

**MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)**

**SUBJECT:** Bonneville Project, Fishway and Fish Activities for **Week 24** of 2021, which covers the period from **06 to 12 June 2021**.

**1. OPERATION SUMMARY:**

- a. Daily average river flows ranged from 212.1 to 297.5 kcfs. Daily average powerhouse forebay elevation ranged from 74.5' to 75.7' msl. Daily average project tailwater ranged from 17.5' to 22.1' msl. Secchi disk measurements ranged 4.0' to 6.0'. Daily average water temperature remained at 60°F.
- b. Daily average spill ranged from 132.2 to 132.6 kcfs. Spring spill season began on 10 April and will continue through 15 June 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
14	1858 on 29 May	1000 on 02 June	F.O., STS Motor Failure
15	1000 on 02 June	1702 on 02 June	F.O., STS Motor Failure
15	0016 on 05 June	1644 on 07 June	F.O., STS Motor Failure
18	0819 on 09 June	0926 on 09 June	P.O., Trash Raking
12	0930 on 09 June	1034 on 09 June	P.O., Trash Raking
11	1038 on 09 June	1141 on 09 June	P.O., Trash Raking

- 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
F2	2232 on 05 June	0038 on 06 June	R.S., Nighttime Lamprey Ops	2 hours, 6 mins
F1	0040 on 06 June	0529 on 06 June	R.S., Nighttime Lamprey Ops	4 hours, 49 mins
F2	2231 on 06 June	0534 on 07 June	R.S., Nighttime Lamprey Ops	7 hours, 3 mins
F1	2232 on 07 June	0532 on 08 June	R.S., Nighttime Lamprey Ops	7 hours
F2	2231 on 08 June	0540 on 09 June	R.S., Nighttime Lamprey Ops	7 hours, 9 mins
F1	2228 on 09 June	0530 on 10 June	R.S., Nighttime Lamprey Ops	7 hours, 2 mins
F2	2230 on 10 June	0536 on 11 June	R.S., Nighttime Lamprey Ops	7 hours, 6 mins
F2	2237 on 11 June	0532 on 12 June	R.S., Nighttime Lamprey Ops	6 hours, 55 mins
F1	2229 on 12 June	---	R.S., Nighttime Lamprey Ops	---

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

Date	F1	F2
06/06	0.3'	1.3'
06/07	1.3'	0.4'
06/08	0.1'	0.5'
06/09	1.2'	0.4'
06/10	0.1'	1.0'
06/11	0.2'	0.4'
06/12	0.8'	0.4'

**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.
- 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 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 to light-moderate 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: 200 yearling Chinook, subyearling Chinook, and steelhead examined; 3 fish (1.5%) were observed with GBT symptoms. Fallbacks observed this week were 3 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 have concluded 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 06 to 12 June.
- b. Fish Passage Plan observations.

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

Date	Location	FPP Violation	Cause	Response
PH1				
06/06-12	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				
06/08-12	Bradford Island Fishway	FV 3-7 in Manual and Low	Placed in manual and pinched down to reduce flow in AWS	W.O.
06/06-12	A-Branch	FG 3-4 Partially Open	FG 3-4 mechanically bound partially open/closed	W.O.
06/06-12	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
06/06-08	A-Branch	FG 3-6 Closed; Should Be Open	FG 3-6 is mechanically bound closed	W.O.
Cascades Island				
06/06-12	CI Fishway	UMT Staff Gauge <1.2'	Unknown	Investigating
Washington Shore				
6/07-12	WA Shore Fishway	Weir 68 Staff Gauge <1.2'	Unknown	Investigating

- 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 08 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. 15C was found to have motor failure on 05 June forcing U15 to go out of service until it was fixed on 07 June.
- 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 placed into service 09 June.
  - (4) The AFF lamprey trap was placed into service 09 June.
  - (5) The CI Lamprey trap was placed into service 09 June.
- f. Avian Monitoring. Avian counts are recorded 01 April – 31 October.

**Table 5.** *Avian Counts 06 to 12 June.*

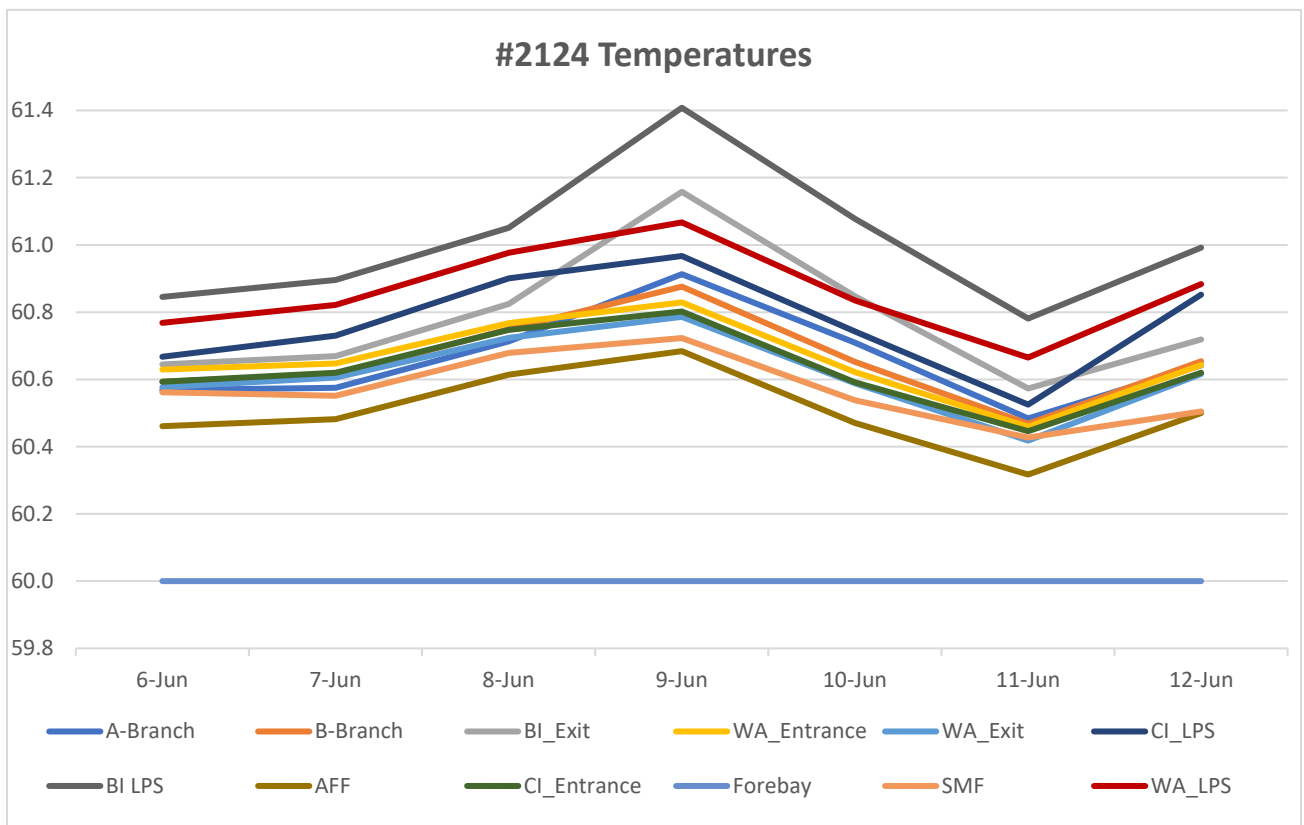
<b>Date</b>	<b>Gulls</b>	<b>Cormorants</b>	<b>Terns</b>	<b>Wh. Pelicans</b>	<b>Grebes</b>
06/06	2	12	0	0	0
06/07	7	9	0	0	0
06/08	3	9	0	0	0
06/09	1	8	0	0	0
06/10	1	3	0	0	0
06/11	1	15	0	0	0
06/12	2	9	0	0	0

**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 06 to 12 June.**

Date	A-Branch	B-Branch	BI_Exit	WA_Entrance	CI_Entrance	WA_Exit	CI_LPS	WA_LPS	BI_LPS	AFF	SMF	Forebay
6-Jun	60.6	60.6	60.6	60.6	60.6	60.6	60.7	60.8	60.8	60.5	60.6	60
7-Jun	60.6	60.6	60.7	60.6	60.6	60.6	60.7	60.8	60.9	60.5	60.6	60
8-Jun	60.7	60.7	60.8	60.8	60.7	60.7	60.9	61.0	61.1	60.6	60.7	60
9-Jun	60.9	60.9	61.2	60.8	60.8	60.8	61.0	61.1	61.4	60.7	60.7	60
10-Jun	60.7	60.7	60.8	60.6	60.6	60.6	60.7	60.8	61.1	60.5	60.5	60
11-Jun	60.5	60.5	60.6	60.5	60.4	60.4	60.5	60.7	60.8	60.3	60.4	60
12-Jun	60.6	60.7	60.7	60.6	60.6	60.6	60.9	60.9	61.0	60.5	60.5	60



**Figure 1. Average fishway temperatures for 06 to 12 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. TELETYPE CURRENTLY IN EFFECT:**

- A teletype sent on 05 April states that effective 10 April through 15 June, Bonneville Dam operate in accordance with FOP to Spring Spill for Juvenile Fish Passage. See teletype BON R 040521 0912 for

details.

- A teletype was sent out on 07 April for all Columbia and Snake River Projects and BPA giving revisions to the Lack of Load Spill Priority List. Please see teletype BON R 040721 1225 for details.
- 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.

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