

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 45 of 2020, which covers the period from 01 – 07 November.

1. OPERATION SUMMARY:

a. Daily average river flows ranged from 128.3 to 136.4 kcfs. Daily average powerhouse forebay elevation ranged from 72.9’ to 73.9’ msl. Daily average project tailwater ranged from 11.5’ to 12.2’ msl. Secchi disk measurements remained 7.0’. Daily average water temperature ranged from 54 to 55°F.

b. Daily average spill ranged from 1.0 to 1.2 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 | RTS | Reason |
|------|----------------|----------------|---|
| 12 | 0716 on 19 Oct | --- | P.O., 5 year overhaul/ Shaft Sleeve |
| 15 | 0732 on 19 Oct | 1133 on 04 Nov | P.O., Electrical Protection System Work |
| 16 | 0755 on 19 Oct | 1133 on 04 Nov | P.O., Electrical Protection System Work |
| 17 | 0737 on 19 Oct | 1134 on 04 Nov | P.O., Electrical Protection System Work |
| 18 | 0737 on 19 Oct | 1134 on 04 Nov | P.O., Electrical Protection System Work |

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 | 0826 on 03 Nov | 0953 on 03 Nov | R.S., T.S. BKR Indication | 1 hr, 27 mins |

• Table 3. Fish Unit Drawdowns, in Feet.

| Date | F1 | F2 |
|------|------|------|
| 11/1 | 0.2’ | 0.3’ |
| 11/2 | 0.3’ | 0.4’ |
| 11/3 | 0.5’ | 0.4’ |
| 11/4 | 0.5’ | 0.6’ |
| 11/5 | 0.6’ | 0.6’ |
| 11/6 | 0.2’ | 0.1’ |
| 11/7 | 1.0’ | 0.8’ |

2. MAINTENANCE ACTIVITIES:

a. Auxiliary Water System Closures.

- FV 3-9 was closed for cleaning from 1612 to 1625 on 02 Nov.
- FV 1-1 was closed for cleaning from 1001 to 1023 on 05 Nov.
- FV 3-9 was closed for cleaning from 1029 to 1100 on 05 Nov.

- b. STS/VBS Inspections. Nothing to report.
- c. Dewatering and Fish Salvages. No fish were recovered during the BI, CI and WA LPS dewatering on 02 November.

3. RESEARCH:

- a. Four Peaks Environmental - Fish counting contract: Daytime visual counting (0500 to 2100) began on 01 April. Fish counts can be viewed [here](#).
- b. USFWS – Lamprey Metamorphosis Study: Researchers are preparing equipment in the SMF.

4. FISHWAYS:

- a. Project biologists inspected 01 – 07 November.
- b. Fish passage plan observations.

- Table 5. FPP Items Out of Criteria.

| Date | Location | FPP Violation | Cause | Response |
|---------------------------------------|----------|----------------------|---------|----------|
| Bradford Island | | | | |
| 11/2 | B-Branch | Ent. Diff. < 1.0' | Unknown | NA |
| 11/2 | PH1CC | S. Ent. Diff. < 1.0' | Unknown | NA |
| 11/3 | A-Branch | Weir Diff > 1.1' | Unknown | NA |
| Cascades Island – Nothing to report. | | | | |
| 11/1-7 | Entrance | Ent. Diff. < 1.0' | Unknown | NA |
| Washington Shore – Nothing to report. | | | | |

- FG6-11 (Cascades Island) is broken in the partially open position. The diffuser shaft broke away from the motor. Due to the subsidence issues at Cascades Island, repairs cannot occur until crane support is allowed in the vicinity. FG6-11 should be open at tailwaters $\geq 14.0'$.
- FG6-12 (Cascades Island) is mechanically bound in the open position. The diffuser 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.

c. Adult Fishways.

- (1) The AFF remains in service.
- (2) Sensor calibration occurred on 05 Nov.
- (3) SLEDs are installed at all locations.

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 out of service.
- (4) The DSM remains in service.

(5) STSs are installed.

e. Lamprey Fishways.

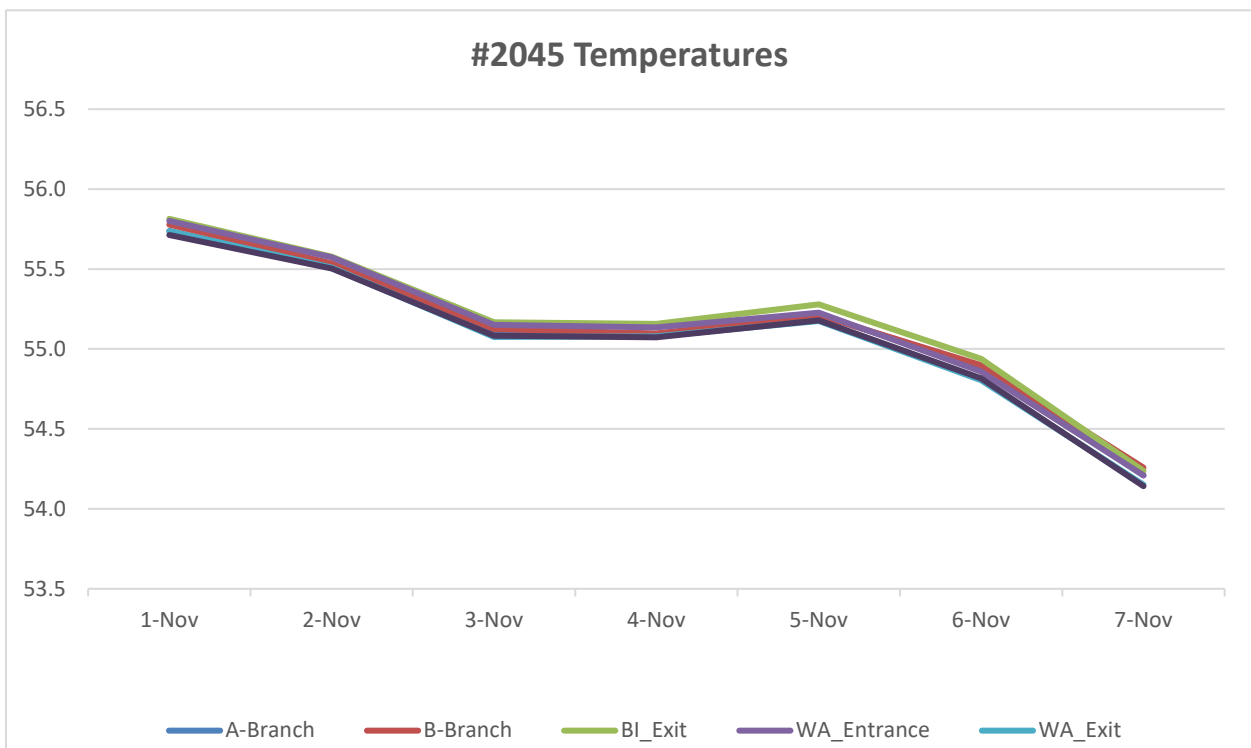
- (1) LPSs were taken out of service on 02 November.
- (2) The Bradford Island Wetted Wall (BIWW) remains out of service.
- (3) The PH2 Lamprey Flume Structure (LFS) remains out of service.
- (4) The AFF lamprey trap remains out of service.
- (5) The CI Lamprey trap remains out of service.

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

5. WATER QUALITY MONITORING:

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

| Date | A-Branch | B-Branch | BI_Exit | WA_Entrance | WA_Exit | CI_LPS | WA_LPS | BI_LPS | AFF |
|-------|----------|----------|---------|-------------|---------|--------|--------|--------|------|
| 1-Nov | 55.7 | 55.8 | 55.8 | 55.8 | 55.7 | 55.9 | 56.1 | 56.0 | 55.7 |
| 2-Nov | 55.5 | 55.5 | 55.6 | 55.6 | 55.5 | --- | --- | --- | 55.5 |
| 3-Nov | 55.1 | 55.1 | 55.2 | 55.2 | 55.1 | --- | --- | --- | 55.1 |
| 4-Nov | 55.1 | 55.1 | 55.2 | 55.1 | 55.1 | --- | --- | --- | 55.1 |
| 5-Nov | 55.2 | 55.2 | 55.3 | 55.2 | 55.2 | --- | --- | --- | 55.2 |
| 6-Nov | 54.9 | 54.9 | 54.9 | 54.9 | 54.8 | --- | --- | --- | 54.8 |
| 7-Nov | 54.2 | 54.3 | 54.2 | 54.2 | 54.2 | --- | --- | --- | 54.1 |



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 on 21 October states that effective 0600 on 01 November and until further notice, operate Bonneville tailwater in the following order of operating ranges as project outflow increases. During all hours, operate to provide tailwater elevation in the range of 11.5 – 13.0 feet. If necessary to increase project outflow, tailwater may be operated up to 16.5 feet during nighttime hours (1700-0600). Concentrate highest elevations around 2400 hours. Then, if necessary to increase project outflow, tailwater may be operated up to 18.5 feet during nighttime hours (1700-0600). Then, if increasing river flow precludes the ability to manage the tailwater within the steps above, operate to provide tailwater in the range of 13.0 to 16.5 feet during daytime hours (0600-1700) and up to the maximum within project 24-hour ramp rate limits during nighttime hours (1700-0600). The goal of this operation is to improve conditions at the Ives/Pierce Island complex for Chum salmon spawning.
- A teletype sent on 28 October states that effective 0630 to 1700, daily, from 09 through 20 November, the Bonneville dam spillway will be tagged out and not available for spill. The purpose of this operation is to support a research crew that will be diving in the BRZ above Bonneville dam. See teletype for more details.
- A teletype sent on 05 November revises the teletype sent on 28 October to clarify that spillway outage will be intermittent, indicate that spillway RTS time of 2 hours and clarify coordination in the event of spill.

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