

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for **Week 22** of 2019, which covers the period from **26 May – 01 June**.

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 278.6 to 342.1 kcfs. Daily average powerhouse forebay elevation ranged from 73.2' to 74.2' msl. Daily average project tailwater ranged from 20.9' to 24.1' msl. Secchi disk measurements ranged from 3.5' to 5.0'. Daily average water temperature ranged from 56°F - 59°F.
- b. Daily average spill ranged from 113.6 to 120.6 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	0724 on 29 May	1122 on 01 June	P.O, controls relocated.

- 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	0041 on 01 June	0435 on 01 June	RS, Nighttime Lamprey Ops.
F1	2130 on 01 June	---	RS, Nighttime Lamprey Ops.

Table 3. Fish unit drawdowns, in feet.

Date	F1	F2
5/26	0.2'	0.4'
5/27	0.2'	0.3'
5/28	0.2'	0.4'
5/29	0.2'	0.2'
5/30	0.2'	0.2'
5/31	0.1'	0.2'
6/1	0.3'	0.2'

2. MAINTENANCE ACTIVITIES:

- a. Auxiliary Water System Closures.
 - FV6-9 was closed for cleaning from 1538 to 1546 on 28 May.
 - FV3-7 was closed for cleaning from 1252 to 1341 on 30 May.
 - FV3-9 was closed for cleaning from 1252 to 1341 on 30 May.
- b. STS/VBS Inspections. Nothing to report.
- c. Dewatering and Fish Salvages. Nothing to report.

RESEARCH:

- a. Four Peaks Environmental - Fish counting contract: Daytime visual counting (0500 to 2100) began on 01 April. Fisheries Field Unit relinquished counting on 06 May. Nighttime video counting (2100 to 0500) began on 15 May. Fish counts can be viewed [here](#).
- b. PSMFC – Smolt Monitoring Facility: Sample collections at the SMF began at 0700 on 02 March. Debris at the PDS and fish/debris separator ranged from light to moderate consisting mostly of sticks and other woody debris. GBT examinations began on 13 April and are typically performed two days per week through the end of spill. Results of this week’s GBT examinations: 200 yearling Chinook and steelhead examined with no GBT symptoms observed. Please follow this [link](#) to the FPC web page for further details. Fallbacks observed this week: 10 steelhead, six salmon and two unknown salmonids. No fish collections for research were conducted this week.
- 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.
- f. CRITFC – Adult Salmonid Sampling. Adult Salmonid sampling in the AFF began on 30 April and typically occurs 5 days per week.
- g. NOAA (Frick) – Bradford Island Lamprey Wetted Wall. Evaluation of the Bradford Island wetted wall commenced for the second year on 17 April.
- h. Whooshh Innovations – Evaluation of a proprietary fish identification system commenced in coordination with CRITFC’s adult salmonid sampling efforts in the AFF on 30 April.

- i. University of Idaho – Lamprey Evaluations: Collection and tagging in association with Corps funded research commenced with the start of the Lamprey Flume Structure (LFS) and AFF lamprey traps on 13 May.

3. FISHWAYS:

- a. Project biologists inspected from 26 May – 01 June.
- b. Fish passage plan observations.

- Table 4. FPP out of criteria items.

Date	Location	FPP Violation	Cause	Response
Bradford Island				
5/26-29	A-Branch	Differential >1.1'	Unknown	NA
5/26-37	WG-64	Submergence >8.4'	Unknown	TR, remedied.
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.
- 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 did not occur this reporting week.
- (3) SLEDs are installed at all locations.

d. Juvenile Fishways.

- (1) The ITS remains open (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. All LPSs remain in service.

(1) The Bradford Island Wetted Wall began operations on 17 April.

(2) The PH2 Lamprey Flume Structure (LFS) began trapping on 13 May.

(3) The AFF Lamprey trap began trapping on 13 May.

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

(1) Table 5. Avian Counts.

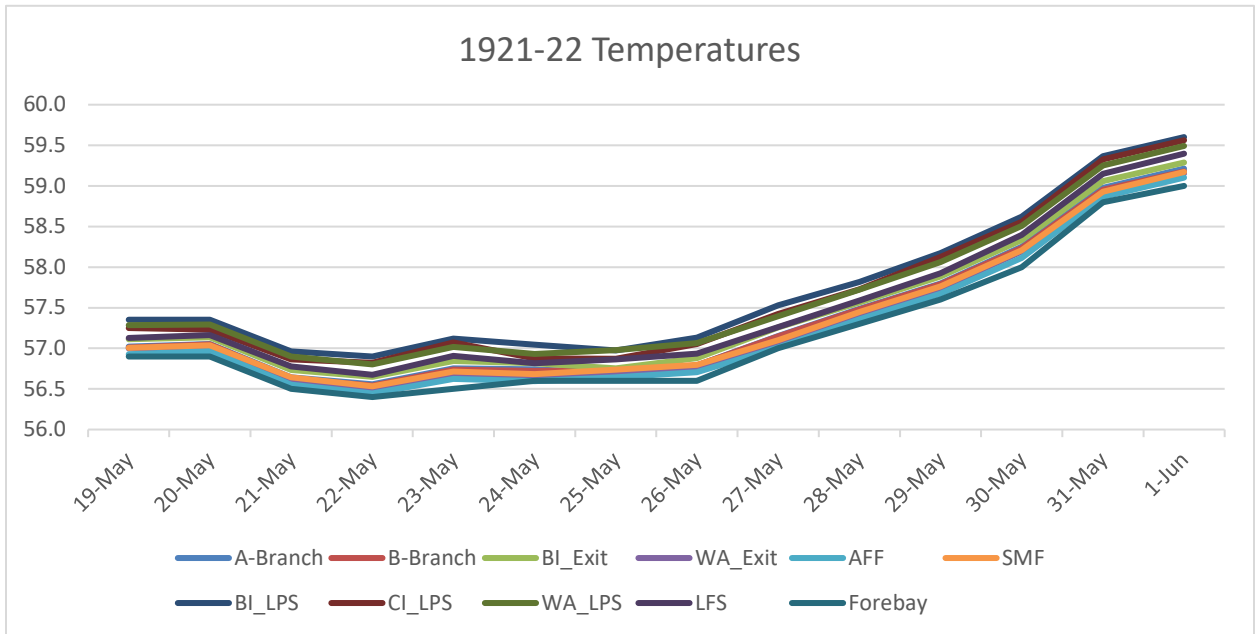
Date	Gulls	Cormorants	Terns	Wh. Pelicans	Grebes
5/26	0	0	0	0	0
5/27	0	2	0	0	0
5/28	0	0	0	0	0
5/29	0	0	0	0	0
5/30	0	0	0	0	0
5/31	0	1	0	0	0
6/1	0	0	0	0	0

4. WATER QUALITY MONITORING:

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

*Temperature probe malfunctions occurred with the WA entrance during this time period.

Date	A-Branch	B-Branch	BI_Exit	WA_Entrance	WA_Exit	AFF	SMF	BI_LPS	CI_LPS	WA_LPS	LFS	Forebay
19-May	57.0	57.0	57.1	---	57.0	56.9	57.0	57.4	57.3	57.3	57.1	56.9
20-May	57.1	57.0	57.1	---	57.0	57.0	57.0	57.4	57.2	57.3	57.2	56.9
21-May	56.6	56.6	56.7	---	56.6	56.6	56.6	57.0	56.9	56.9	56.8	56.5
22-May	56.6	56.5	56.6	---	56.5	56.4	56.5	56.9	56.8	56.8	56.7	56.4
23-May	56.8	56.7	56.8	---	56.7	56.6	56.7	57.1	57.1	57.0	56.9	56.5
24-May	56.7	56.7	56.8	---	56.6	56.6	56.7	57.0	56.9	56.9	56.8	56.6
25-May	56.7	56.7	56.8	---	56.7	56.6	56.7	57.0	56.9	57.0	56.9	56.6
26-May	56.8	56.8	56.9	---	56.8	56.7	56.8	57.1	57.1	57.1	56.9	56.6
27-May	57.2	57.1	57.3	---	57.1	57.0	57.1	57.5	57.4	57.4	57.3	57.0
28-May	57.5	57.5	57.6	---	57.4	57.4	57.4	57.8	57.7	57.7	57.6	57.3
29-May	57.8	57.8	57.9	---	57.7	57.7	57.8	58.2	58.1	58.1	57.9	57.6
30-May	58.3	58.2	58.3	---	58.2	58.1	58.2	58.6	58.6	58.5	58.4	58.0
31-May	59.0	59.0	59.1	---	58.9	58.9	58.9	59.4	59.3	59.3	59.1	58.8
1-Jun	59.2	59.2	59.3	---	59.2	59.1	59.2	59.6	59.6	59.5	59.4	59.0



b. 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 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.

b. Teletypes sent on 28 & 29 May, and 01 June updated the spill caps and priority lists until further notice.

MICHAEL ADAMS, P.E.
Operations Manager
Bonneville Project