

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 17 of 2016, which covers the period from 17 to 23 April.

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 295 to 350.3 kcfs. Daily average powerhouse forebay elevation ranged from 74.3 to 75.1' msl. Daily average project tailwater ranged from 22.5 to 25.2' msl. Secchi disk measurements ranged from 3.5' to 5' all week. Daily average water temperature ranged from 51 to 53 °F.
- b. Spring spill began on 10 April. Daily average spill ranged from 106.6 to 163.2 kcfs.
- c. Unit Operation. PH2 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
5	0000 on 14 Apr	---	Cubicle measurements, 230 kV disconnect broken
6	0000 on 14 Apr	---	
7	0103 on 22 Feb	---	Annual, bank 7/8 outage, main unit breaker replacement, raking trash
8	0103 on 22 Feb	---	
12	0700 on 04 April	---	Wicket Gate seal replacement

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

- (1) The fish units were placed on standby to float trash, or to allow trash to be raked on units 17 and 18 without causing debris to be pulled to the fish units, during the following times:

F1: 0004 to 0357 on 18 April F2: 2218 on 17 April to 0358 on 18 April

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

Date	F1	F2
4/17	1.1	1.3
4/18	0.2	0.2
4/19	0.2	0.2
4/20	0.4	0.3
4/21	0.4	0.4
4/22	0.4	0.4
4/23	0.4	0.3

2. MAINTENANCE ACTIVITIES:

a. Auxiliary Water System Closures

(1) FV1-1 was closed for cleaning from 1410 to 1430 on 18 April, and 1103 to 1112 on 22 April.

(2) FV3-7 was closed for cleaning from 1458 to 1530 on 18 April.

b. STS/VBS inspections. None.

c. Dewatering and Fish Salvages. None.

3. RESEARCH:

a. CRITFC – AFF. Adult sampling in the AFF began on 15 April.

b. CRITFC – Sea Lion hazing. Hazing by boat began in March.

c. Fisheries Field Unit--Pinniped Observation. Observations began on 04 January.

d. Normandeau – Fish Counting. Video counting ended and visual counting began on 01 April.

e. PSMFC – Smolt Monitoring Program. No research fish were collected this reporting week. SbyC is active for USFWS Fish Health Center. Fallbacks recorded crossing the separator bars: 53 steelhead, 15 salmon, and 2 unknown salmonids. Spring Creek Hatchery fish experienced daily mortality of 0.0 to 2.9% from 12-15 April with virtually no descaling. More details can be found on the [FPC web page](#).

f. USDA – Avian and pinniped hazing. Dam-based hazing for pinnipeds began in March, for birds on 1 April.

4. FISHWAYS:

- a. Project biologists inspected 17 – 23 April.
- b. Fish passage plan observations.

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

Date	Location	FPP Items	Cause	Response
BRADFORD ISLAND				
4/18,20,21	A-branch	Water over weir > 1.1'	FV3-7 conduit leak	Repair in 2017
4/22	PH1	WG-1 not operating correctly	WG-1 motor	Compensate with WG-2, repair
CASCADES ISLAND – Nothing to report				
WASHINGTON SHORE				
4/17-23	PH2	Diffuser A2 closed	See 4.b.2 below	None

(2) PH2CC diffuser A2 was unable to be repaired during winter maintenance 2014/15 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 when tailwater is below 12.0' msl or above 28.0' msl.

c. Adult Fishways.

- (1) The AFF was returned to service on 06 April.
- (2) Fishway instrument calibration was checked on 20 April.
- (3) Eight of 12 floating orifice gates (FOGs) are installed; the 4 middle slots have bulkheads in place. FOG sea lion bars are installed. Plywood sea lion barriers were installed on top of all FOGs on 11 February to prevent sea lions from jumping into the PH2CC.
- (4) All SLEDs are installed.

d. Juvenile Fishways.

- (1) The ITS was closed from 1736 to 1851 on 17 April due to safety concerns about a downed kite-boarder above the dam.
- (2) The hydro-cannon is on.
- (3) The B2CC was closed from 1736 to 1851 on 17 April due to safety concerns about a downed kite-boarder above the dam.
- (4) The DSM remains in service.

e. Lamprey Fishways.

- (1) The Bradford Island LPS, WA AWS LPS, and the Cascade Island LPS remain in service.
- (2) Due to needed repairs, the NDE LFS/LPS will remain out of service for the 2016 season. Repairs are currently being coordinated.

f. 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
4/17	8	0	0	0	0
4/18	22	1	0	0	0
4/19	15	1	0	0	0
4/20	5	0	0	0	0
4/21	57	0	0	0	0
4/22	22	0	0	0	0
4/23	49	4	0	0	0

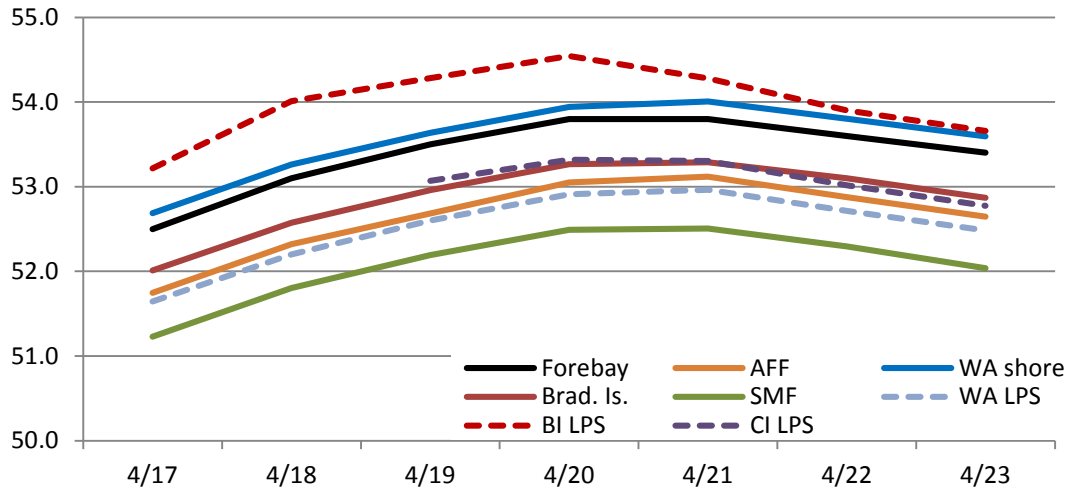
5. WATER QUALITY MONITORING:

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

(1) Table 4. Average daily fishway water temperatures (Fahrenheit).

Date	Forebay	Fishways				Lamprey		
		Brad. Is.	WA shore	AFF	SMF	BI LPS	WA LPS	CI LPS
4/17	52.5	52.0	51.2	51.7	52.7	53.2	51.6	52.1
4/18	53.1	52.6	51.8	52.3	53.3	54.0	52.2	---
4/19	53.5	53.0	52.2	52.7	53.6	54.3	52.6	53.1
4/20	53.8	53.3	52.5	53.1	53.9	54.5	52.9	53.3
4/21	53.8	53.3	52.5	53.1	54.0	54.3	53.0	53.3
4/22	53.6	53.1	52.3	52.9	53.8	53.9	52.7	53.0
4/23	53.4	52.9	52.0	52.6	53.6	53.7	52.5	52.8

(2) Figure 1. Graph of fishway water temperatures (Fahrenheit).



b. Zebra Mussel Monitoring. No signs of colonization were observed this reporting week.

6. CONSTRUCTION: Nothing to report.

7. HAZMAT, SPILLS AND CLEANUP: Nothing to report.

8. TELETYPES CURRENTLY IN EFFECT:

- a. A teletype sent on 23 April updates the spill caps and lack of load conditions to be used from 0000 on 1 April until further notice.
- b. A teletype sent on 21 April updates Columbia River Flood Risk Management (FRM) through the end of April.
- c. A teletype sent on 7 April states effective 10 April to 31 August, provide spring and summer spill per the 2015 Fish Operations Plan. A schedule and specific operations are provided. The B2CC will operate concurrent with spill.

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 Bonneville Project