

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

**SUBJECT:** Bonneville Project, Fishway and Fish Activities for **Week 23** of 2021, which covers the period from **30 May to 05 June 2021**.

**1. OPERATION SUMMARY:**

- a. Daily average river flows ranged from 218.2 to 296.5 kcfs. Daily average powerhouse forebay elevation ranged from 74.1' to 75.4' msl. Daily average project tailwater ranged from 17.8' to 22.0' msl. Secchi disk measurements ranged 6.0' to 7.0'. Daily average water temperature ranged 58 to 61°F.
- b. Daily average spill ranged from 132.8 to 133.2 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 | ---             | F.O., STS Motor Failure |

- 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             | RTS             | Reason                      | Duration         |
|------|-----------------|-----------------|-----------------------------|------------------|
| F2   | 2232 on 31 May  | 0130 on 06 June | R.S., Nighttime Lamprey Ops | 2 hours, 58 mins |
| F1   | 0133 on 01 June | 0546 on 01 June | R.S., Nighttime Lamprey Ops | 4 hours, 13 mins |
| F2   | 2231 on 01 June | 0550 on 02 June | R.S., Nighttime Lamprey Ops | 7 hours, 19 mins |
| F1   | 2230 on 02 June | 0530 on 03 June | R.S., Nighttime Lamprey Ops | 7 hours          |
| F2   | 2232 on 03 June | 0531 on 04 June | R.S., Nighttime Lamprey Ops | 6 hours, 59 mins |
| F1   | 2238 on 04 June | 0531 on 05 June | R.S., Nighttime Lamprey Ops | 6 hours, 53 mins |
| F2   | 2232 on 05 June | ---             | R.S., Nighttime Lamprey Ops | ---              |

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

| Date  | F1   | F2   |
|-------|------|------|
| 05/30 | 1.7' | 2.0' |
| 05/31 | 1.8' | 2.4' |
| 06/01 | 0.2' | 2.5' |
| 06/02 | ---  | ---  |
| 06/03 | 0.2' | 1.0' |
| 06/04 | 0.6' | 0.4' |
| 06/05 | 0.5' | 0.4' |

## 2. MAINTENANCE ACTIVITIES:

- a. Auxiliary Water System Closures. Nothing to report.
- 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 consisting mostly of 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 4 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 30 May to 05 June.

b. Fish Passage Plan observations.

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

| Date                                 | Location   | FPP Violation   | Cause   | Response   |
|--------------------------------------|------------|---|---|--|
| PH1                                  |            |   |   |  |
| 05/30-06/05                          | 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                      |            |   |   |  |
| 05/30-06/05                          | A-Branch   | FG 3-4 Partially Open                                 | FG 3-4 mechanically bound partially open/closed             | W.O.   |
| 06/03,04                             | 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 |
| 06/04,05                             | A-Branch   | FG 3-6 Closed, Should Be Open                         | FG 3-6 is mechanically bound closed                         | W.O.   |
| 05/30                                | A-Branch   | Weir Staff Gauge >1.1'                                | Unknown   | NA   |
| Cascades Island                      |            |   |   |  |
| 06/02-05                             | CI Fishway | UMT Staff Gauge <1.2                                  | Unknown   | Investigating  |
| Washington Shore – Nothing to Report |            |   |   |  |

c. Adult Fishways.

- (1) The AFF remains in service.
- (2) Sensor calibration occurred on 31 May.
- (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 02 June and forced the shutdown of U14 for 7 hours on 02 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 30 May to 05 June.*

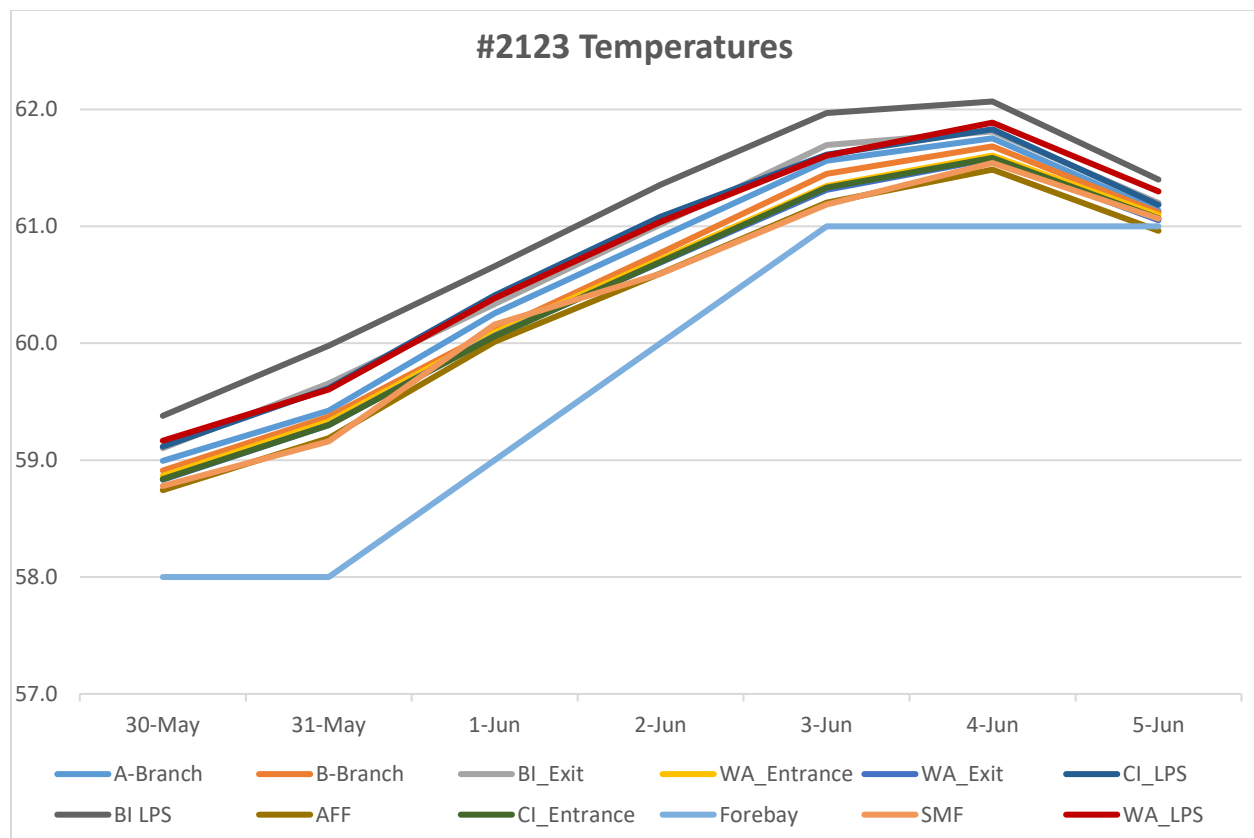
| Date  | Gulls | Cormorants | Terns | Wh. Pelicans | Grebes |
|-------|-------|------------|-------|--------------|--------|
| 05/30 | 16    | 6          | 0     | 0            | 0      |
| 05/31 | 3     | 9          | 0     | 0            | 0      |
| 06/01 | 1     | 2          | 0     | 0            | 0      |
| 06/02 | 6     | 4          | 0     | 0            | 0      |
| 06/03 | 6     | 5          | 0     | 0            | 0      |
| 06/04 | 5     | 4          | 0     | 0            | 0      |
| 06/05 | 0     | 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 30 May to 05 June.*

| Date   | A-Branch | B-Branch | BI_Exit | WA_Entrance | CI_Entrance | WA_Exit | CI_LPS | WA_LPS | BI_LPS | AFF  | SMF  | Forebay |
|--------|----------|----------|---------|-------------|-------------|---------|--------|--------|--------|------|------|---------|
| 30-May | 59.0     | 58.9     | 59.1    | 58.9        | 58.8        | 58.8    | 59.1   | 59.2   | 59.4   | 58.7 | 58.8 | 58      |
| 31-May | 59.4     | 59.4     | 59.7    | 59.3        | 59.3        | 59.3    | 59.6   | 59.6   | 60.0   | 59.2 | 59.2 | 58      |
| 1-Jun  | 60.3     | 60.1     | 60.3    | 60.1        | 60.1        | 60.1    | 60.4   | 60.4   | 60.7   | 60.0 | 60.2 | 59      |
| 2-Jun  | 60.9     | 60.8     | 61.0    | 60.7        | 60.7        | 60.7    | 61.1   | 61.0   | 61.4   | 60.6 | 60.6 | 60      |
| 3-Jun  | 61.6     | 61.5     | 61.7    | 61.3        | 61.3        | 61.3    | 61.6   | 61.6   | 62.0   | 61.2 | 61.2 | 61      |
| 4-Jun  | 61.8     | 61.7     | 61.8    | 61.6        | 61.6        | 61.6    | 61.8   | 61.9   | 62.1   | 61.5 | 61.5 | 61      |
| 5-Jun  | 61.1     | 61.1     | 61.2    | 61.1        | 61.1        | 61.1    | 61.2   | 61.3   | 61.4   | 61.0 | 61.1 | 61      |



**Figure 1.** Average fishway temperatures from 30 May to 05 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.

MICHAEL ADAMS, P.E.  
Operations Project Manager  
Bonneville Project