

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 41 of 2016, which covers the period from 02 to 08 October.

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 84.8 to 94.4 kcfs. Daily average powerhouse forebay elevation ranged from 75.4' to 76.0' msl. Daily average project tailwater ranged from 8.2' to 9.7' msl. Secchi disk measurements ranged from 6' to 7' or greater. Daily average water temperature ranged from 68 to 71° 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 1.3 to 1.5 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
1-2	0800 on 03 Oct	1106 on 03 Oct	BPA maintenance work
3-6	0735 on 04 Oct	1832 on 04 Oct	BPA maintenance work
7	0103 on 22 Feb	---	Annual, bank 7/8 outage, main unit breaker replacement
8	0103 on 22 Feb	---	
9-10	0800 on 03 Oct	1108 on 03 Oct	BPA maintenance work
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, FGE mods
18	0657 on 06 Sep	---	T-12 outage, 4 year maintenance

- 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
10/2	0.7	---
10/3	0.9	---
10/4	0.7	---
10/5	0.7	0.3
10/6	0.5	0.6
10/7	0.5	0.6
10/8	0.4	---

2. MAINTENANCE ACTIVITIES:

a. Auxiliary Water System Closures. None.

b. STS/VBS inspections. Table 2a.

Unit	Date	Run Hours	Comments
11	10/4	478	OK
12	10/4	35	OK
13	10/4	480	OOS
14	10/4	480	OK
15	10/4	---	OOS
16	10/4	27	OK
17	10/4	---	OOS
18	10/4	---	OOS

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: 1 salmon. 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 02 – 08 October.

b. Fish passage plan observations.

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

Date	Location	FPP Items	Cause	Response
BRADFORD ISLAND				

10/2,8	FG3-3	Diffuser open	Needs repair	See 4.b.3 below
CASCADES ISLAND – Nothing to report				
WASHINGTON SHORE				
10/5	Weir 37	Water over weir > 1.1'	Unknown	None
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 did not occur this week.

(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 remains closed.

(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
10/2	7	20	0	0	0
10/3	12	14	0	0	0
10/4	18	26	0	0	0
10/5	23	12	0	0	0
10/6	11	8	0	0	0
10/7	41	28	0	0	0
10/8	20	6	0	0	0

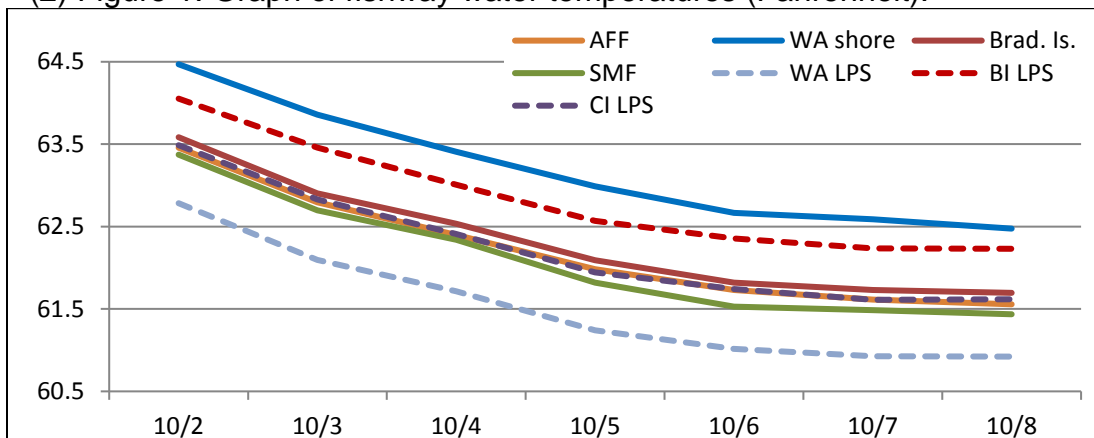
5. WATER QUALITY MONITORING:

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
10/2	63.6	63.4	63.5	64.5	64.1	62.8	63.5
10/3	62.9	62.7	62.8	63.9	63.5	62.1	62.8
10/4	62.5	62.3	62.4	63.4	63.0	61.7	62.4
10/5	62.1	61.8	62.0	63.0	62.6	61.2	61.9
10/6	61.8	61.5	61.7	62.7	62.4	61.0	61.7
10/7	61.7	61.5	61.6	62.6	62.2	60.9	61.6
10/8	61.7	61.4	61.6	62.5	62.2	60.9	61.6

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



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

6. CONSTRUCTION:

- 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 30 September requests that BON pool operate within a 1.5' band, hard constraint, from 0600 on 03 October to 1800 on 7 October for fall treaty fishing.
- c. A teletype sent on 07 October requests that BON pool operate within a 1.5' band, soft constraint, from 0600 on 10 October to 1800 on 14 October for fall treaty fishing. The TDA full powerhouse outage on 13 October takes precedence and the band may not be attainable from 12 -14 October.

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