

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 16 of 2016, which covers the period from 10 to 16 April.

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 241.6 to 339.0 kcfs. Daily average powerhouse forebay elevation ranged from 72.8 to 75.1' msl. Daily average project tailwater ranged from 19.7 to 24.5' msl. Secchi disk measurements ranged from 4' to 6' all week. Daily average water temperature ranged from 47 to 50 °F.
- b. Spring spill began on 10 April. Daily average spill ranged from 98.8 to 149.2 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
1	0002 on 11 Apr	1711 on 12 Apr	Cubicle measurements
2	0002 on 11 Apr	1724 on 12 Apr	
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	---	
10	1112 on 13 Apr	1633 on 13 Apr	Raking trash
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) Table 2. Fish unit drawdowns, in feet.

Date	F1	F2
4/10	0.7	0.9
4/11	0.7	1.0
4/12	0.9	1.1
4/13	0.1	0.2
4/14	0.6	0.6
4/15	0.5	0.6
4/16	0.7	0.8

2. MAINTENANCE ACTIVITIES:

a. Auxiliary Water System Closures

(1) FV3-9 was closed for cleaning from 0810 to 0820 on 11 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 and for birds on 1 April.

4. FISHWAYS:

a. Project biologists inspected 10 – 16 April.

b. Fish passage plan observations.

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

Date	Location	FPP Items	Cause	Response
BRADFORD ISLAND				
4/15-16	A-branch	Water over weir > 1.1'	FV3-7 conduit leak	Repair in 2017
CASCADES ISLAND – Nothing to report				
WASHINGTON SHORE				
4/10-16	PH2	Diffuser A2 closed	See 4.b.2 below	None
4/10-11	Weir 38	Water level < 0.9'	AFF re-watering	Ops adjusted

- (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 not checked this week.
- (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 remains open.
- (2) The hydro-cannon is on.
- (3) The B2CC remains open.
- (4) The DSM remains in service.

e. Lamprey Fishways.

- (1) The Bradford Island LPS and WA AWS LPS were returned to service at ~1400 on 5 April. The Cascade Island LPS was brought into service at 1350 on 08 April.
- (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
4/10	8	0	0	0	0
4/11	33	1	0	0	0
4/12	9	0	0	0	0
4/13	16	0	0	0	0

4/14	6	0	0	0	0
4/15	32	1	0	0	0
4/16	10	1	0	0	0

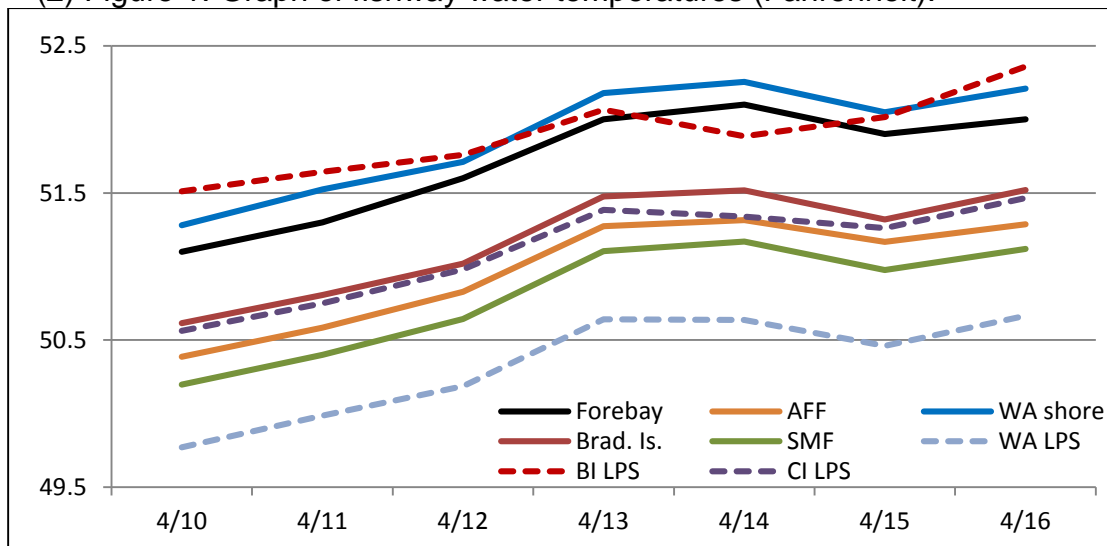
5. WATER QUALITY MONITORING:

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
4/10	51.1	50.6	50.2	50.4	51.3	51.5	49.8	50.6
4/11	51.3	50.8	50.4	50.6	51.5	51.6	50.0	50.8
4/12	51.6	51.0	50.6	50.8	51.7	51.8	50.2	51.0
4/13	52.0	51.5	51.1	51.3	52.2	52.1	50.6	51.4
4/14	52.1	51.5	51.2	51.3	52.3	51.9	50.6	51.3
4/15	51.9	51.3	51.0	51.2	52.0	52.0	50.5	51.3
4/16	52.0	51.5	51.1	51.3	52.2	52.4	50.7	51.5

(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 4 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 6 April states that effective 2400 on 9 April, all tailwater operations for Chum are ended and normal tailwater operations may resume.
- c. A teletype sent on 7 April requests that from 1000 to 1300 on 11 April, lower BON forebay to the lowest available pool, at or below 72.5', soft constraint. This operation is to allow removal and service of a fish irrigation screen near Mosier.
- d. 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