

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 22 of 2015, which covers the period from 24 – 30 May 2015.

1. OPERATION SUMMARY:

a. Daily average river flows ranged from 173.4 to 218.5 kcfs. Daily average powerhouse forebay elevation ranged from 73.1 to 73.8 msl. Daily average project tailwater ranged from 15.5 to 17.8 msl. Secchi disk measurements ranged from 5.0' to 7.0'. Daily average water temperature ranged from 60 to 62°F this week.

b. Spring Spill started on 10 April. Daily average spill ranged from 99.2 to 100.3 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. No main units were out of service this week.

d. Fish Units. Second Powerhouse fish units provide attraction flow for the Washington Shore (WS) fish ladder. The units may be placed on standby, as necessary, during nighttime hours to float debris. Gatewell drawdowns are measured daily.

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

Date	F1	F2
5/24	0.3	0.3
5/25	0.5	0.6
5/26	0.3	0.6
5/27	0.5	0.4
5/28	0.7	0.7
5/29	0.8	0.7
5/30	0.6	0.6

2. ACTIVITIES:

a. Auxiliary Water System Closures. No AWS closures to report this week.

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

- 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. Fisheries Field Unit – Sea Lion Observations. Observations concluded on 29 May.
- c. NOAA – FGE testing. Biological testing in the unit 15 gatewells concluded on 29 May. Review the FFDRWG update form [here](#).
- d. Normandeau – Fish Counting. Visual counting continues.
- e. 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, one (0.5%) with GBT symptoms. These fallbacks were recorded crossing the separator bars: 97 steelhead, 16 salmon, 14 unknown salmonids. More details can be found on the [FPC web page](#).
- f. USDA – Sea lion and avian hazing. Land-based hazing began on 18 March.

4. FISHWAYS:

- a. Project biologists inspected 24 – 30 May.
- 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
5/25,26	Entrance	Entrance diff < 1.0'	FV5-4 OOS	See (6), below
WASHINGTON SHORE				
5/29,30	Weir 37,67	Weir water level <1.2' (shad mode)	Unknown	None

(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.

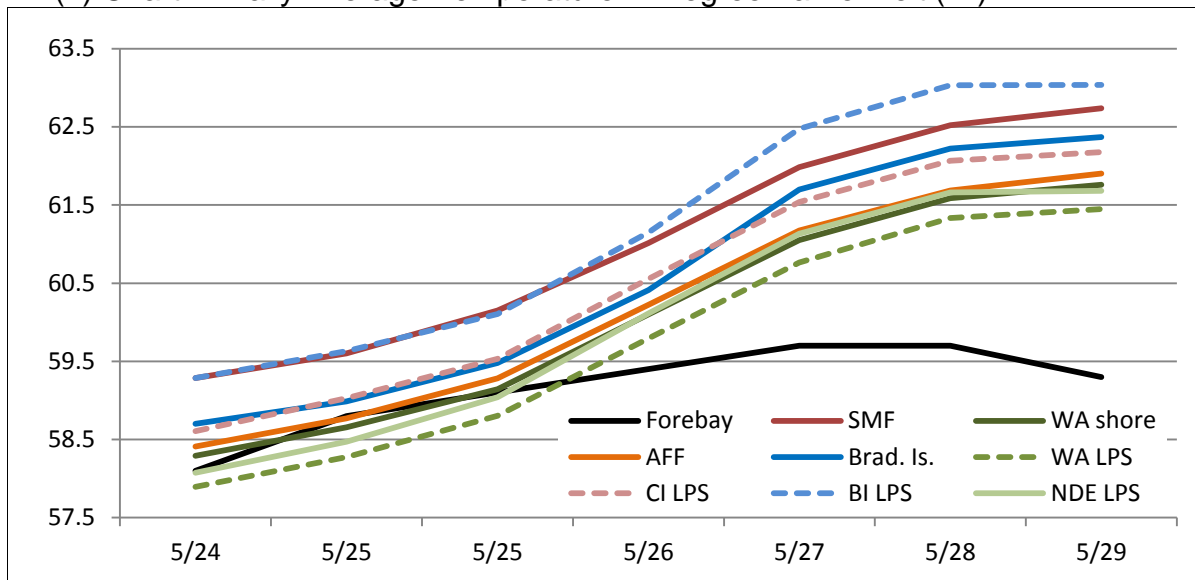
(6) FV5-4 was discovered to have mechanical problems on 21 April. It is currently closed and in manual. Diffusers FG3-9 through 15 are open and in manual to compensate. Repairs have been coordinated for October. See [15BON03](#).

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
5/24	58.1	58.7	58.3	58.4	59.3	59.3	57.9	58.6	58.1
5/25	58.8	59.0	58.7	58.8	59.6	59.6	58.3	59.0	58.5
5/25	59.1	59.5	59.1	59.3	60.2	60.1	58.8	59.5	59.0
5/26	59.4	60.4	60.1	60.2	61.0	61.1	59.8	60.6	60.1
5/27	59.7	61.7	61.1	61.2	62.0	62.5	60.8	61.5	61.1
5/28	59.7	62.2	61.6	61.7	62.5	63.0	61.3	62.1	61.7
5/29	59.3	62.4	61.8	61.9	62.7	63.0	61.4	62.2	61.7

(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
5/24	3	0	0
5/25	15	0	0
5/26	8	0	0
5/27	17	0	0
5/28	13	2	0
5/29	11	5	0
5/30	7	13	0

f. Adult Fishways.

(1) Calibration occurred on 29 May.

(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) FV5-9 was placed in shad mode on 23 April to provide addition flow at the Cascades Island entrance and compensate for FV5-4 being out of service. See section 4.b.6, above.

(5) 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 will occur on 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 01 May states that from 05 – 30 May, effective the dates and times described within, operate the forebay at 71.5 – 73.0 msl. This constraint is for the hours of 0800 to 2100 as a hard constraint, and 2100 to 0800 as a soft constraint. This operation is to maintain a low project head for the purposes of FGE testing. Outside the days and times described, operate per the FPP.

e. A teletype sent on 27 May requests that from 0600 on 27 May through 1800 on 30 May, operate BON forebay within a 1.5' band, hard constraint, for treaty fishing.

f. A teletype updated on 26 May states that effective 0600 on 26 May through 0800 on 30 May, operate BON forebay in the range of 72.5 to 74.0 msl, hard constraint. This operation is to accommodate both FGE testing at PH2 and potential treaty fishing.

g. 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.

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