

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

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 36 of 2015, which covers the period from 30 August – 05 September 2015.

**1. OPERATION SUMMARY:**

a. Daily average river flows ranged from 85.6 to 111.8 kcfs. Daily average powerhouse forebay elevation ranged from 75.7 to 76.0 msl. Daily average project tailwater ranged from 8.7 to 11.0 msl. Secchi disk measurements remained at 7.0' or greater. Daily average water temperature ranged from 69 to 71°F this week.

b. Summer spill ended on 31 August. Daily average spill ranged from 1.3 to 68.4 kcfs.

c. Unit Operation. Powerhouse two remains the priority powerhouse. Split flow operations per FPP 2.1.2.1 came into effect 1 September. 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	0910 on 3 Sept	1228 on 3 Sept	Bank 7/8 switching
6	0910 on 3 Sept	1228 on 3 Sept	Bank 7/8 switching
7	0943 on 29 Jul	---	5-year overhaul
8	0904 on 15 Aug	1228 on 3 Sept	Annual maint, servo, bank 7/8
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. From 01 June – 31 August, units may be placed in standby or the output reduced during nighttime spill hours to reduce entrance velocities for lamprey.

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

Date	F1	F2
8/30	0.1	0.1
8/31	0.2	0.3
9/1	0.8	0.3
9/2	0.9	0.3

9/3	0.1	0.1
9/4	0.5	0.6
9/5	0.1	0.2

**2. ACTIVITIES:**

a. Auxiliary Water System Closures.

(1) FV1-1 was closed for cleaning from 0830 to 0837 on 2 September.

b. STS/VBS inspections. No inspections occurred this week.

c. Dewatering and Fish Salvages.

(1) On 1 September, Project Biologists recovered one White Sturgeon from the Unit 11 draft tube. It was returned to the tailrace in good condition.

(2) On 2 September, Project Biologists recovered one bluegill and two sculpin from the Unit 8 tail logs. All fishes were returned to the tailrace in good condition.

**3. RESEARCH:**

a. CRITFC – AFF. Modified high temperature sampling continued until 1 September, when river temperatures dropped below 70° to allow a normal sampling regime.

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. High-temperature sampling protocols were initiated on 28 June. Normal sampling resumed on 3 September. Gas Bubble Trauma (GBT) evaluations have concluded for the season. No fallbacks were recorded crossing the separator bars. More details can be found on the [FPC web page](#).

**4. FISHWAYS:**

a. Project biologists inspected 30 August – 5 September.

b. Fish passage plan observations.

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

Date	Location	FPP Items	Cause	Response
<b>BRADFORD ISLAND – See below</b>				
8/30	A-branch	Water over weir > 1.1'	FV3-7 conduit leak	None
8/30	B-branch	Water over weir > 1.1'	Unknown	None
<b>CASCADES ISLAND – See below</b>				

8/30,9/4	CI entrance	Entr differential < 1.0'	FV5-4 OOS	See 4.b.6
<b>WASHINGTON SHORE – See below</b>				

(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 fall 2015.

(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, likely to occur during the 2015/16 winter maintenance. 4N is closed and 4S is open in its place.

(5) PH2CC diffuser A2 was unable to be repaired during winter maintenance and remains closed. The gate for diffuser B5 was removed for repairs and therefore cannot be closed.

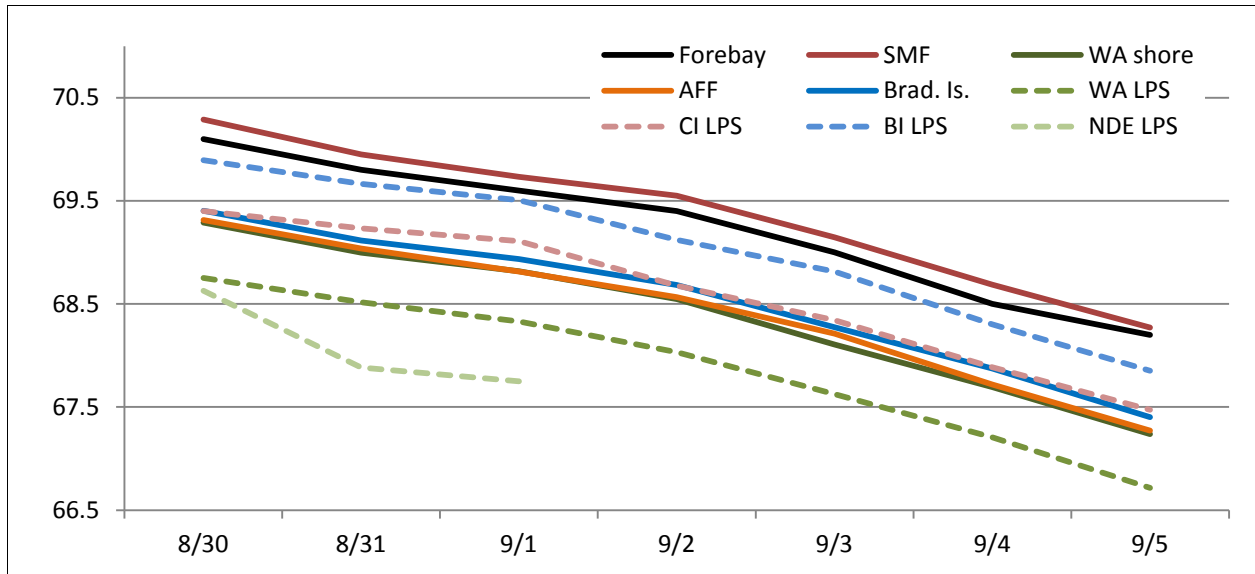
(6) FV5-4 was discovered to have mechanical problems on 21 April. It is currently closed and in manual. Diffusers FG3-9 through 15 are open and in manual to compensate. Repairs have been coordinated for October. See [15BON03](#).

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	Forebay	Fishways				Lamprey			
		Brad. Is.	WA shore	AFF	SMF	BI LPS	WA LPS	CI LPS	NDE LPS
8/30	70.1	69.4	69.3	69.3	70.3	69.9	68.8	69.4	68.6
8/31	69.8	69.1	69.0	69.0	69.9	69.7	68.5	69.2	67.9
9/1	69.6	68.9	68.8	68.8	69.7	69.5	68.3	69.1	67.7
9/2	69.4	68.7	68.5	68.6	69.5	69.1	68.0	68.7	OOS
9/3	69.0	68.3	68.1	68.2	69.1	68.8	67.6	68.3	---
9/4	68.5	67.9	67.7	67.7	68.7	68.3	67.2	67.9	---
9/5	68.2	67.4	67.2	67.3	68.3	67.9	66.7	67.5	---

(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
8/30	0	4	0	0	0
8/31	50	1	0	0	0
9/1	0	7	0	0	0
9/2	5	10	0	0	0
9/3	10	11	0	0	0
9/4	0	11	0	0	0
9/5	0	21	0	0	0

f. Adult Fishways.

(1) Calibration occurred on 3 September.

(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) The Cascades Island ladder was returned to salmon mode on 2 September to aid salmonid egress into the UMT.

g. Juvenile Fishways.

(1) The ITS remains in service.

- (2) The hydro-cannon remains in service.
- (3) The B2CC closed at 2353 on 31 August.
- (4) The DSM remains in service.

h. Lamprey Fishways.

(1) The NDE LPS was shut down at 0830 on 31 August due to low passage numbers.

(2) All other LPS's 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 8 April defines the spring and summer spill operations to be used from 10 April through 31 August.

c. A teletype sent on 13 August requests that BON pool operate within a 1.5' band, hard constraint, from 7 August through 12 September for the periods and times listed within for treaty fishing.

d. A teletype sent on 31 August requests that outflow at BON be maintained as low and constant as possible from 0600 to 1200 on 7 September, below 150 kcfs, for a cross-channel swim in Hood River.

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