

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 14 of 2016, which covers the period from 27 March 2016 to 02 April.

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 200.5 to 227.0 kcfs. Daily average powerhouse forebay elevation ranged from 73.2' to 73.7' msl. Daily average project tailwater ranged from 17.3' to 18.5' msl. Secchi disk measurements remained at 5' all week. Daily average water temperature ranged from 45° to 46° F.
- b. Spill Bays 01 and 18 provide attraction flow for Cascades Island and B-branch, respectively. Daily average spill ranged from 1.1 to 1.3 kcfs.
- c. Unit Operation. PH2 remains the priority powerhouse. Main unit draw downs are measured every Monday and more frequently as needed.

(1) Table 1. Unit Outages.

| Unit | OOS Date | RTS Date | Reason |
|------|----------------|----------------|--|
| 2 | 1321 on 28 Mar | 1636 on 28 Mar | Raking trash |
| 7 | 0103 on 22 Feb | --- | Annual, bank 7/8 outage, main unit breaker replacement |
| 8 | 0103 on 22 Feb | --- | |
| 10 | 0756 on 30 Mar | 1136 on 30 Mar | Raking trash |
| 11 | 1253 on 30 Mar | 1604 on 30 Mar | Raking trash |

- d. Fish Units. Second Powerhouse fish units provide attraction flow for the Washington Shore (WS) fish ladder.

(1) Table 2. Fish unit drawdowns, in feet.

| Date | F1 | F2 |
|------|-----|-----|
| 3/27 | 0.3 | 0.4 |
| 3/28 | 0.3 | 0.5 |
| 3/29 | 0.4 | 0.4 |
| 3/30 | 0.5 | 0.4 |
| 3/31 | 0.5 | 0.8 |
| 4/1 | 0.2 | 0.4 |
| 4/2 | 0.5 | 0.8 |

2. ACTIVITIES:

a. Auxiliary Water System Closures

(1) FV5-9 was closed for cleaning from 1000 to 1045 on 30 March.

b. STS/VBS inspections. None.

c. Dewatering and Fish Salvages. None.

3. RESEARCH:

a. Normandeau – Fish Counting. Video counting ended and visual counting began on 01 April.

b. Fisheries Field Unit--Pinniped Observation. Observations began on 04 January.

c. PSMFC – Smolt Monitoring Program. Juvenile fish condition and index monitoring began at 0700 on 02 March. No research fish were collected this reporting week. Fallbacks recorded crossing the separator bars: 9 steelhead and 2 salmon. More details can be found on the [FPC web page](#).

4. FISHWAYS:

a. Project biologists inspected 27 March – 02 April.

b. Fish passage plan observations.

(1) Table 3. FPP out of criteria items.

| Date | Location | FPP Items | Cause | Response |
|--|----------|------------------------|-----------------|----------|
| BRADFORD ISLAND | | | | |
| 3/29,4/1-2 | A-branch | Water over weir > 1.1' | Unknown | None |
| CASCADES ISLAND – Nothing to report | | | | |
| WASHINGTON SHORE | | | | |
| 3/27-4/3 | PH2 | Diffuser A2 closed | See 4.b.2 below | None |

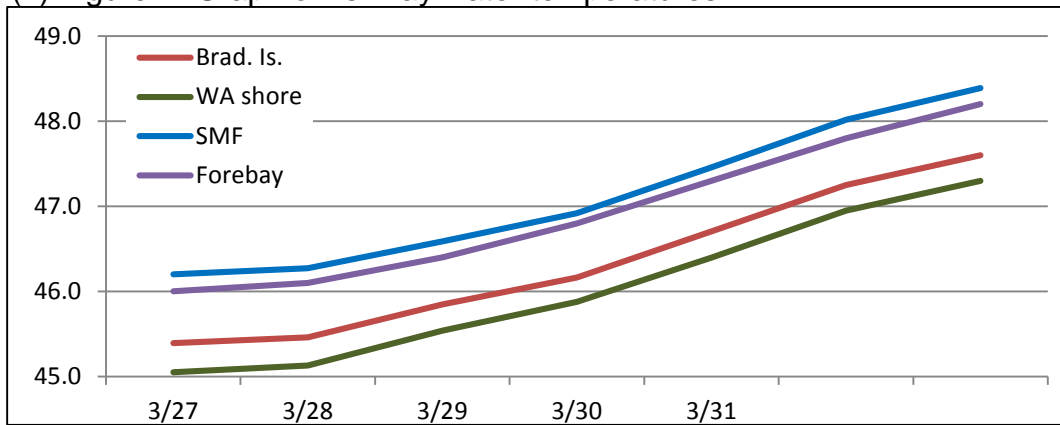
(2) PH2CC diffuser A2 was unable to be repaired during winter maintenance 2014/15 and remains closed. It should be open when tailwater is above 13.0' msl. The gate for diffuser B5 was removed for repairs and therefore cannot be closed. It should be closed below tailwaters of 12.0' msl.

c. Fishway Temperatures. Temperatures are taken from 01 March through 30 November. Forebay temperatures can be found [online](#).

(1) Table 4. Average daily fishway water temperatures (Fahrenheit).

| Date | Fishways | | | |
|------|----------|-----------|----------|------|
| | Forebay | Brad. Is. | WA shore | SMF |
| 3/27 | 46.0 | 45.4 | 46.2 | 45.1 |
| 3/28 | 46.1 | 45.5 | 46.3 | 45.1 |
| 3/29 | 46.4 | 45.8 | 46.6 | 45.5 |
| 3/30 | 46.8 | 46.2 | 46.9 | 45.9 |
| 3/31 | 47.3 | 46.7 | 47.5 | 46.4 |
| 4/1 | 47.8 | 47.2 | 48.0 | 47.0 |
| 4/2 | 48.2 | 47.6 | 48.4 | 47.3 |

(2) Figure 1. Graph of fishway water temperatures.



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

e. Avian Monitoring. Bird counts are made between 01 April and 31 October.

(1) Table 5. Counts of tailrace foraging piscivorous birds.

| Date | Gulls | Cormorants | Terns | Wh. Pelicans | Grebes |
|------|-------|------------|-------|--------------|--------|
| 4/1 | 0 | 0 | 0 | 0 | 0 |
| 4/2 | 2 | 0 | 0 | 0 | 0 |

f. Adult Fishways.

(1) Fishway instrument calibration was checked on 31 March.

(2) Eight of 12 floating orifice gates (FOGs) are installed; the 4 middle slots have bulkheads in place. FOG sea lion bars are installed. Plywood sea lion barriers were installed on top of all FOGs on 11 February to prevent sea lions from jumping into the PH2CC.

(3) All SLEDs are installed.

g. Juvenile Fishways.

- (1) The ITS remains open.
- (2) The hydro-cannon is on.
- (3) The B2CC remains open.
- (4) The DSM remains in service.

h. Lamprey Fishways.

- (1) All LPSs remain out of service.

5. CONSTRUCTION: Nothing to report.

6. HAZMAT, SPILLS AND CLEANUP: Nothing to report.

7. TELETYPES CURRENTLY IN EFFECT:

- a. A teletype sent on 06 January updated previous Chum tailwater operations. Effective immediately until further notice operate BON tailwater at a minimum of 12.5' for all hours. This operation is to protect Chum Redds below BON at the Ives/Pierce Island complex.
- b. A teletype sent on 21 March provides spill caps and lack of load conditions to be used from 0000 on 23 March through 2359 on 31 March.
- c. A teletype sent on 21 March provides spill caps and lack of load conditions to be used from 0000 on 1 April until further notice.

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