

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for **Week 25** of 2021, which covers the period from **13 to 19 June 2021**.

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 187.6 to 205.0 kcfs. Daily average powerhouse forebay elevation ranged from 74.4' to 75.1' msl. Daily average project tailwater ranged from 15.7' to 16.6' msl. Secchi disk measurements ranged 6.0' to 7.0'. Daily average water temperature ranged from 60 to 62°F.
- b. Daily average spill ranged from 94.9 to 132.8 kcfs. Summer spill season began on 16 June and will continue through 31 August in accordance with FOP guidelines.
- 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
10	0007 on 12 Apr	---	P.O., Annual Overhaul
9	1000 on 12 Apr	---	P.O., 5-Yr Overhaul
15	2100 on 13 June	1145 on 17 June	P.O., Annual Overhaul/QTCI
5	0911 on 14 June		P.O., 5-Yr 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.**

Unit	OOS/RS	RTS	Reason	Duration
F1	2229 on 12 June	0529 on 13 June	R.S., Nighttime Lamprey Ops	7 hours
F2	2241 on 13 June	0530 on 14 June	R.S., Nighttime Lamprey Ops	6 hours, 49 mins
F2	2229 on 14 June	0529 on 15 June	R.S., Nighttime Lamprey Ops	7 hours
F2	2230 on 15 June	0530 on 16 June	R.S., Nighttime Lamprey Ops	7 hours
F1	2230 on 16 June	0529 on 17 June	R.S., Nighttime Lamprey Ops	6 hours, 59 mins
F2	2233 on 17 June	0558 on 18 June	R.S., Nighttime Lamprey Ops	7 hours, 25 mins
F1	2229 on 18 June	0530 on 19 June	R.S., Nighttime Lamprey Ops	7 hours, 1 min
F2	2235 on 19 June	---	R.S., Nighttime Lamprey Ops	---

- **Table 3. Fish Unit Drawdowns, in Feet.**

Date	F1	F2
06/13	0.1'	0.9'
06/14	0.6'	0.5'
06/15	0.7'	0.4'
06/16	0.8'	0.4'
06/17	0.2'	1.2'
06/18	0.4'	0.2'
06/19	0.2'	0.5'

2. MAINTENANCE ACTIVITIES:

a. Auxiliary Water System Closures.

- FV 3-7 (Bradford Island) was placed in manual and pinched down to reduce flow in the BI AWS to prevent blown diffuser grating and further damage to FG 3-3. FG 3-4, FG 3-5, and FG 3-6 are all OOS due to mechanical failure. These settings for the A-Branch AWS and diffusers will likely remain until the problems can be addressed during the 2021-2022 winter maintenance period. Please see 21BON014 MFR A-Branch FV 3-7 and FG 3-4,5,6 OOC for further explanation.
<http://pweb.crohms.org/tmt/documents/FPOM/2010/>

b. STS/VBS Inspections. June STS inspection results:

UNIT	Previous STS HRS	Present readings	STS-A	STS-B	STS-C	HRS RUN	REMARKS
11	58190	59168				978	
12	44387	45238				851	
13	4571	5151				580	
14	15886	16243				357	
15	24393	24727				334	
16	37197	37510				313	
17	4434	5262				828	
18	4348	5326				978	

c. Dewatering and Fish Salvages.

- On 14 June, Project Fish Biologists assisted in fish salvage from Unit 9 tail logs. 2 suckers, 25 sculpin, and 10 crayfish were found in good condition and released downstream. The purpose of the U9 outage was a planned 5-year overhaul.
- On 15 June, Project Fish Biologists assisted in fish salvage of Unit 5 scroll case and draft tube. No fish were recovered. The purpose of the U5 outage was a planned 5-year overhaul.

3. RESEARCH:

- a. Four Peaks Environmental - Fish counting contract: Daytime visual counting (0500 to 2100 PDT) began on 01 April. Night video (2100 to 0500 PDT) counting began 15 May. Fish counts can be viewed [here](#).
- b. USFWS – Lamprey Metamorphosis Study: Juvenile lamprey researchers are onsite, and the work is underway.
- c. Pacific States Marine Fisheries Commission - Smolt Monitoring: Sample collections at the SMF began at 0700 on 02 March. Debris at the primary dewatering structure (PDS) and fish/debris separator was light consisting mostly of aquatic macrophytes and a few sticks. Gas Bubble Trauma (GBT) examinations began on 10 April and are typically performed 2 days/week through the end of spill season. Results from this week’s GBT examinations: 194 yearling Chinook, subyearling Chinook, and steelhead examined with no GBT symptoms observed. Fallbacks observed this week: one steelhead. No fish collections for research purposes were conducted this week. More details can be found on the [FPC web page](#).
- d. USDA – Pinniped and Avian Hazing: Deck-based hazing continues.
- e. State Agency Pinniped Trapping: Sea lion trapping has concluded for the spring season.
- f. WDFW/ PSMFC – Pikeminnow Sampling: Hook and line angling activities continue for Northern Pikeminnow within the BON BRZ as a constituent of Gas Bubble Trauma (GBT) monitoring.
- g. CRITFC – Adult Salmonid Sampling: Adult Salmonid sampling in the AFF began on 20 April and

typically occurs 5 days per week.

4. FISHWAYS:

- a. Project biologists inspected 13 to 19 June.
- b. Fish Passage Plan observations.

• **Table 4. FPP Items Out of Criteria.**

Date	Location	FPP Violation	Cause	Response
PH1				
06/13-19	PH1 ITS	S. End Gate Inoperable and Chain Gates 1a & 1b Closed	S. End Gate inoperable, 1a and 1b closed for safety reasons	W.O.
Bradford Island				
06/13-19	Bradford Island Fishway	FV 3-7 in Manual and Low	Placed in manual and pinched down to reduce flow in AWS	W.O.
06/13-19	A-Branch	FG 3-4 Partially Open	FG 3-4 mechanically bound partially open/closed	W.O.
06/13	A-Branch	FG 3-5 Closed; Should Be Open	FG 3-5 gate appears broken	Clearance put on it, W.O. created, left in closed position
Cascades Island				
06/13-14	CI Fishway	UMT Staff Gauge <1.2'	FV 5-9 not responding	W.O
Washington Shore				
06/19	WA Shore Fishway	Weir 37 <1.2'	Unknown	N/A
06/19	WA Shore Fishway	Weir 38 <1.2'	Unknown	N/A

- FV 3-7 (Bradford Island) was placed in manual and pinched down to reduce flow in the BI AWS to prevent blown diffuser grating and further damage to FG 3-3. These settings for the A-Branch AWS and diffusers will likely remain until the problems can be addressed during the 2021-2022 winter maintenance period.
- FG 3-4 (A-Branch) was found mechanically bound and unable to move from the "almost closed" position in December of 2020. This diffuser will likely remain in this position until the 2021-2022 winter maintenance period.
- FG 3-5 (A-Branch) was not operating correctly on 07 June 2021 and was banging heavily underwater due to an assumed broken fish gate. To prevent further damage to the fishway and equipment, a clearance has been issued for FG 3-5 to be closed and taken out of service until the winter maintenance period.
- FG 3-6 (A-Branch) was found mechanically bound in the closed position on 07 June 2021. This diffuser will likely remain in this position until the 2021-2022 winter maintenance period.

c. Adult Fishways.

- (1) The AFF remains in service.
- (2) Sensor calibration occurred on 15 June.
- (3) SLEDs are installed at all locations.

(4) Cascades Island Fishway and Washington Shore Fishways were put into “Shad Mode” on 01 June.

(5) Bradford Island Fishway was put into “Shad Mode” on 02 June.

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) STS’s remain in service.

e. Lamprey Fishways.

(1) BI, CI, and WA Shore LPS’s are in service.

(2) The Bradford Island Wetted Wall (BIWW) remains out of service.

(3) The PH2 Lamprey Flume Structure (LFS) was remains in service.

(4) The AFF lamprey trap remains in service.

(5) The CI Lamprey trap remains in service.

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

Table 5. *Avian Counts 13 to 19 June.*

Date	Gulls	Cormorants	Terns	Wh. Pelicans	Grebes
06/13	0	12	0	0	0
06/14	1	1	0	0	0
06/15	5	2	0	0	0
06/16	0	9	0	0	0
06/17	0	6	0	0	0
06/18	3	4	0	0	0
06/19	4	4	0	0	0

5. WATER QUALITY MONITORING:

a. Fishway Temperatures. Temperature logs began on 28 February and will continue through 30 November.

Table 6. *Bonneville Fishway Temperatures for 13 to 19 June.*

Date	A-Branch	B-Branch	BI Exit	WA Entrance	CI Entrance	WA Exit	CI LPS	WA LPS	BI LPS	AFF	LFS	SMF	Forebay
13-Jun	61.0	61.1	61.1	61.1	61.1	61.0	61.2	61.3	61.4	60.9	---	61.0	60
14-Jun	61.3	61.4	61.5	61.4	61.4	61.4	61.6	61.6	61.7	61.3	---	61.3	61
15-Jun	61.7	61.6	61.8	61.6	61.6	61.6	61.7	61.8	62.1	61.5	---	61.5	61
16-Jun	61.9	61.8	62.1	61.8	61.7	61.7	62.0	62.0	62.3	61.6	62.2	61.6	61
17-Jun	62.1	62.1	62.4	62.0	62.0	62.0	62.2	62.3	62.6	61.9	62.2	61.9	61
18-Jun	62.5	62.5	62.7	62.5	62.4	62.4	62.7	62.7	63.0	62.3	62.6	62.3	61
19-Jun	63.0	63.1	63.2	63.1	63.0	63.0	63.2	63.3	63.4	62.9	63.2	62.9	62

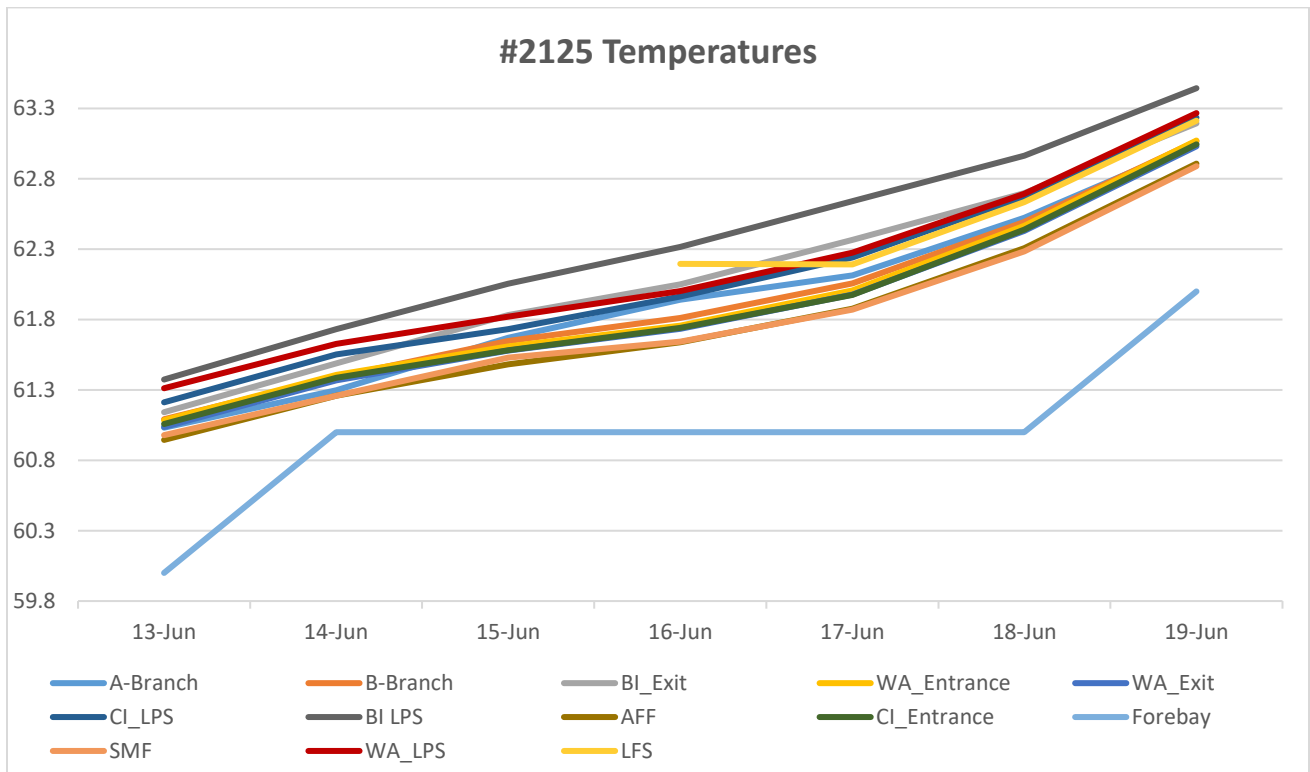


Figure 1. Average fishway temperatures for 13 to 19 June.

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 out on 11 June stating effective 16 June at 0001 hours through 31 August at 2359 hours, Bonneville Dam is to operate in accordance with the 2021 Fish Operations Plan to provide summer spill for fish passage. Please see teletype BON R 061121 1732 for more details.
- A teletype sent out on 11 June requested Bonneville Pool operate within a 1.5-foot band, hard constraint from 0600 on 16 June to 1800 on 19 June and from 0600 on 21 June to 1800 on 24 June. The goal of this operation is to limit pool fluctuation for the treaty fishery to avoid debris in fishing nets, reduce rapid water level drops that may entangle nets, minimize boat access problems, and avoid nets being torn from their anchors. Please see teletype BON R 061121 0807 for more details.
- A teletype sent out on 15 June provided guidance for summer spill caps for MCN, JDA, TDA, and BON starting at 0001 on 16 June and until further notice. Please see teletype BON R 061521 1307 for more details.

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 Bonneville Project