

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for **Week 13** of 2019, which covers the period from **24-30 March**.

## 1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 177.7' to 196.9' kcfs. Daily average powerhouse forebay elevation ranged from 73.8' to 74.7' msl. Daily average project tailwater ranged from 15.6' to 16.6' msl. Secchi disk measurements ranged from 3.0' to 6.0'+. Daily average water temperature ranged from 41°F - 42°F.
- b. Daily average spill ranged from 1.2 kcfs to 1.3 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 Date	RTS Date	Reason
0	0840 on 08 Nov	1401 on 26 Mar	Bad Turbine Bearings
11	1022 on 25 Mar	1158 on 25 Mar	Trash Raking
12	1231 on 25 Mar	1324 on 25 Mar	Trash Raking
13	1326 on 25 Mar	1412 on 25 Mar	Trash Raking
15	0714 on 18 Mar	---	4 Year Overhaul
18	1433 on 25 Mar	1530 on 25 Mar	Trash Raking

- 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
3/24	0.6'	0.6'
3/25	0.4'	0.4'
3/26	0.5'	0.5'
3/27	0.5'	0.5'
3/28	0.2'	0.3'
3/29	0.2'	0.2'
3/30	0.2'	0.2'

## 2. MAINTENANCE ACTIVITIES:

- a. Auxiliary Water System Closures.
  - FV1-1 was closed from 0802 to 0834 on 25 March and from 0813 to 0850 on 28 March for trash rack cleaning.
  - FV3-7 manual from 1142 to 1345 on 25 March for FG3-5 stoking.
- b. STS/VBS Inspections. Nothing to report.
- c. Dewatering and Fish Salvages. Nothing to report.

## RESEARCH:

- a. Fisheries Field Unit - Fish counting: Daytime video (0400 to 2000) began on 01 March. Fish counts can be viewed [here](#).
- b. PSMFC – Smolt Monitoring: Sample collections at the SMF began at 0700 on 02 March. Debris at PDS and fish/debris separator was light to moderate consisting mostly of sticks. The Outfall hydro-cannons are operational. Kelt observations will be monitored by direct observation from Smolt Monitoring personnel and video recording by FFU and SMP at least until the Kelt Trigger is reached. Fallbacks observed this week: 13 Steelhead. For “kelt trigger” purposes, the season-to-date total as of this report date is 18. No fish collections for research purposes were conducted this week. More details can be found on the [FPC web page](#).
- c. Fisheries Field Unit - Pinniped Monitoring Program: Observations for pinniped abundance and predation began on 02 Jan. The FFU observes five days each week.
- d. USDA - Pinniped hazing: Deck-based hazing began 01 March.
- e. CRITFC - Pinniped hazing: Hazing by boat began 01 March.

## 3. FISHWAYS:

- a. Project biologists inspected from 24-30 March.

b. Fish passage plan observations.

- Table 4. FPP out of criteria items.

Date	Location	FPP Violation	Cause	Response
Bradford Island				
3/24-30	A-Branch	Differential > 1.1'	Unknown	NA
3/28	PH1CC – South	Differential <1.0'	Unknown	NA
Cascades Island – Nothing to report.				
Washington Shore– Nothing to report.				
3/24-25, 28	NDE	Sub < 13.0'	Unknown	NA
3/24-25, 28	NUE	Sub < 13.0'	Unknown	NA
3/24, 28	SDE	Sub < 13.0'	Unknown	NA
3/24-25, 28	SUE	Sub < 13.0'	Unknown	NA

- Bonneville had the majority of its avian lines broken due to ice storms during the 2016/17 winter and PH2 lines are still awaiting reinstallation.
- On 01 May 2018, FG6-11 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.
- On 18 August 2018, FG6-12 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. **Tailwater was  $\geq 11.0'$  this reporting week. No violations occurred.**

c. Adult Fishways.

- (1) The AFF was taken out of service on 07 November 2018.
- (2) Sensor calibration occurred on 29 March.
- (3) SLEDs are installed at all locations.

d. Juvenile Fishways.

- (1) The ITS was opened (auto-chain gates 3B, 6C, & 10B only – no fixed gates 1A or 1B) per the 15 March teletype. The ITS will be open 24/7 until repairs can be made to the lower gate.
- (2) The hydro-cannon is in service.
- (3) The B2CC is operating from 0600 – 1800 daily per 15 March teletype.
- (4) The DSM remains in service.
- (5) STSs are installed.

e. Lamprey Fishways. All lamprey passage systems remain offline.

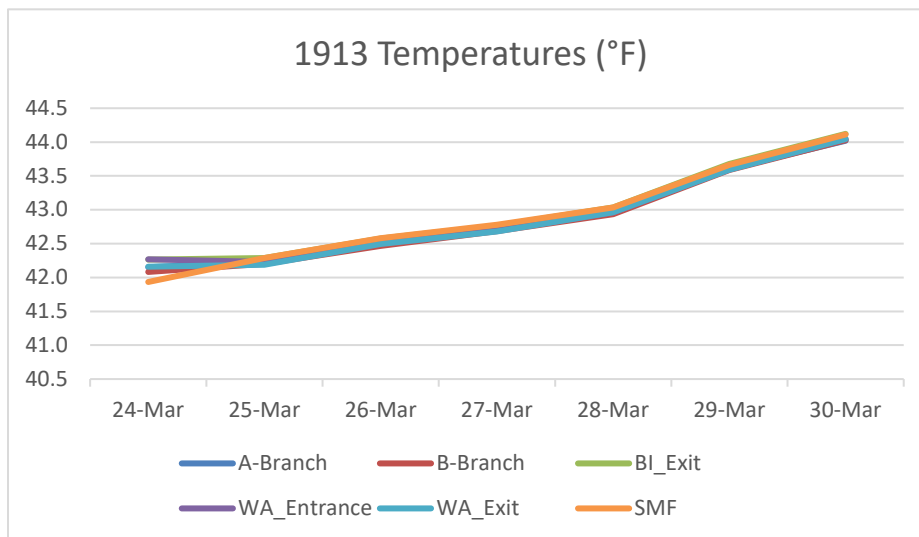
f. Avian Monitoring. Avian counts are recorded 01 April – 31 October.

**4. WATER QUALITY MONITORING:**

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

Date	A-Branch	B-Branch	BI_Exit	WA_Entrance	WA_Exit	SMF
24-Mar	42.2	42.1	42.3	42.3	42.2	41.9
25-Mar	42.2	42.2	42.3	42.2	42.2	42.3
26-Mar	42.5	42.5	42.6	42.5	42.5	42.6
27-Mar	42.7	42.7	42.8	42.7	42.7	42.8
28-Mar	43.0	42.9	43.0	43.0	43.0	43.0
29-Mar	43.6	43.6	43.7	43.6	43.6	43.7
30-Mar	44.0	44.0	44.1	44.0	44.0	44.1

b.



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

## **CONSTRUCTION:**

- a. Whooshh Innovations was onsite during this reporting week making adjustments to their scanning system in the AFF. Additional information can be obtained by request or found [here](#).

**6. HAZMAT, SPILLS AND CLEANUP:** Nothing to report.

## **7. TELETYPES CURRENTLY IN EFFECT:**

- a. A teletype sent on 21 December updates the Chum Salmon spawning tailwater requirements until further notice.
- b. A teletype sent on 01 February states effective immediately until further notice to operate PH2 with the following unit priority: 11, 12, 13, 14, 15, 16, 17, 18. Continue operating PH1 in the order defined in the 2018 Fish Passage Plan (FPP) Table BON-13 that was revised 14 June 2018. The purpose of this operation is to prioritize units near the PH2 corner collector (B2CC), which is operating due to the outage of the ITS.
- c. A teletype sent on 07 March moved unit 6 to the first off / last on at PH1. This is due to exciter fan issues. The repairs are scheduled for 02 April.
- d. A teletype sent on 15 March revised operations of the B2CC. Effective 17 March at 0001, through 09 April at 2359 operate the B2CC from 0600 to 1800 daily. Additionally the three auto-chain gates within the PH1 ITS will be operated 24/7.
- e. A teletype sent on 22 March provides spill and lack of load conditions to be used from 23-31 March.

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