

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for **Week 11** of 2019, which covers the period from **10 - 16 March**.

## 1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 128.2 to 153.9 kcfs. Daily average powerhouse forebay elevation ranged from 73.0' to 73.8' msl. Daily average project tailwater ranged from 11.5' to 13.6' msl. Secchi disk measurements ranged from 6.0' to 7.0'+. Daily average water temperature ranged from 36°F - 38°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	---	Bad Turbine Bearings
16	2008 on 07 Mar	1641 on 11 Mar	'B' STS failure

- 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.

Unit	OOS Date	RTS Date	Reason
F2	0712 on 12 Mar	1605 on 12 Mar	PO, model validation testing
F2	1346 on 13 Mar	1548 on 13 Mar	PO, model validation testing

- Table 3. Fish unit drawdowns, in feet.

Date	F1	F2
3/10	0.2'	0.3'
3/11	0.1'	0.1'
3/12	0.1'	0.3'
3/13	0.4'	0.3'
3/14	0.1'	0.2'
3/15	0.2'	0.2'
3/16	0.1'	0.2'

## 2. MAINTENANCE ACTIVITIES:

### a. Auxiliary Water System Closures.

- FV1-1 was closed from 0715 to 0737 on 11 March and 0735 to 0745 on 14 March for trash rack cleaning.
- FV3-7 was closed from 0750 to 0905 on 14 March for trash rack cleaning.
- FV3-9 was closed from 0750 to 0905 on 14 March for trash rack cleaning.

### 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 the PDS and fish/debris separator was light to light-moderate consisting mostly of sticks. The Outfall hydro-cannons were not operational this week. Kelt observations will be monitored by direct observation from Smolt Monitoring personnel and video recording by Fisheries Field Unit and SMP at least until the Kelt Trigger is reached. No fallbacks were observed this week. Year-to-date total is 1. 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 10-16 March.

b. Fish passage plan observations.

- Table 4. FPP out of criteria items.

Date	Location	FPP Violation	Cause	Response
<b>Bradford Island</b>				
3/10-16	A-Branch	Differential > 1.1'	Unknown	NA
3/10	FG3-26	Open 50%	Unknown	Ops Adjusted
<b>Cascades Island – Nothing to report.</b>				
<b>Washington Shore– Nothing to report.</b>				
3/10	NDE	Sub < 13.0'	Unknown	NA
3/10	NEU	Sub < 13.0'	Unknown	NA
3/10	SDE	Sub < 13.0'	Unknown	NA
3/10	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 30 Jan, Spillway and Corner Collector (B2CC) avian lines were removed to facilitate rock removal from the Spillway apron.
- 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.
- On 13 September 2018, FG6-14 was manually closed, due to issues surrounding FG6-11 and FG6-12 (see above). Through trial and error this was found to help facilitate FPP entrance differential criteria and alleviate “boiling” from adjacent diffusers within the Cascades Island fishway. FG6-14 should be open during tailwaters of 9.0'-28.0'.
- FG3-4 was found to be open 50% on 28 February. FG3-4 should be open at tailwaters  $\geq 13.7'$ . Ice buildup caused the threads to become detached from the coupling. Repairs will commence once the ice has thawed.

c. Adult Fishways.

- (1) The AFF was taken out of service on 07 November 2018.
- (2) Sensor calibration occurred on 15 March.
- (3) SLEDs are installed at all locations.

d. Juvenile Fishways.

- (1) The ITS was taken out of service on 30 December due to lower gate failure. A teletype sent on 20 February allows opening to pass debris for minimal amount of time needed.
- (2) The hydro-cannon remains offline due to weather related issues.
- (3) The B2CC is operating from 0900 – 1500 daily per 15 January teletype.
- (4) The DSM remains in service.
- (5) STSs are installed.
  - Unit 16 'B' STS failed (0 amps) at 2008 on 07 March. Unit 16 was returned to service at 1641 on 11 March.

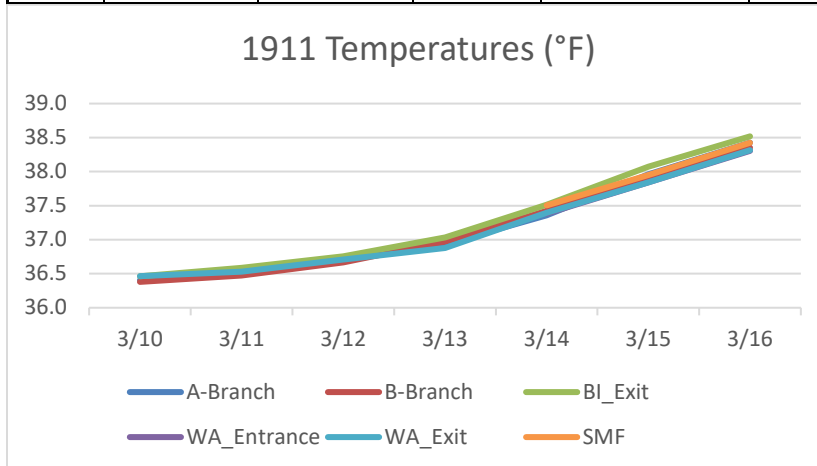
e. Lamprey Fishways. All lamprey passage systems remain offline.

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.

	A-Branch	B-Branch	BI_Exit	WA_Entrance	WA_Exit	SMF
3/10	36.4	36.4	36.5		36.5	
3/11	36.5	36.5	36.6		36.5	
3/12	36.7	36.7	36.8		36.7	
3/13	36.9	37.0	37.0		36.9	
3/14	37.4	37.4	37.5	37.4	37.4	37.5
3/15	38.0	37.9	38.1	37.8	37.8	37.9
3/16	38.4	38.4	38.5	38.3	38.3	38.4



b.

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

**5. CONSTRUCTION:** Nothing to report.

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

**7. TELETYPES CURRENTLY IN EFFECT:**

- a. A teletype sent on 30 August outlines the wintertime spill priority list and wintertime spill caps for all Columbia Basin projects and BPA.
- b. A teletype sent on 21 December updates the Chum Salmon spawning tailwater requirements until further notice.
- c. 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.
- d. A teletype sent on 20 February replaces the teletype sent on 15 January and 15 February and outlines the operation of the B2CC as a surface passage route for steelhead kelts in place of the ITS. ITS may be operated to pass debris for minimal amount of time needed.
- e. 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.
- f. 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.

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