

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

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 43 of 2015, which covers the period from 18 – 24 October 2015.

**1. OPERATION SUMMARY:**

a. Daily average river flows ranged from 81.4 to 111.0 kcfs. Daily average powerhouse forebay elevation ranged from 72.5 to 72.9 msl. Daily average project tailwater ranged from 8.6 to 10.2 msl. Secchi disk measurements remained at 7.0' or greater. Daily average water temperature ranged from 62 to 64°F this week.

b. Summer spill ended on 31 August. Daily average spill remained at 0.6 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
4	0900 on 19 Oct	---	Exciter voltage indicator
6	1711 on 20 Oct	1711 on 21 Oct	Breaker failure alarm
5,7,8	0706 on 21 Oct	0717 on 21 Oct	Switching
5,7,8	1642 on 21 Oct	1652 on 21 Oct	Racking
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 0008 to 0359 on 18 October and from 2100 on 24 October to 0028 on 25 October.

(2) F2 was placed on standby to float trash from 2100 on 24 October to 0029 on 25 October.

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

Date	F1	F2
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10/18	0.4	0.5
10/19	0.2	0.2
10/20	0.1	0.1
10/21	0.1	0.1
10/22	0.3	0.3
10/23	0.6	0.7
10/24	1.6	1.2

## 2. ACTIVITIES:

### a. Auxiliary Water System Closures.

(1) FV1-1 was closed for cleaning from 1550 to 1600 on 22 October.

### b. STS/VBS inspections. None

### c. Dewatering and Fish Salvages.

(1) On 19 October, Project Biologists recovered 8 Pacific Lamprey, 7 Steelhead Trout, and 1 Chinook Salmon jack from the entire Cascades Island fishway above tailwater. All fishes were released to the forebay in good condition.

(2) On 20 October, Project Biologists recovered 1 Steelhead Trout, 1 Chinook Salmon, and ~2000 resident fish comprised primarily of peamouth from the entrance area of Cascades Island, below tailwater. The steelhead was in a degraded condition. All fishes were released to the tailrace for the sake of expediency.

(3) On 21 October, Project Biologists recovered 4 Pacific Lamprey from the exit section of the Cascades Island ladder. The fish were returned to the forebay in good condition.

(4) On 22 October, Project Biologists recovered 1 Pacific Lamprey and ~ 200 resident fish, comprised mostly of peamouth, from the exit and AWS sections of Cascades Island. The fishes were returned to the forebay in good condition, with the exception of ~20 peamouth and pikeminnow that were in fair to poor condition.

## 3. RESEARCH:

a. CRITFC – AFF. Adult salmonid sampling concluded on 16 October.

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: 1 steelhead, 14 salmon, and 1 unknown salmonid. More details can be found on the [FPC web page](#).

## 4. FISHWAYS:

- a. Project biologists inspected 18 – 24 October.
- 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>				
10/18	FV3-9	Trash rack diff high	Debris loading	Raked by Ops
10/20,24	A-branch	Water over weir > 1.1'	Suspected conduit leak	None
10/18-22	B-branch	N entrance gate closed	Gate motor waiting install	See 4.b.4
<b>CASCADES ISLAND – OOS. See 4.f.4</b>				
<b>WASHINGTON SHORE – See below</b>				
10/18-24	PH2CC	Diff gate B5 open	Removed for repair	See 4.b.5

(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.

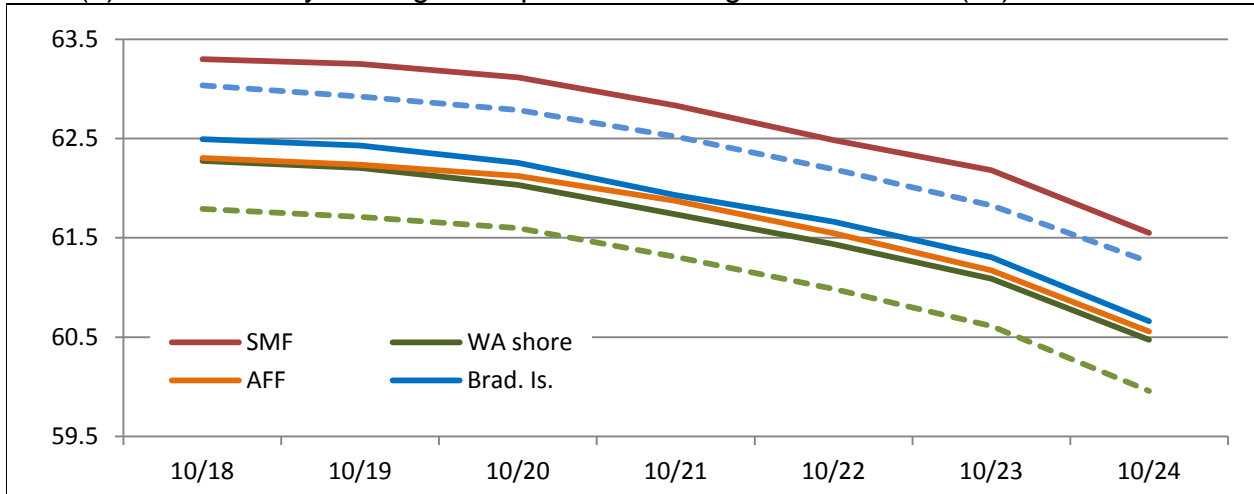
(5) PH2CC diffuser A2 was unable to be repaired during winter maintenance and remains closed. It should be open when tailwater is above 13.0 msl. The gate for diffuser B5 was removed for repairs and therefore cannot be closed. It should be closed below tailwaters of 12.0 msl.

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
10/18	62.5	62.3	62.3	63.3	63.0	61.8
10/19	62.4	62.2	62.2	63.3	62.9	61.7
10/20	62.3	62.0	62.1	63.1	62.8	61.6
10/21	61.9	61.7	61.9	62.8	62.5	61.3
10/22	61.7	61.4	61.5	62.5	62.2	61.0
10/23	61.3	61.1	61.2	62.2	61.8	60.6
10/24	60.7	60.5	60.6	61.5	61.3	60.0

(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
10/18	2	1	0	0	0
10/19	17	0	0	0	0
10/20	7	3	0	0	0
10/21	35	2	0	0	0
10/22	50	0	0	0	0
10/23	47	6	0	0	0
10/24	---	---	---	---	---

f. Adult Fishways.

(1) Calibration occurred on 23 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. The ladder was dewatered to tailwater on 19 October and below tailwater on 20 October in order to repair fish valves FV5-3 and FV5-4. The ladder is scheduled to be out of service through November. See [15BON06](#) and 15BON84.

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.

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