperatures can be found [online](#).

(1) Table 5. Average daily fishway water temperatures (Fahrenheit).

Date	Fishways				Lamprey		
	Brad. Is.	WA shore	AFF	SMF	BI LPS	WA LPS	CI LPS
9/18	66.0	65.8	66.0	66.9	66.6	65.3	66.0
9/19	65.8	65.5	65.6	66.6	66.3	65.0	65.7
9/20	65.8	65.6	65.6	66.6	66.3	65.0	65.7
9/21	65.8	65.6	65.7	66.6	66.3	65.1	65.7
9/22	65.4	65.2	65.3	66.3	65.9	64.6	65.3
9/23	64.7	64.4	64.5	65.6	65.1	63.8	64.6
9/24	64.1	63.8	64.0	65.0	64.7	63.3	64.1

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



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

6. CONSTRUCTION:

a. EAL (environmentally acceptable lubricant) install in Unit 15 began starting 9 Sept (see [16BON10](#)) in conjunction with the T12 outage; the unit was dewatered. EAL monitoring equipment was installed on 1 – 5 Aug.

- b. Flow control plates as part of the FGE modifications are being installed in units 16 – 18 during the T12 outage. VBS plates will also be installed. Installation for units 11 – 14 will occur during winter maintenance.

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

8. TELETYPES CURRENTLY IN EFFECT:

- a. A teletype sent on 30 August provides wintertime spill and lack of load conditions to be used from 01 September 2016 through 31 March 2017.
- b. A teletype sent on 15 September requests that BON pool operate within a 1.5' band, hard constraint, from 19 – 23 September for the periods and times listed within for fall treaty fishing.
- c. A teletype sent on 22 September requests that BON pool operate within a 1.5' band, hard constraint, from 0600 on 26 September to 1800 on 30 September for fall treaty fishing.

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