

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 15 of 2020, which covers the period from 05 – 11 April.

1. OPERATION SUMMARY:

a. Daily average river flows ranged from 124.1 to 144.8 kcfs. Daily average powerhouse forebay elevation ranged from 73.7' to 75.6' msl. Daily average project tailwater ranged from 11.8' to 13.1' msl. Secchi disk measurements ranged from 6.0' to 7.0'. Daily average water temperature ranged from 45° to 48°F.

b. Daily average spill ranged from 1.4 to 99.4 kcfs.

c. Unit Operation. PH2 remains the priority powerhouse. Main unit drawdowns are measured every Monday and more frequently as needed.

- Table 1. Main Unit Outages.

Unit	OOS		RTS	Reason
1	0720 on 06 Apr		1208 on 07 Apr	P.O., Relay Testing
2	0715 on 06 Apr		---	P.O., 5 year overhaul
14	0740 on 24 Feb		---	P.O., 4 year overhaul

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

Fish Unit Outages. Fish Units are periodically placed into reserve service (RS) to float trash when debris differentials become excessive and trash raking is not possible.

- Table 2. Fish Unit Outages. Nothing to report.
- Table 3. Fish Unit Drawdowns, in Feet.

Date	F1	F2
4/5	0.3'	0.5'
4/6	0.1'	0.3'
4/7	0.1'	0.4'
4/8	0.2'	0.4'
4/9	0.2'	0.4'
4/10	0.1'	0.4'
4/11	0.1'	0.4'

2. MAINTENANCE ACTIVITIES:

a. Auxiliary Water System Closures. Nothing to report.

b. STS/VBS Inspections. Nothing to report.

c. Dewatering and Fish Salvages. Project Biologists salvaged 1 juvenile salmonid, 1 juvenile smallmouth bass and 1 juvenile cyprinid from the unit 2 scroll case on 08 April; 2 juvenile salmonid, 1 juvenile catfish, 1 stickleback and 1 juvenile smallmouth bass from the unit 2 draft tube on 08 April; 3 sculpin from unit 14 tail logs on 09 April.

3. RESEARCH:

- a. Four Peaks Environmental - Fish counting contract: Daytime visual counting (0500 to 2100) began on 01 April. Fish counts can be viewed [here](#).
- b. PSMFC – Smolt Monitoring: Sample collections at the SMF began at 0700 on 02 March. Debris at the PDS and fish/debris separator was light to moderate consisting mostly of sticks. Kelt observations were monitored by direct observation from Smolt Monitoring personnel and video recording by Fisheries Field Unit and SMP until the Kelt Trigger was reached. Six steelhead fallbacks were observed this week. No fish collections for research purposes were conducted this week. More details can be found on the [FPC web page](#).
- c. USDA - Pinniped hazing: Deck-based hazing began 01 March.
- d. CRITFC - Pinniped hazing: Hazing by boat began 01 March. Suspended indefinitely 20 March for social distancing purposes.

4. FISHWAYS:

- a. Project biologists inspected 05 - 11 April.
- b. Fish passage plan observations.

- Table 5. FPP Items Out of Criteria.

Date	Location	FPP Violation	Cause	Response
Bradford Island – Nothing to report				
4/5,9-11	A-Branch	Staff Gauge Diff. > 1.1'	Unknown	NA
4/6,11	PHICC	S. Ent. Diff. < 1.0'	Unknown	NA
4/5	B-Branch	Ent. Diff. > 2.0'	Unknown	NA
4/7	BI Exit	Orifice Flow (36 mins)	Trash Rack Cleaning	MFR
Cascades Island – Nothing to report				
Washington Shore – Nothing to report				

- On 01 May 2018, FG6-11 (Cascades Island) was found broken partially open. The diffuser shaft had broken away from the motor. Due to the subsidence issues at Cascades Island, repairs cannot occur until crane support is allowed in the vicinity. FG6-11 should be open at tailwaters $\geq 14.0'$.
- On 18 August 2018, FG6-12 (Cascades Island) was found to be mechanically bound in the open position. FG6-12 should only be open with tailwaters ranging from 11.0'-33.0'. Due to the subsidence issues at Cascades Island, repairs cannot occur until crane support is allowed in the vicinity.
- On 27 March 2019, FG6-18 (Cascades Island) was found to be mechanically bound in the closed position. FG6-18 should be open with tailwaters $> 12.0'$. Due to the subsidence issues at Cascades Island, repairs cannot occur until crane support is allowed in the vicinity.

c. Adult Fishways.

- (1) The AFF remains out of service.
- (2) Sensor calibration occurred on 11 Apr.
- (3) SLEDs are installed at all locations.

d. Juvenile Fishways.

- (1) The ITS remains in service (auto-chain gates 3B, 6C, & 10B only).
- (2) The hydro-cannon remains in service.
- (3) The B2CC remains in service.
- (4) The DSM remains in service.
- (5) STSs are installed.

e. Lamprey Fishways.

- (1) WA Shore and CI LPSs were returned to service on 01 April. BI LPS remains out of service.
- (2) The Bradford Island Wetted Wall (BIWW) remains out of service.
- (3) The PH2 Lamprey Flume Structure (LFS) remains out of service.
- (4) The AFF Lamprey trap remains out of service.

f. Avian Monitoring. Avian counts are recorded 01 April – 31 October.

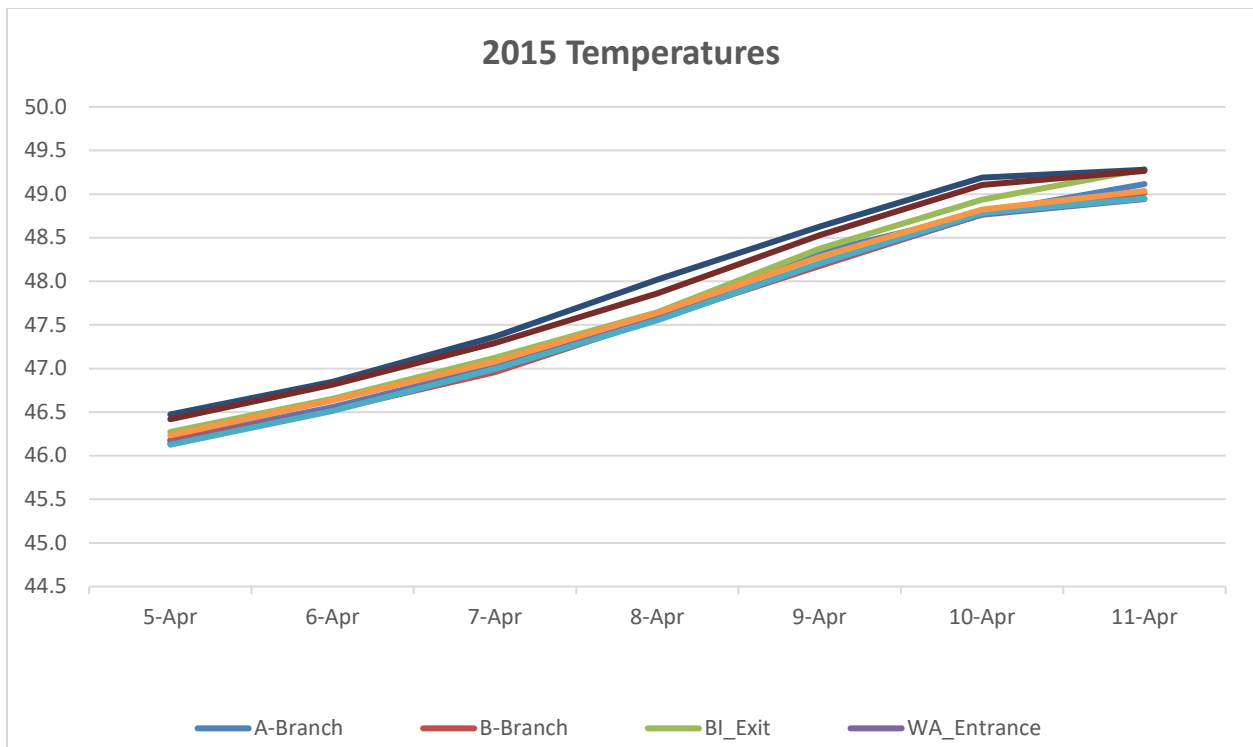
(1) Table 5. Avian Counts.

Date	Gulls	Cormorants	Terns	Wh. Pelicans	Grebes
4/5	5	0	0	0	0
4/6	---	---	---	---	---
4/7	---	---	---	---	---
4/8	---	---	---	---	---
4/9	2	0	0	0	0
4/10	6	2	0	0	0
4/11	2	0	0	0	0

5. WATER QUALITY MONITORING:

a. Fishway Temperatures. Temperatures are taken from 01 March - 30 November.

Date	A-Branch	B-Branch	BI_Exit	WA_Entrance	WA_Exit	SMF	CI_LPS	WA_LPS
5-Apr	46.2	46.2	46.3	46.1	46.1	46.2	46.5	46.4
6-Apr	46.6	46.5	46.7	46.5	46.5	46.6	46.8	46.8
7-Apr	47.0	47.0	47.1	47.0	47.0	47.1	47.4	47.3
8-Apr	47.6	47.6	47.6	47.6	47.6	47.6	48.0	47.9
9-Apr	48.3	48.2	48.4	48.2	48.2	48.3	48.6	48.5
10-Apr	48.8	48.8	48.9	48.8	48.8	48.8	49.2	49.1
11-Apr	49.1	49.0	49.3	48.9	49.0	49.0	49.3	49.3



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. TELETYPE CURRENTLY IN EFFECT:

- A teletype sent on 20 December updated the Chum Salmon spawning operations. Effective 24 December at 1200 until further notice, maintain Bonneville tailwater elevation at a minimum of 11.3' at all hours. The official tailwater staff gauge is located 50' upstream of Tanner Creek (Oregon side).
- A teletype sent on 06 April states that effective 10 April through 15 June, operate in accordance with the FOP to provide Spring spill for fish passage. See teletype for details.
- A teletype sent on 08 April replaces the teletype sent on 20 December and states that effective 09 April at 2200 hours through April 20 at 2359, the minimum tailwater elevation is 12.5 feet during all hours. Resume normal tailwater operations as described in the water control manual. This special operation supersedes the routine practice of past years of ending chum tailwater requirement when Spring spill begins. Due to low flow conditions, regional salmon managers requested the operation to protect chum redds and fry from impacts of TDG during Spring spill

MICHAEL ADAMS, P.E.
Operations Project Manager
Bonneville Project