

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

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 45 of 2015, which covers the period from 1 – 7 October 2015.

**1. OPERATION SUMMARY:**

a. Daily average river flows ranged from 109.4 to 129.2 kcfs. Daily average powerhouse forebay elevation ranged from 71.7 to 72.8 msl. Daily average project tailwater ranged from 10.4 to 11.7 msl. Secchi disk measurements ranged from 3.0 to 7.0'. Daily average water temperature ranged from 57 to 61°F this week.

b. Summer spill ended on 31 August. Daily average spill ranged from 0.5 to 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
1	1143 on 2 Nov	1157 on 2 Nov	Emergency shutdown of units 1 – 10 due to boat in PH1 forebay without power
2	1143 on 2 Nov	1158 on 2 Nov	
3	1143 on 2 Nov	1159 on 2 Nov	
4	1144 on 2 Nov	1203 on 2 Nov	
5	1143 on 2 Nov	1203 on 2 Nov	
6	1143 on 2 Nov	1204 on 2 Nov	
7	1143 on 2 Nov	1204 on 2 Nov	
8	1144 on 2 Nov	1205 on 2 Nov	
9	1142 on 2 Nov	1205 on 2 Nov	
10	1144 on 2 Nov	1158 on 2 Nov	
11	1003 on 31 Aug	---	Kaplan pipe leak, T11 outage
12	0001 on 1 Sep	---	T11 outage
13	0001 on 1 Sep	---	T11 outage
14	0001 on 1 Sep	---	T11 outage
15-18	0000 on 2 Nov	0920 on 6 Nov	T11/T12 deluge system mods

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

(1) F1 was taken out of service from 2359 on 1 November to 0920 on 6 November for T11/T12 deluge system modifications.

(2) F2 was taken out of service from 2359 on 1 November to 0920 on 6 November for T11/T12 deluge system modifications.

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

Date	F1	F2
11/1	OOS	OOS
11/2	---	---
11/3	---	---
11/4	---	---
11/5	---	---
11/6	0.3	0.3
11/7	0.4	0.7

## 2. ACTIVITIES:

### a. Auxiliary Water System Closures.

(1) FV1-1 was closed for cleaning from 0717 to 0725 on 3 November, from 0712 to 0721 on 4 November, and from 0718 to 0730 on 6 November.

(2) FV3-9 was closed for cleaning from 1320 to 1340 on 1 November, from 0751 to 0814 on 2 November, from 0734 to 0748 and 1507 to 1519 on 3 November, from 0720 to 0727 on 5 November, and from 0804 to 0821 on 6 November.

### b. STS/VBS inspections. Table 2a.

Unit	Date	Run Hours	Comments
11	11/2	13	OK
12	11/2	13	OK
13	11/2	7	OK
14	11/2	5	OK
15	11/2	666	OK
16	11/2	661	OK. Obstruction – VBS reseated.
17	11/2	665	OK
18	11/2	666	OK

### c. Dewatering and Fish Salvages. None.

## 3. RESEARCH:

### a. Normandeau – Fish Counting. Visual counting continues.

b. PSMFC – Smolt Monitoring Program. Juvenile fish condition and index monitoring concluded on 30 October. Upriver truck releases concluded on 31 October.

**4. FISHWAYS:**

- a. Project biologists inspected 1 – 7 November.
- 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>				
11/5,7	A-branch	Water over weir > 1.1’	Suspected conduit leak	None
11/1-3	FV3-9	Trash rack differential high	Debris loading	Cleaned
11/2-3	BI weir	Water over weir < 1.0’	FV3-9 debris loading	See above
11/2	A-Branch	Water over weir << 1.0’	FV3-9 debris loading	See above
11/2	B-branch	Water over weir << 1.0’	FV3-9 debris loading	See above
<b>CASCADES ISLAND – OOS. See 4.f.4</b>				
<b>WASHINGTON SHORE – See below</b>				
11/1-7	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.

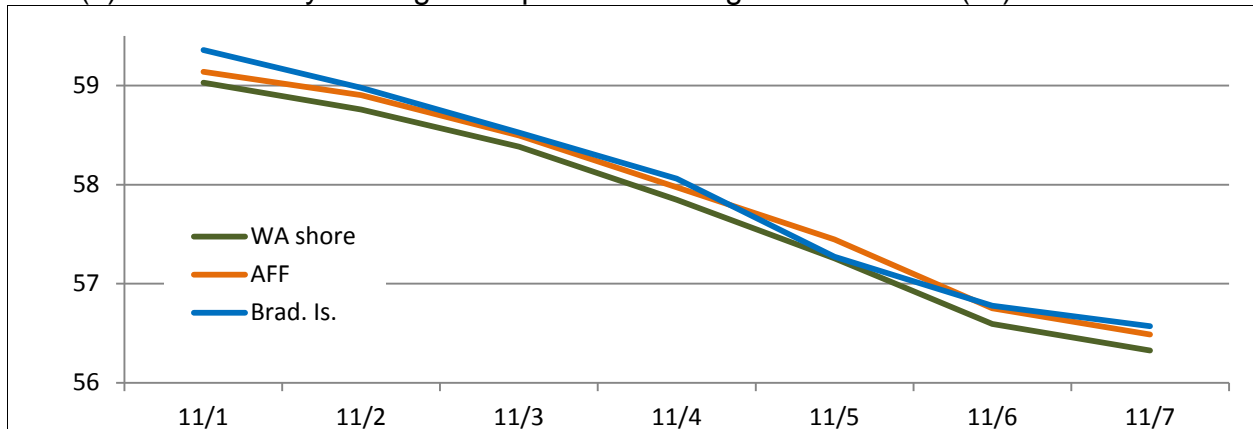
c. Fishway Temperatures. Temperatures are taken from 01 March through 30 November. Forebay temperatures can be found [online](#).

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

Date	Fishways		
	Brad. Is.	WA shore	AFF
11/1	59.4	59.0	59.1
11/2	59.0	58.8	58.9
11/3	58.5	58.4	58.5
11/4	58.1	57.8	58.0

11/5	57.3	57.3	57.4
11/6	56.8	56.6	56.8
11/7	56.6	56.3	56.5

(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.

f. Adult Fishways.

(1) No calibration occurred this reporting week.

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

(3) SLEDs were installed in the PH2 entrances on 26 October. The PH1 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) All LPSs remain out of service.

(2) The Bradford Island LPS and the WA shore AWS LPS were taken out of service on 29 October.

**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.

c. A teletype sent on 4 November states that effective immediately through 0600 on 7 November, operate BON tailwater below 12.5', hard constraint. As a soft constraint, maintain a minimum tailwater of 10.5', prioritizing the daytime hours of 0600 – 1700. This teletype is intended to improve Chum Salmon spawning conditions in the Ives/Pierce Island complex directly below BON.

d. A teletype sent on 6 November states that effective 0600 on 7 November until further notice, operate BON tailwater in the range of 11.5 – 12.5'. If necessary due to outflows, tailwater may be operated up to 13.0' at any time, returning to the target range whenever possible. Then if necessary, tailwater may be operated in the following order: up to 18.5' from the hours 1700 – 0600, then in the range of 13.0 – 16.5' during daytime hours (0600 – 1700) and up to the maximum within ramp rate limits at night. This operation is for Chum spawning below BON at the Ives/Pierce Island complex.

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