

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for **Week 21** of 2020, which covers the period from **17 – 23 May**.

1. OPERATION SUMMARY:

a. Daily average river flows ranged from 302.6 to 354.8 kcfs. Daily average powerhouse forebay elevation ranged from 73.1' to 74.7' msl. Daily average project tailwater ranged from 22.5' to 25.0' msl. Secchi disk measurements ranged from 3.0' to 5.0'. Daily average water temperature remained 55°F.

b. Daily average spill ranged from 132.8 to 148.9 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
2	0715 on 06 Apr	---	P.O., 5 year overhaul
5	0900 on 18 May	1519 on 18 May	F.O., Breaker Issue
7	1111 on 19 May	1417 on 19 May	P.O., SQ3 Work
8	1136 on 19 May	1156 on 19 May	P.O., SQ3 Work
9	1111 on 19 May	1415 on 19 May	P.O., SQ3 Work
10	1136 on 19 May	1154 on 19 May	P.O., SQ3 Work
11	0702 on 21 May	1015 on 21 May	P.O., STS Inspection
12	0753 on 20 Apr	---	P.O., 4 year overhaul
13	1019 on 20 May	1425 on 20 May	P.O., STS Inspection
14	0653 on 20 May	1017 on 20 May	P.O., STS Inspection
15	1241 on 19 May	1642 on 19 May	P.O., STS Inspection
16	0833 on 19 May	1214 on 19 May	P.O., STS Inspection
17	1453 on 18 May	1710 on 18 May	P.O., STS Inspection
17	0631 on 19 May	0830 on 19 May	P.O., STS Inspection
18	1000 on 18 May	1450 on 18 May	P.O., STS Inspection

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
5/17	0.5'	1.0'
5/18	0.5'	0.9'
5/19	1.0'	1.6'
5/20	0.1'	0.3'
5/21	1.0'	2.3'
5/22	3.3'	0.6'
5/23	0.6'	0.7'

2. MAINTENANCE ACTIVITIES:

- a. Auxiliary Water System Closures.
 - FV 1-1 closed for cleaning from 0720 to 0751 on 21 May.
- b. STS/VBS Inspections. Nothing to report.
- c. Dewatering and Fish Salvages. Nothing to report.

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 “mulch like” debris and a few sticks. GBT examinations began on 19 April and are typically performed two days per week through spill. Results of this week’s GBT examinations: 200 yearling Chinook and Steelhead plus one peamouth examined with six fish (3.0%) GBT symptoms observed. 11 steelhead and three salmon 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 17 - 23 May.
- b. Fish passage plan observations.

- Table 5. FPP Items Out of Criteria.

Date	Location	FPP Violation	Cause	Response
Bradford Island – Nothing to report				
5/17-23	A-Branch	Weir Diff. > 1.1’	Unknown	NA
5/21	B-Branch	Weir Diff. > 1.1’	Unknown	NA
5/17	B-Branch	Ent. Diff > 2.0’	Unknown	NA
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 in service.
- (2) Sensor calibration occurred on 22 May.
- (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) LPSs remain in 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.

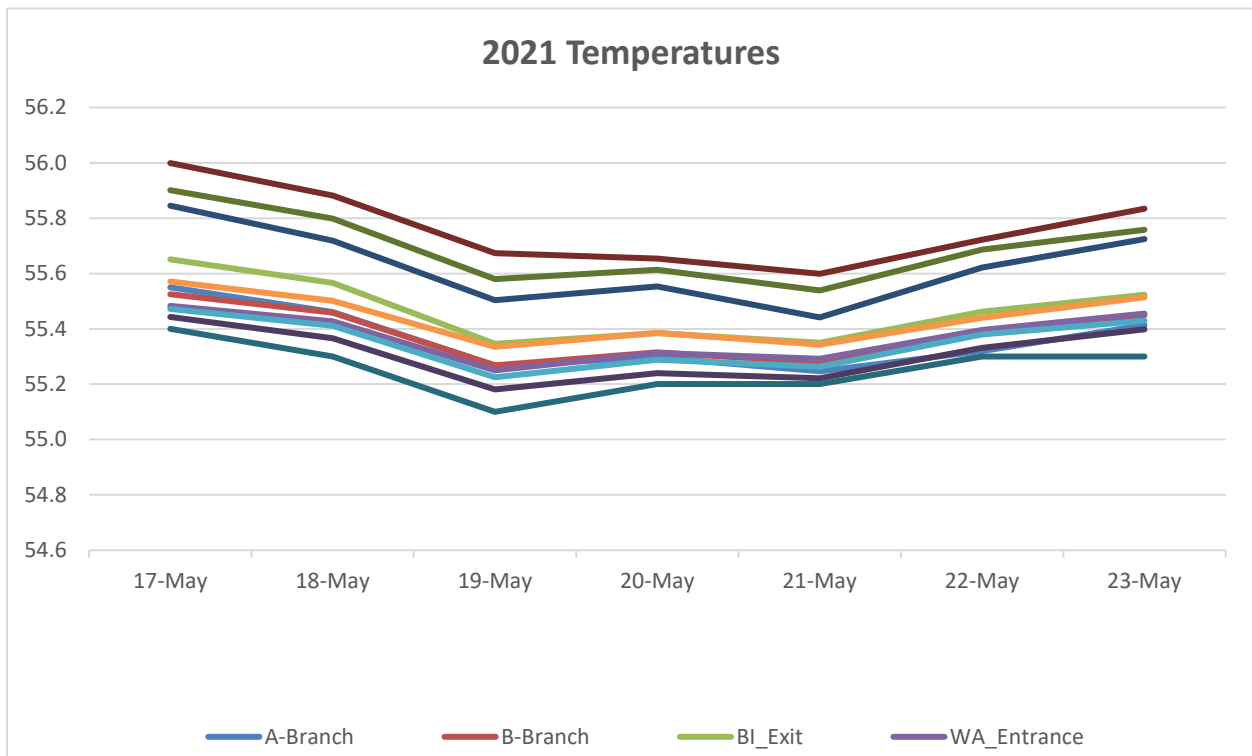
(1) Table 5. Avian Counts.

Date	Gulls	Cormorants	Terns	Wh. Pelicans	Grebes
5/17	11	0	0	0	0
5/18	7	3	0	0	0
5/19	4	0	0	0	0
5/20	11	1	0	0	0
5/21	12	0	0	0	0
5/22	14	0	0	0	0
5/23	16	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	BI_LPS	AFF	Forebay
17-May	55.6	55.5	55.7	55.5	55.5	55.6	55.8	56.0	55.9	55.4	55.4
18-May	55.5	55.5	55.6	55.4	55.4	55.5	55.7	55.9	55.8	55.4	55.3
19-May	55.3	55.3	55.3	55.3	55.2	55.3	55.5	55.7	55.6	55.2	55.1
20-May	55.3	55.3	55.4	55.3	55.3	55.4	55.6	55.7	55.6	55.2	55.2
21-May	55.2	55.3	55.3	55.3	55.3	55.3	55.4	55.6	55.5	55.2	55.2
22-May	55.3	55.4	55.5	55.4	55.4	55.4	55.6	55.7	55.7	55.3	55.3
23-May	55.4	55.4	55.5	55.5	55.4	55.5	55.7	55.8	55.8	55.4	55.3



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. TELETYPES CURRENTLY IN EFFECT:

- 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.

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Bonneville Project