

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 17 of 2015, which covers the period from 19 - 25 April 2015.

1. OPERATION SUMMARY:

a. Daily average river flows ranged from 146.3 to 185.2 kcfs. Daily average powerhouse forebay elevation ranged from 72.2 to 75.4 msl. Daily average project tailwater ranged from 13.3 to 15.9 msl. Secchi disk measurements ranged from 5.0' to 6.0'. Daily average water temperature ranged from 50 to 52°F this week.

b. Spring Spill started on 10 April. Daily average spill ranged from 99.5 to 100.6 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 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
4/19	0.4	0.5
4/20	0.5	0.6
4/21	0.3	0.4
4/22	0.4	0.4
4/23	0.3	0.5
4/24	0.3	0.7
4/25	0.4	0.8

2. ACTIVITIES:

a. Auxiliary Water System Closures.

(1) FV1-1 was closed for cleaning from 0732 to 0742 on 21 April.

- b. STS/VBS inspections. No inspections occurred this week.
- c. Dewatering and Fish Salvage.

(1) On 21 April, Project Biologists recovered approximately 12 juvenile salmonids from the Cascades Island valve pit, which was dewatered to investigate FV5-4. (See MFR 15BON03.) All fish were returned to the forebay in good condition.

3. RESEARCH:

- a. CRITFC – AFF. Adult salmonid sampling began on 15 April.
- b. CRITFC – Sea Lion hazing. Hazing by boat began on 06 March and will continue through May.
- c. Fisheries Field Unit – Sea Lion Observations. Observations commenced on 13 January and will continue through 29 May.
- d. NOAA – FGE testing. Biological testing of the flow control plate installed in the Unit 15-A gatewell began on 1 April using sub-yearling Chinook. Testing in 15-C will occur in May. Review the FFDRWG update form [here](#).
- e. Normandeau – Fish Counting. Visual counting continues.
- f. 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: 59 yearling Chinook and steelhead with no GBT symptoms. These fallbacks were recorded crossing the separator bars: 47 steelhead and 1 salmon. More details can be found on the [FPC web page](#).
- g. USDA – Sea lion and avian hazing. Land-based hazing began on 18 March.

4. FISHWAYS:

- a. Project biologists inspected 19 - 25 April.
- b. Fish passage plan observations.

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

Date	Location	FPP Items	Cause	Response
BRADFORD ISLAND				
4/25	A-branch	Weir water level > 1.1'	Suspected FV3-7 conduit leak	None
CASCADES ISLAND				
4/21	UMT	Weir water level < 0.9'	Unknown	None
4/22-23	Entrance	Entrance diff << 1.0'	FV5-3 and 5-4 OOS	FV5-4 isolated

4/22-25	FV5-4	Closed, non-functioning	Forced OOS due to condition	Needs repair
4/24-25	Diffusers	Incorrect diffusers open	In manual to maintain entr diff	In process
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.

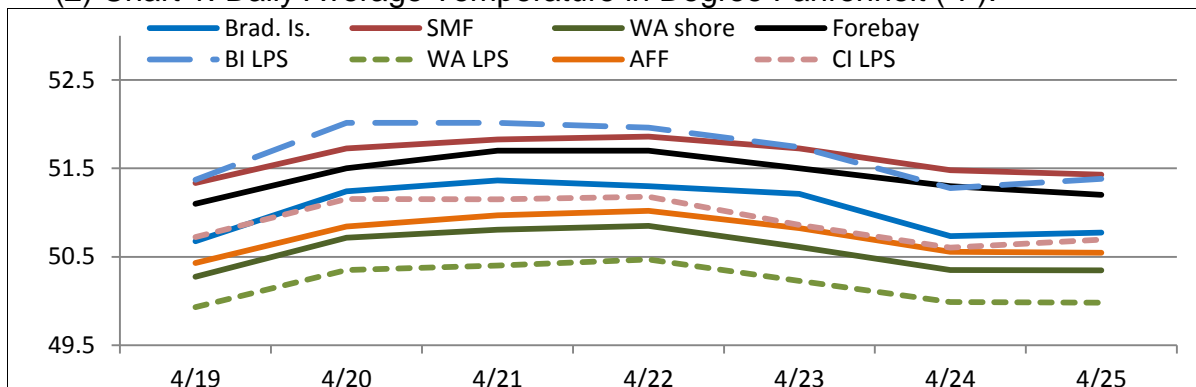
(5) PH2CC diffuser A2 was unable to be repaired during winter maintenance and remains closed. The gate for diffuser B5 was removed for repairs and therefore cannot be closed.

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		
	Forebay	Brad. Is.	WA shore	SMF	AFF	BI LPS	WA LPS	CI LPS
4/19	51.1	50.7	50.3	51.3	50.4	51.4	49.9	50.7
4/20	51.5	51.2	50.7	51.7	50.8	52.0	50.4	51.2
4/21	51.7	51.4	50.8	51.8	51.0	52.0	50.4	51.1
4/22	51.7	51.3	50.8	51.9	51.0	52.0	50.5	51.2
4/23	51.5	51.2	50.6	51.7	50.8	51.7	50.2	50.9
4/24	51.3	50.7	50.3	51.5	50.6	51.3	50.0	50.6
4/25	51.2	50.8	50.3	51.4	50.5	51.4	50.0	50.7

(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
4/19	1	0	0
4/20	0	0	0
4/21	2	0	0
4/22	3	0	0
4/23	9	0	0
4/24	5	1	0
4/25	12	0	0

f. Adult Fishways.

(1) Calibration occurred on 23 April.

(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.

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) The Bradford Island, WA AWS, and Cascades Island LPS's remain in service.

(2) The PH2 NDE LFS/LPS remains out of 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 22 April updates a previous teletype defining PH2 operations for a gateway operation, with a new order of unit priority for test periods. Effective 01 April through ~04 June, operate PH2 units 14 and 15 as defined in the schedule for the PH2 gateway evaluation. Test period dates 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 17 April states that effective 0800 on 21 April through 0800 on 27 April, from 0800 to 2100 each day operate the forebay at 71.5' to 73.0', hard constraint, and 71.5' to 73.0' as a soft constraint. This operation is to maintain a low project head for the purposes of FGE testing (see section 3.d, above).

e. A teletype sent on 23 April cancels the previous teletype requesting forebay restraints for the purposes of FGE testing.

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