

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 42 of 2015, which covers the period from 11 – 17 October 2015.

1. OPERATION SUMMARY:

a. Daily average river flows ranged from 76.1 to 132.0 kcfs. Daily average powerhouse forebay elevation ranged from 72.4 to 75.9 msl. Daily average project tailwater ranged from 8.0 to 11.9 msl. Secchi disk measurements remained at 7.0' or greater. Daily average water temperature ranged from 64 to 65°F this week.

b. Summer spill ended on 31 August. Daily average spill ranged from 0.6 to 0.7 kcfs.

(1) Spill bay 1 was closed at 1229 on 08 October in preparation for the Cascades Island dewatering on 13 October. See [15BON06](#), 15BON84, and section 4.f.4, below.

c. Unit Operation. Powerhouse two 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
11	1003 on 31 Aug	---	Kaplan pipe leak, T11 outage
12	0001 on 1 Sept	---	T11 outage
13	0001 on 1 Sept	---	T11 outage
14	0001 on 1 Sept	---	T11 outage

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

(1) F1 was placed on standby to float trash from 0123 to 0300 and from 0423 to 0450 on 16 October, and from 2104 on 16 October to 0031 on 17 October.

(2) F2 was placed on standby to float trash from 0020 to 0120 and from 0423 to 0455 on 16 October, from 2104 on 16 October to 0034 on 17 October, and from 2104 on 17 October to 0402 on 18 October.

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

Date	F1	F2
10/11	0.2	0.2
10/12	0.4	0.4

10/13	0.2	0.2
10/14	0.4	0.5
10/15	3.0	3.3
10/16	1.0	6.0
10/17	0.4	2.3

2. ACTIVITIES:

a. Auxiliary Water System Closures.

- (1) FV1-1 was closed for cleaning from 0826 to 0852 on 15 October.
- (2) FV3-9 was closed for cleaning from 1242 to 1256 on 17 October.

b. STS/VBS inspections. None

c. Dewatering and Fish Salvages. None.

3. RESEARCH:

a. CRITFC – AFF. Adult salmonids sampling continues.

b. Normandeau – Fish Counting. Visual counting continues.

c. PSMFC – Smolt Monitoring Program. Juvenile fish condition and index monitoring continues. No research fish were collected this week. Gas Bubble Trauma (GBT) evaluations have concluded for the season. Fallbacks recorded crossing the separator bars this week: 2 steelhead and 15 salmon. More details can be found on the [FPC web page](#).

4. FISHWAYS:

a. Project biologists inspected 11 – 17 October.

b. Fish passage plan observations.

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

Date	Location	FPP Items	Cause	Response
BRADFORD ISLAND – See below				
10/17	FV3-9	Trash rack diff high	Debris loading	Raked by Ops
10/12	A-branch	Water over weir > 1.1'	Suspected conduit leak	None
10/11-14,17	B-branch	N entrance gate closed	Gate motor waiting install	See 4.b.4
CASCADES ISLAND – See below				
10/11-15	CI entrance	Entr differential < 1.0'	FV5-3 and 5-4 OOS	See 4.b.6
WASHINGTON SHORE – See below				
10/11-17	PH2CC	Diff gate B5 open	Removed for repair	See 4.b.5
10/12,14-15	Weir 37	Water over weir < 0.9'	AFF pickets down	None

(2) WG-1, one of the south PH1CC entrances, experienced a gate failure on 17 November. Divers recovered the gate's picking beam on 04 August. Repairs are ongoing. The gate is estimated to return to service during the 2015/16 winter maint.

(3) A-branch diffuser FG3-3 is mechanically bound. Repairs are not possible until A-branch is dewatered below tailwater during the 2015/16 winter maintenance period.

(4) B-branch gate 4N, adjacent to the fish entrance, had a bad motor. It was removed on 27 July and has been repaired. It's waiting reinstallation during the 2015/16 winter maintenance. 4N is closed and 4S is open in its place. Both gates should be open below tailwaters of 9.0 msl.

(5) PH2CC diffuser A2 was unable to be repaired during winter maintenance 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 below tailwaters of 12.0 msl.

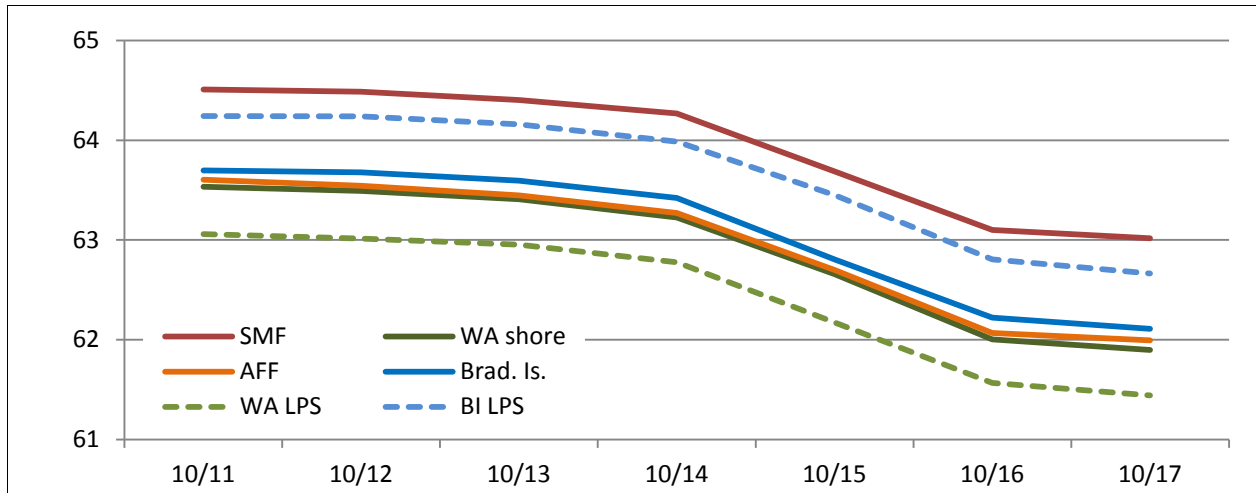
(6) FV5-4 was discovered to have mechanical problems on 21 April. It is currently closed and in manual. See [15BON06](#). FV5-3 was discovered to have problems on 8 October. Repairs for both are scheduled for 19 Oct – 27 Nov. See 15BON84. Orifice flow occurred on 15 Oct.

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

(1) Table 4. Daily Average Temperature in Degree Fahrenheit (°F).

Date	Fishways				Lamprey	
	Brad. Is.	WA shore	AFF	SMF	BI LPS	WA LPS
10/11	63.7	63.5	63.6	64.5	64.2	63.1
10/12	63.7	63.5	63.5	64.5	64.2	63.0
10/13	63.6	63.4	63.4	64.4	64.2	63.0
10/14	63.4	63.2	63.3	64.3	64.0	62.8
10/15	62.8	62.7	62.7	63.7	63.5	62.2
10/16	62.2	62.0	62.1	63.1	62.8	61.6
10/17	62.1	61.9	62.0	63.0	62.7	61.4

(2) Chart 1. Daily Average Temperature in Degree Fahrenheit (°F).



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

e. 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
10/11	17	10	0	0	0
10/12	7	4	0	0	0
10/13	16	8	0	0	0
10/14	8	10	0	0	0
10/15	51	40	0	0	0
10/16	46	0	0	0	0
10/17	17	10	0	0	0

f. Adult Fishways.

(1) Calibration occurred on 16 October.

(2) 11 of 12 floating orifice gates (FOGs) are installed; one gate is out for maintenance. FOG SLEDs are installed.

(3) All SLEDs are removed.

(4) Cascades Island (CI) was placed in orifice flow on 15 October to prepare for the 19 October dewatering (see 15BON84). The UMT bulkhead was placed at ~1500 on 15 October. The WA shore ladder is operating normally.

g. Juvenile Fishways.

(1) The ITS remains open.

(2) The hydro-cannon remains in service.

(3) The B2CC remains closed.

(4) The DSM remains in service.

h. Lamprey Fishways.

(1) The NDE LPS and Cascades Island LPS remain out of service.

(2) The Bradford Island LPS and the WA shore AWS LPS remain in service.

5. CONSTRUCTION: Nothing to report.

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

7. TELETYPES CURRENTLY IN EFFECT:

a. A teletype sent on 30 March updates the spill caps and lack of load conditions to be used from 0000 on 01 April until further notice.

b. A teletype sent on 15 October states that effective 1600 on 15 October through 1600 on 30 November, operate BON forebay between 71.5 and 73.5 msl, hard constraint. This operation is to keep the WA shore fishway within operating criteria during valve repairs that require the Cascades Island ladder to be OOS.

JERRY A. CARROLL
Operations Manager
Bonneville Project