

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

SUBJECT: Bonneville Project, Fishway and Fish Activities for **Week 40** of 2019, which covers the period from **29 September – 05 October**.

**1. OPERATION SUMMARY:**

- a. Daily average river flows ranged from 83.6 to 102.1 kcfs. Daily average powerhouse forebay elevation ranged from 74.7’ to 76.0’ msl. Daily average project tailwater ranged from 7.8’ to 9.7’ msl. Secchi disk measurements ranged from 6 to 7.0+’. Daily average water temperature ranged from 63°F to 66°F.
- b. Daily average spill ranged from 1.2 to 1.7 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                       |
|------|-----------------|----------|------------------------------|
| 07   | 0001 on 30 Sept | ---      | P.O., Air Cooler Replacement |

- 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   |
|------|------|------|
| 9/29 | 0.2’ | 0.2’ |
| 9/30 | 0.2’ | 0.2’ |
| 10/1 | 0.2’ | 0.2’ |
| 10/2 | 0.2’ | 0.2’ |
| 10/3 | 0.2’ | 0.1’ |
| 10/4 | 0.2’ | 0.2’ |
| 10/5 | ---  | ---  |

**2. MAINTENANCE ACTIVITIES:**

- a. Auxiliary Water System Closures.
  - FV 1-1 closed for cleaning from 0715 to 0739 on 30 September.
- b. STS/VBS Inspections.

| STS-VBS INSPECTION |                  |                    |         |
|--------------------|------------------|--------------------|---------|
| UNIT #             | PREVIOUS STS HRS | HRS WHEN INSPECTED | HRS RUN |
| 11                 | 47081            | 47724              | 643     |
| 12                 | 35840            | 36484              | 644     |
| 13                 | 05093            | 05722              | 629     |
| 14                 | 08094            | 08498              | 404     |
| 15                 | 18100            | 18305              | 205     |
| 16                 | 31144            | 31244              | 100     |
| 17                 | 25166            | 25812              | 646     |
| 18                 | 65674            | 66319              | 645     |

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. 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 was light to moderate consisting of filamentous algae, aquatic macrophytes, a few sticks and dead adult shad. Spill and corner collector operations for the juvenile fish passage season concluded just after midnight on 01 September. GBT have concluded for the season. Please follow this [link](#) to the FPC web page for further details. Fallbacks observed this week: 10 salmon. No fish collections for research were conducted this week.
- c. CRITFC – Adult Salmonid Sampling: Adult Salmonid sampling in the AFF began on 30 April and typically occurs 5 days per week. At water temperatures of 70–72°F, sampling will be permitted as defined below for up to four days per week from 0600-1030 hours to allow for U.S. v Oregon requirements. This operation will remain in effect until daily average water temperature drops to  $\leq 69.9^\circ\text{F}$ .
- d. NOAA (Frick) – Bradford Island Lamprey Wetted Wall: Evaluation of the Bradford Island wetted wall commenced for the second year on 17 April.
- e. 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.
- f. 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. Collection and tagging efforts ended 13 September. They remain onsite collecting passage data.
- g. CRITFC – Adult Pacific Lamprey Translocation: Trapping efforts at the Bradford Island and Washington Shore picketleads, Cascades Island AWS, and in conjunction with

University of Idaho collections began on 28 May and concluded 13 September.

**4. FISHWAYS:**

- a. Project biologists inspected from 29 September - 5 October.
- b. Fish passage plan observations.

- Table 4. FPP out of criteria items.

| Date                                    | Location | FPP Violation       | Cause         | Response |
|---|----------|---------------------|---------------|----------|
| Bradford Island                         |          |                     |               |          |
| 9/29                                    | B-Branch | Differential > 2.0' | Faulty Sensor | WOR      |
| 9/30                                    | A-Branch | Differential > 1.1' | Unknown       | NA       |
| 10/2                                    | A-Branch | Differential > 2.0' | Unknown       | NA       |
| 10/4                                    | A-Branch | Differential < 1.0' | Unknown       | NA       |
| Cascades Island – Nothing new 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.
  - On 28 March 2019, FG3-5 (PH1 A-Branch) was reported not closing due to a torque limit issue. The diffuser was opened due to current tailwater limits and a safe clearance was issued on the equipment. Repairs can not be made until the in-water work period this winter. FG3-5 should only be open for tailwaters of  $\geq 16.7'$ .
  - FG 3-27 (B-branch) is mechanically unsound. It has been set to manual and remains in the open position to avoid further damage meeting criteria for the majority of the year. Repairs are planned for the 2019-2020 outage.
- c. Adult Fishways.
- (1) The AFF remains in service.
  - (2) Sensor calibration occurred on 02 October.

(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 closed at 0100 on 01 September.
- (4) The DSM remains in service.
- (5) STSs are installed.

e. Lamprey Fishways. All LPSs remain in service.

- (1) The Bradford Island Wetted Wall (BIWW) began operations on 17 April.
- (2) The PH2 Lamprey Flume Structure (LFS) is out of service.
- (3) The AFF Lamprey trap is out of service.

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

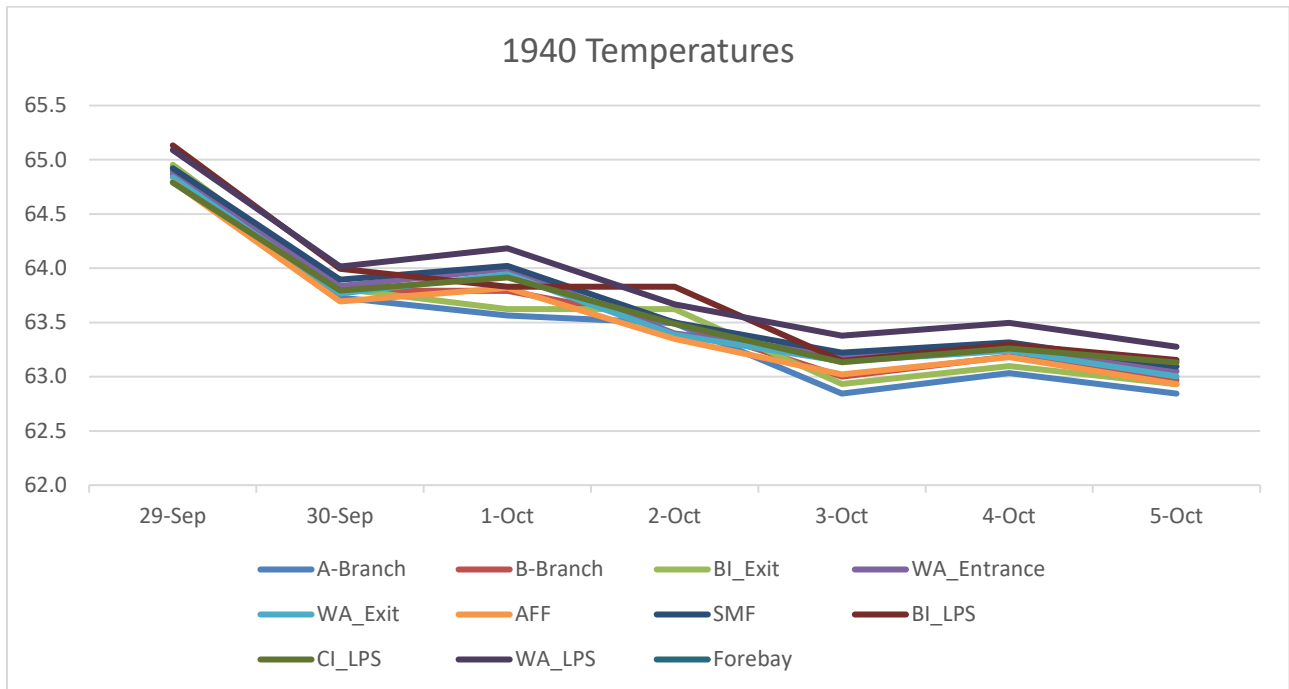
(1) Table 5. Avian Counts.

| Date | Gulls | Cormorants | Terns | Pelicans | Grebes |
|------|-------|------------|-------|----------|--------|
| 9/29 | 40    | 110        | 0     | 0        | 0      |
| 9/30 | 83    | 102        | 0     | 0        | 0      |
| 10/1 | 13    | 120        | 0     | 0        | 0      |
| 10/2 | 6     | 140        | 0     | 0        | 0      |
| 10/3 | 0     | 0          | 0     | 0        | 0      |
| 10/4 | 8     | 4          | 0     | 0        | 0      |
| 10/5 | 4     | 8          | 0     | 0        | 0      |

**5. WATER QUALITY MONITORING:**

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

| Date   | A-Branch | B-Branch | BI_Exit | WA_Entrance | WA_Exit | AFF  | SMF  | BI_LPS | CI_LPS | WA_LPS | Forebay |
|--------|----------|----------|---------|-------------|---------|------|------|--------|--------|--------|---------|
| 29-Sep | 64.9     | 64.9     | 65.0    | 64.9        | 64.8    | 64.8 | 64.9 | 65.1   | 64.8   | 65.1   | ---     |
| 30-Sep | 63.7     | 63.8     | 63.8    | 63.8        | 63.8    | 63.7 | 63.9 | 64.0   | 63.8   | 64.0   | ---     |
| 1-Oct  | 63.6     | 63.8     | 63.6    | 64.0        | 63.9    | 63.8 | 64.0 | 63.8   | 63.9   | 64.2   | ---     |
| 2-Oct  | 63.5     | 63.5     | 63.6    | 63.4        | 63.4    | 63.3 | 63.5 | 63.8   | 63.5   | 63.7   | ---     |
| 3-Oct  | 62.8     | 63.0     | 62.9    | 63.2        | 63.1    | 63.0 | 63.2 | 63.1   | 63.1   | 63.4   | ---     |
| 4-Oct  | 63.0     | 63.2     | 63.1    | 63.3        | 63.2    | 63.2 | 63.3 | 63.3   | 63.3   | 63.5   | ---     |
| 5-Oct  | 62.8     | 63.0     | 62.9    | 63.1        | 63.0    | 62.9 | 63.1 | 63.2   | 63.1   | 63.3   | ---     |



b. Zebra Mussel Monitoring. No signs of colonization were observed this reporting week.

**6. CONSTRUCTION:**

a. Construction on the new PH2 Oil Water Separator was stopped when it was determined there had been insufficient coordinated with FPOM. It has since been coordinated and construction will continue from 1700 to 0600 beginning 07 October.

**7. HAZMAT, SPILLS AND CLEANUP:** Nothing to report.

**8. TELETYPES CURRENTLY IN EFFECT:**

a. A teletype sent on 02 October requests that Bonneville Pool operate within a 1.5 foot band, hard constraint, from 0600 on 03 October to 1800 on 05 October to facilitate the fall treaty fishery.

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