

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 23 of 2015, which covers the period from 31 May – 06 June 2015.

1. OPERATION SUMMARY:

a. Daily average river flows ranged from 176.0 to 217.4 kcfs. Daily average powerhouse forebay elevation ranged from 73.2 to 75.9 msl. Daily average project tailwater ranged from 15.2 to 17.8 msl. Secchi disk measurements ranged from 4.5' to 7.0'. Daily average water temperature ranged from 63 to 64°F this week.

b. Spring Spill started on 10 April. Daily average spill ranged from 99.1 to 100.4 kcfs.

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	0956 on 03 Jun	1612 on 03 Jun	STS inspection with ROV
11	0700 on 04 Jun	1116 on 04 Jun	STS repair in gateway 11C

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) FU1 was placed in standby from 0059 to 0259 on 06 June to float trash.

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

Date	F1	F2
5/31	0.7	0.8
6/1	0.9	0.8
6/2	0.6	0.6
6/3	0.7	0.8
6/4	1.1	0.5
6/5	0.5	1.5
6/6	0.1	0.2

2. ACTIVITIES:

- a. Auxiliary Water System Closures. No AWS closures to report this week.
- b. STS/VBS inspections.

(1) Table 3. STS inspection dates and run hours.

Unit	Date	Run Hours	Comments
11	6/1	669	11C inspected on 6/3 due to blockage. See section 1.c.1
12	6/1	478	OK
13	6/1	215	OK
14	6/1	463	OK
15	6/1	447	OK
16	6/1	49	OK
17	6/1	389	OK
18	6/1	631	OK

- c. Dewatering and Fish Salvage. No dewaterings occurred this week.

3. RESEARCH:

- a. CRITFC – AFF. Adult salmonid sampling began on 15 April and continues.
- b. NOAA – FGE testing. Biological testing in the unit 15 gatewells concluded on 29 May. Review the FFDRWG update form [here](#).
- c. Normandeau – Fish Counting. Visual counting continues.
- d. PSMFC – Smolt Monitoring Program. Juvenile fish condition and index monitoring continues. No research fish were collected this week. SbyC is active for NOAA and USFWS. Gas Bubble Trauma (GBT) evaluations began 25 April. This week’s results: 200 yearling Chinook and steelhead examined with no GBT symptoms. These fallbacks were recorded crossing the separator bars: 22 steelhead, 5 salmon, 5 unknown salmonids. More details can be found on the [FPC web page](#).
- e. USDA – Sea lion and avian hazing. Land-based hazing began on 18 March.

4. FISHWAYS:

- a. Project biologists inspected 31 May – 06 June.
- b. Fish passage plan observations.

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

Date	Location	FPP Items	Cause	Response
BRADFORD ISLAND – Nothing to report				

CASCADES ISLAND				
5/24-30	FV5-4	Closed, non-functioning	Forced OOS due to condition	See (6), below
5/24-30	Diffusers	Incorrect diffusers open	In manual to maintain entr diff	See (6), below
6/2	Entrance	Entrance diff < 1.0'	FV5-4 OOS	See (6), below
WASHINGTON SHORE – Nothing to report				

(2) WG-1, one of the south PH1CC entrances, experienced a gate failure on 17 November. The gate fell and the picking beam fell into the water. WG-2 has been closed to improve entrance differentials. Repairs will require the ITS to be closed and are being coordinated for August, 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, is broken and closed. 4S is currently 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.

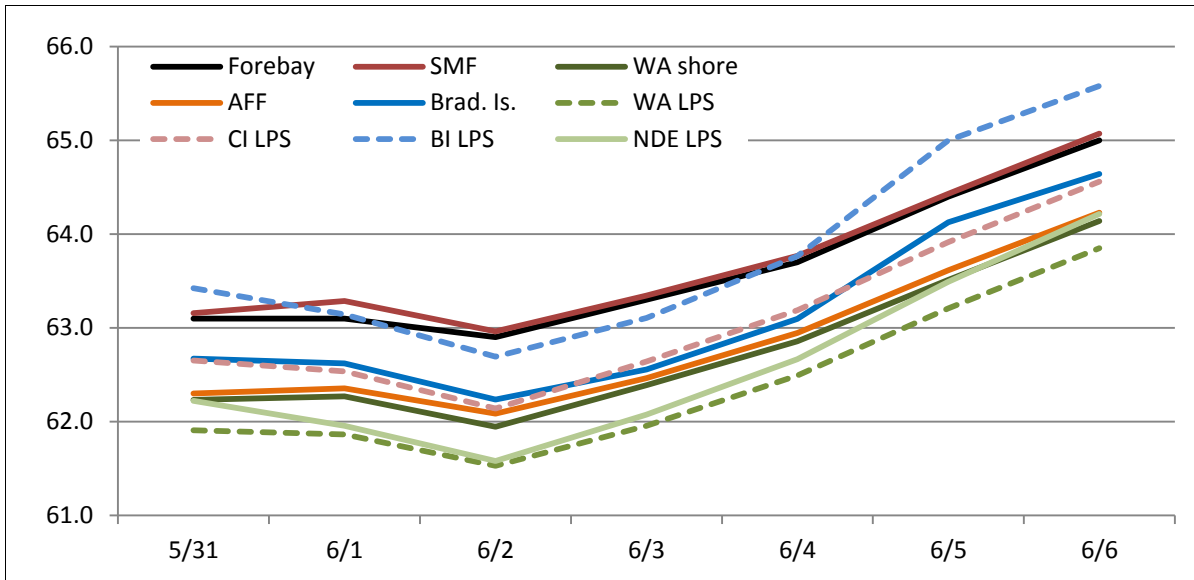
(6) FV5-4 was discovered to have mechanical problems on 21 April. It is currently closed and in manual. Diffusers FG3-9 through 15 are open and in manual to compensate. Repairs have been coordinated for October. See [15BON03](#).

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
5/31	63.1	62.7	62.2	62.3	63.2	63.4	61.9	62.7	62.2
6/1	63.1	62.6	62.3	62.4	63.3	63.1	61.9	62.5	62.0
6/2	62.9	62.2	61.9	62.1	63.0	62.7	61.5	62.1	61.6
6/3	63.3	62.6	62.4	62.5	63.3	63.1	62.0	62.6	62.1
6/4	63.7	63.1	62.9	62.9	63.8	63.8	62.5	63.2	62.7
6/5	64.4	64.1	63.5	63.6	64.4	65.0	63.2	63.9	63.5
6/6	65.0	64.6	64.1	64.2	65.1	65.6	63.8	64.6	64.2

(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	White Pelicans	Grebes
5/31	7	2	0	0	0
6/1	0	0	0	0	0
6/2	7	2	0	0	0
6/3	1	8	0	0	0
6/4	0	25	0	0	0
6/5	2	55	0	0	0
6/6	0	5	0	0	0

f. Adult Fishways.

(1) Calibration occurred on 05 June.

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

(3) All SLEDs remain installed.

(4) All adult fishways were placed in shad mode on 30 May.

g. Juvenile Fishways.

(1) The south end gate of the Ice and Trash Sluiceway (ITS) was removed for

repairs. Plating has been placed over the bottom of the guide slot to minimize fish impacts. Reinstallation dates are currently being coordinated for August, 2015.

(2) The hydro-cannon remains in service.

(3) The B2CC remains open.

(4) The DSM remains in service.

h. Lamprey Fishways.

(1) All LPS's remain in service.

5. CONSTRUCTION:

a. Velocity testing of a PH2 gatewell by a contractor as part of the FGE improvements effort occurred 02 – 04 June.

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 05 May updates a previous teletype defining PH2 operations for a gatewell operation, effective 01 April through ~04 June. From 0700 – 2100 hours, operate a minimum of four units. From 2100-0700, operate a minimum of three units if possible; if not possible, the control room is requested to notify researchers in advance. Unit priority for testing is described within. Test period dates, and priority order for units 14 and 15, may be adjusted by the researchers as necessary with coordination with the BON control room. Normal unit operations will resume during non-test periods.

c. A teletype sent on 08 April defines the spring and summer spill operations to be used from 10 April through 31 August.

d. A teletype sent on 28 May requests that from 0500 on 01 June through 1800 on 03 June, operate BON pool above 75.5' as a hard constraint, and above 76.0' as a soft constraint, to facilitate barge docking and transformer offloading below TDA.

e. A teletype sent on 01 June states that effective 02 – 04 June, from 0700 – 2100 each day, operate PH2 units in the order given. Operate unit 15 in the upper 1%. Test periods may end earlier than 2100 per notification of the contractors. The operation may be repeated on 05 June upon request.

f. A teletype sent on 01 June requests that effective 0600 on 02 June through 1800

on 05 June, operate BON forebay within a 1.5 ft band for treaty fishing. Once the transformer offload (see teletype d, above) no longer requires operation within the top foot of BON pool, FGE testing accommodations will be reevaluated and a transition to a lower pool may be requested.

g. A teletype sent on 01 June cancels teletype (d), above, effective 2100 on 01 June. BON pool may be drafted to a targeted 73.0 msl for optimum FGE testing. The pool level at 0600 on 02 June will determine the 1.5 ft band for treaty fishing (see teletype f, above). OPM Jerry Carroll approved an exceedance for the 24-hour tailwater limit, if needed, of 5 ft over 24 hours.

h. A teletype sent on 05 June requests that BON pool operate within a 1.5' band, hard constraint, from 0600 on 09 June through 1800 on 11 June for treaty fishing.

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