

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for **Week 27** of 2019, which covers the period from **30 June – 06 July**.

**1. OPERATION SUMMARY:**

a. Daily average river flows ranged from 139.2 to 176.2 kcfs. Daily average powerhouse forebay elevation ranged from 74.5’ to 74.8’ msl. Daily average project tailwater ranged from 12.3’ to 14.6’ msl. Secchi disk measurements ranged from 6.0’ to 7.0’. Daily average water temperature ranged from 64°F - 66°F.

b. Daily average spill ranged from 95.1 to 95.3 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
02	0001 on 10 June	2008 on 02 July	P.O., Annual, Air cooler Replacement
17	0001 on 01 July	1837 on 01 July	P.O., Thrust Collar Inspection
01	1013 on 01 July	1236 on 01 July	Switching, MU2 racking mechanism repair
01	1344 on 02 July	1748 on 02 July	Restoring switching order for MU2

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 Date	RTS Date	Reason
F1	2130 on 29 June	0430 on 30 June	RS, Nighttime Lamprey Ops.
F2	2129 on 30 June	0431 on 01 July	RS, Nighttime Lamprey Ops.
F2	2203 on 01 July	0433 on 02 July	RS, Nighttime Lamprey Ops.
F2	2201 on 02 July	0429 on 03 July	RS, Nighttime Lamprey Ops.
F2	2201 on 03 July	0430 on 04 July	RS, Nighttime Lamprey Ops.
F1	2200 on 04 July	0432 on 05 July	RS, Nighttime Lamprey Ops.
F2	2201 on 05 July	0430 on 06 July	RS, Nighttime Lamprey Ops.
F1	2200 on 06 July	---	RS, Nighttime Lamprey Ops.

- Table 3. Fish unit drawdowns, in feet.

Date	F1	F2
6/30	0.2'	0.4'
7/1	0.3'	0.5'
7/2	0.3'	0.5'
7/3	---	---
7/4	---	---
7/5	---	---
7/6	0.1'	0.0'

## 2. MAINTENANCE ACTIVITIES:

- Auxiliary Water System Closures. Nothing to report.
- STS/VBS Inspections. Nothing to report.
- Dewatering and Fish Salvages. Nothing to report.

## 3. RESEARCH:

- 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](#).
- 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 consisting of aquatic macrophytes and a few sticks. GBT examinations began on 13 April and are typically performed two days per week through the end of spill. Results of this week’s GBT examinations: 200 subyearling Chinook examined with no GBT symptoms observed. Please follow this [link](#) to the FPC web page for further details. No fallbacks were observed this week. No fish collections for research were conducted this week.
- CRITFC – Adult Salmonid Sampling: Adult Salmonid sampling in the AFF began on 30 April and typically occurs 5 days per week.
- NOAA (Frick) – Bradford Island Lamprey Wetted Wall: Evaluation of the Bradford Island wetted wall commenced for the second year on 17 April.
- 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.
- 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.

- 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.

**4. FISHWAYS:**

- a. Project biologists inspected from 30 June – 06 July.
- b. Fish passage plan observations.

- Table 4. FPP out of criteria items.

Date	Location	FPP Violation	Cause	Response
Bradford Island				
6/30-7/6	FG3-5	Open with TW <16.7'	Torque Limit Failure	NA
7/1,3,5	PH1CC S Entrance	Differential < 1.0'	Unknown	NA
7/6	A-Branch	Differential >1.3'	Unknown	NA
Cascades Island – Nothing 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  $\geq 16.7'$ .

c. Adult Fishways.

- (1) The AFF remains in service.
- (2) Sensor calibration occurred on 02 July.
- (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 remains in service.
- (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) began trapping on 13 May.
- (3) The AFF Lamprey trap began trapping on 13 May.

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

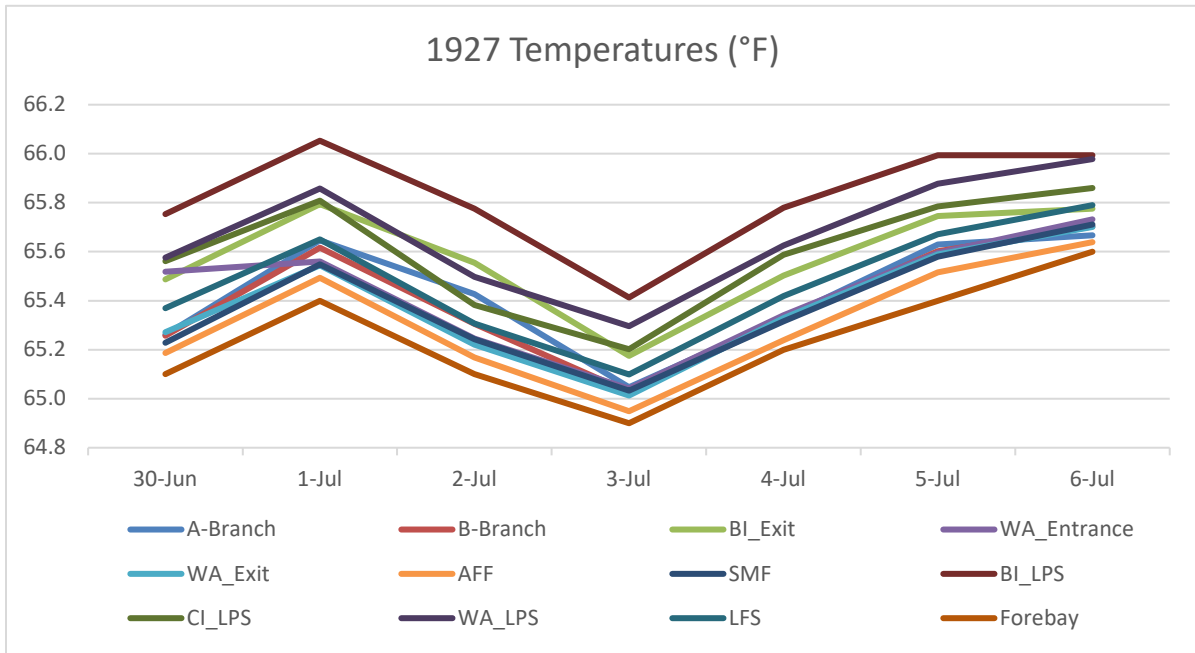
(1) Table 5. Avian Counts.

Date	Gulls	Cormorants	Terns	Pelicans	Grebes
6/30	2	12	0	0	0
7/1	26	10	0	0	0
7/2	0	5	0	0	0
7/3	2	12	3	0	0
7/4	6	2	0	0	0
7/5	0	6	0	0	0
7/6	0	12	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	LFS	Forebay
30-Jun	65.3	65.3	65.5	65.5	65.3	65.2	65.2	65.8	65.6	65.6	65.4	65.1
1-Jul	65.6	65.6	65.8	65.6	65.5	65.5	65.5	66.1	65.8	65.9	65.7	65.4
2-Jul	65.4	65.3	65.6	65.2	65.2	65.2	65.2	65.8	65.4	65.5	65.3	65.1
3-Jul	65.0	65.0	65.2	65.0	65.0	64.9	65.0	65.4	65.2	65.3	65.1	64.9
4-Jul	65.3	65.3	65.5	65.3	65.3	65.2	65.3	65.8	65.6	65.6	65.4	65.2
5-Jul	65.6	65.6	65.7	65.6	65.6	65.5	65.6	66.0	65.8	65.9	65.7	65.4
6-Jul	65.7	65.7	65.8	65.7	65.7	65.6	65.7	66.0	65.9	66.0	65.8	65.6



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

**5. CONSTRUCTION:** Nothing to report

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

**7. TELETYPE CURRENTLY IN EFFECT:**

a. A teletype sent on 12 June states effective 16 June through 31 August, operate Bonneville Dam in accordance with the 2019 FOP to provide summer spill for fish passage, spill according to patterns in the 2019 FPP, and keep the B2CC open until within one hour of the end of spill on 31 August.

b. A teletype sent on 28 June requests that Bonneville Pool operate within a 1.5' band, hard constraint, from 0600 on 01 July until 1800 on 03 July to facilitate treaty fishing.

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 Bonneville Project