

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for **Week 14** of 2019, which covers the period from **31 March - 06 April**.

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 148.8' to 210.2' kcfs. Daily average powerhouse forebay elevation ranged from 74.0' to 74.5' msl. Daily average project tailwater ranged from 13.7' to 17.2' msl. Secchi disk measurements ranged from 3.5' to 6.0'. Daily average water temperature ranged from 43°F - 46°F.
- b. Daily average spill ranged from 1.2 kcfs to 1.4 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 Date	RTS Date	Reason
6	0715 on 02 Apr	1351 on 02 Apr	Exciter Fan Replacement
15	0714 on 18 Mar	---	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
3/31	0.1'	0.1'
4/1	0.2'	0.2'
4/2	0.1'	0.1'
4/3	0.2'	0.3'
4/4	0.1'	0.2'
4/5	0.1'	0.2'
4/6	0.1'	0.2'

2. MAINTENANCE ACTIVITIES:

a. Auxiliary Water System Closures.

- FV3-7 manual from 0715 to 0731 on 01 April for cleaning.
- FV3-9 manual from 0715 to 0731 on 01 April for cleaning.
- FV1-1 was closed from 0735 to 0753 on 01 April and from 0657 to 0745 on 04 April for trash rack cleaning.

b. STS/VBS Inspections. Nothing to report.

UNIT #	PREVIOUS STS HRS	HRS WHEN INSPECTED	HRS RUN	REMARKS
11	42789	43694	905	n/a
12	32701	33610	909	n/a
13	02345	03240	895	n/a
14	05453	06342	889	n/a
15	16798	17292	494	oos
16	28758	29378	620	n/a
17	22090	22880	790	n/a
18	61210	62000	790	n/a

c. Dewatering and Fish Salvages. Nothing to report.

RESEARCH:

- Fisheries Field Unit - Fish counting: Daytime video (0400 to 2000) began on 01 March. Fish counts can be viewed [here](#).
- PSMFC – Smolt Monitoring: Sample collections at the SMF began at 0700 on 02 March. Debris at PDS and fish/debris separator was light to light-moderate consisting mostly of sticks. The Outfall hydro-cannons are operational. Kelt observations were monitored by direct observation from Smolt Monitoring personnel and video recording by FFU and SMP until the Kelt Trigger was reached on 01 April when the 20th steelhead passed the separator bars. Fallbacks observed this week: 8 Steelhead and 1 salmon. No fish collections for research purposes were conducted this week. More details can be found on the [FPC web page](#).
- Fisheries Field Unit - Pinniped Monitoring Program: Observations for pinniped abundance and predation began on 02 Jan. The FFU observes five days each week.
- USDA - Pinniped hazing: Deck-based hazing began 01 March.
- CRITFC - Pinniped hazing: Hazing by boat began 01 March.

3. FISHWAYS:

- Project biologists inspected from 31 March - 06 April.

b. Fish passage plan observations.

• Table 4. FPP out of criteria items.

Date	Location	FPP Violation	Cause	Response
Bradford Island				
3/31-4/6	A-Branch	Differential > 1.1'	Unknown	NA
3/31-4/5	FG 3-5	Open TW < 16.7'	Mechanically Bound	NA
Cascades Island – Nothing to report.				
3/31-4/6	FG 6-18	Closed TW > 12.0'	Mechanically Bound	NA
Washington Shore– Nothing to report.				
4/3	SDE	Diff < 1.0'	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 05 April.
- (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.

(1) Table 5. Avian Counts.

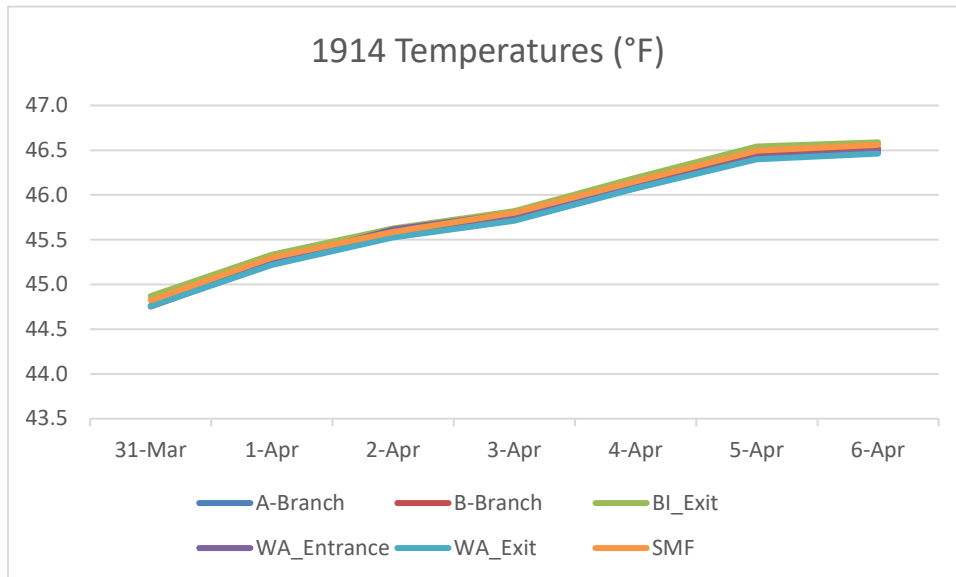
Date	Gulls	Cormorants	Terns	Wh. Pelicans	Grebes
3/31	---	---	---	---	---
4/1	---	---	---	---	---
4/2	1	0	0	0	0
4/3	---	---	---	---	---
4/4	5	0	0	0	0
4/5	2	0	0	0	0
4/6	5	0	0	0	0

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
31-Mar	44.8	44.8	44.9	44.8	44.8	44.8
1-Apr	45.2	45.2	45.3	45.3	45.2	45.3
2-Apr	45.6	45.5	45.6	45.6	45.5	45.6
3-Apr	45.8	45.7	45.8	45.8	45.7	45.8
4-Apr	46.1	46.1	46.2	46.1	46.1	46.2
5-Apr	46.5	46.5	46.5	46.4	46.4	46.5
6-Apr	46.5	46.5	46.6	46.5	46.5	46.6

b.



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

CONSTRUCTION: Nothing to report

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

6. 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.
- f. A teletype sent on 04 April states effective 10 April, end teletype sent 21 December and Bonneville Dam may resume normal tailwater operations.
- g. A teletype sent on 04 April states effective 10 April through 15 June, operate Bonneville Dam in accordance with the 2019 FOP to provide spring spill for fish passage, spill according to patterns in the 2019 FPP, and open the B2CC at the start of spring spill.

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