

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 37 of 2020, which covers the period from 06 – 12 September.

1. OPERATION SUMMARY:

a. Daily average river flows ranged from 100.7 to 115.5 kcfs. Daily average powerhouse forebay elevation ranged from 74.5' to 75.7' msl. Daily average project tailwater ranged from 8.6' to 10.0' msl. Secchi disk measurements remained 7.0'. Daily average water temperature ranged from 68 to 71°F.

b. Daily average spill remained 1.4 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
2	0724 on 10 Sep	1427 on 10 Sep	P.O., Effector Switch Upgrade
10	1028 on 10 Sep	1544 on 10 Sep	F.O., Gland Water Repair
11	1034 on 08 Sep	1151 on 08 Sep	P.O., Trash Raking
12	1001 on 08 Sep	1030 on 08 Sep	P.O., Trash Raking
13	0758 on 08 Sep	---	F.O., TH Bearing Cooler Leak
16	2130 on 09 Sep	0827 on 10 Sep	F.O., Gates Not Responding
18	0824 on 08 Sep	0957 on 08 Sep	P.O., Trash Raking

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
F1	2025 on 08 Sep	2159 on 08 Sep	R.S., Float Trash	1 hr, 34 mins
F2	2150 on 08 Sep	2340 on 08 Sep	R.S., Float Trash	1 hr, 50 mins

- Table 3. Fish Unit Drawdowns, in Feet.

Date	F1	F2
9/6	0.2'	0.1'
9/7	0.1'	0.1'
9/8	5.0'	2.5'
9/9	0.1'	0.1'
9/10	0.1'	0.4'
9/11	0.2'	0.8'
9/12	0.3'	0.9'

2. MAINTENANCE ACTIVITIES:

- a. Auxiliary Water System Closures.
 - FV 3-9 closed for cleaning from 1315 to 1317 on 09 September.
 - FV 1-1 closed for cleaning from 1235 to 1646 on 10 September.
- 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) began on 01 April. Nighttime video counting (2100-0500) began on 15 May. Fish counts can be viewed [here](#).
- b. PSMFC – Smolt Monitoring: Debris at the PDS and fish/debris separator was light to heavy consisting mostly of aquatic macrophytes, sticks and dead adult American Shad. Higher sampling protocols were initiated on 30 July when water temperatures ascended to 70°F. Modified sampling protocols during higher temperatures will take place until the daily average descends to 69.5°F. Sample and bypass mode will occur on alternating 24 hour periods (0700-0700). Normal operation resumed on 09 September due to average daily temperature descending to 69.5°F or below. GBT sampling concluded for the season as of 31 August. Truck releases of summer/fall out-migrants originating from the Snake River dams began 03 August and occur every other day. Eight salmon and one steelhead fallbacks were observed this week. No fish collections for research purposes were conducted this week. More details can be found on the [FPC web page](#).
- c. USDA – Avian and Pinniped hazing: Deck-based avian hazing began 01 March. Pinniped hazing started 17 August following the 20 individual pinniped threshold being surpassed.
- d. CRITFC – Adult Salmonid Sampling: Adult Salmonid sampling in the AFF began on 25 May and typically occurs 5 days per week.
- e. ODFW – Steelhead Sampling: Steelhead sampling in the AFF began on 13 July and occurs in conjunction with CRITFC Adult Salmonid Sampling.
- f. USGS – Bass and Crayfish Sampling: Bass and Crayfish tagging and sampling in the forebay began on 24 August.

4. FISHWAYS:

- a. Project biologists inspected 06 – 12 September.
- b. Fish passage plan observations.
 - Table 5. FPP Items Out of Criteria.

Date	Location	FPP Violation	Cause	Response
Bradford Island				
9/6-9	A-Branch	Weir Staff Gauge > 1.1'	NA	NA
9/6-12	B-Branch	FG 3-26,27 open	Mechanically Bound	NA
Cascades Island – Nothing to report.				
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.
- FG6-18 (Cascades Island) is mechanically bound in the closed position. The diffuser 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.
- FG6-19 (Cascades Island) is mechanically bound in the closed position. The diffuser should be open with tailwaters $> 15.0'$. 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 09 Sept.
- (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 remain in service.
- (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 traps remain in service.

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

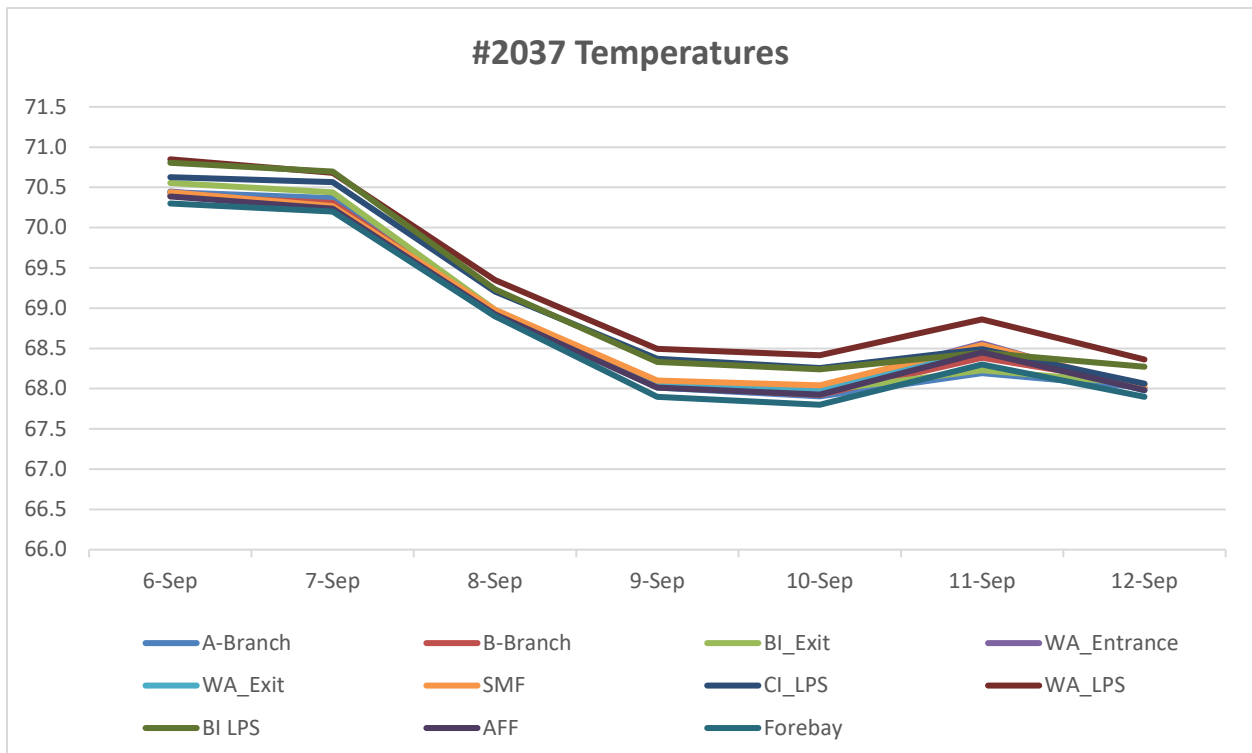
(1) Table 5. Avian Counts.

Date	Gulls	Cormorants	Terns	Wh. Pelicans	Grebes
9/6	19	1	0	0	0
9/7	16	8	0	0	0
9/8	---	---	---	---	---
9/9	6	2	0	0	0
9/10	7	3	0	0	0
9/11	23	18	0	0	0
9/12	9	19	0	0	0

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	SMF	CI_LPS	WA_LPS	BI LPS	AFF	Forebay
6-Sep	70.4	70.4	70.6	70.4	70.4	70.4	70.6	70.8	70.8	70.4	70.3
7-Sep	70.4	70.3	70.4	70.3	70.3	70.3	70.6	70.7	70.7	70.2	70.2
8-Sep	68.9	69.0	69.0	68.9	68.9	69.0	69.2	69.4	69.2	68.9	68.9
9-Sep	68.0	68.0	68.1	68.1	68.0	68.1	68.4	68.5	68.3	68.0	67.9
10-Sep	67.9	67.9	68.0	68.0	68.0	68.0	68.3	68.4	68.2	67.9	67.8
11-Sep	68.2	68.4	68.2	68.6	68.5	68.5	68.5	68.9	68.4	68.4	68.3
12-Sep	68.0	68.1	68.1	68.0	68.0	68.0	68.1	68.4	68.3	68.0	67.9



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 26 August requests that during the dates and times listed, operate Bonneville forebay operate within the following constraints:
From 0700 on 01 September through 1730 on 02 September, continuous, 74.5 to 76.0 feet, hard constraint.
From 0700 on 07 September through 1730 on 11 September, continuous, 74.0 to 76.5 feet, hard constraint.
From 0700 on 12 September through 1730 on 14 September, continuous, 74.0 to 75.5 feet, hard constraint, 74.5 to 75.5 feet, soft constraint.
The purpose of this request is to support construction activities for the BNSF railroad bridge replacement over the Little White Salmon River.
- A teletype sent on 31 August revised the teletype sent on 26 August. During the dates and times listed, operate Bonneville forebay operate within the following constraints:
From 0700 on 02 September through 1730 on 04 September, continuous, 74.5 to 76.0 feet, hard constraint.
From 0700 on 07 September through 1730 on 11 September, continuous, 74.0 to 76.5 feet, hard constraint.
From 0700 on 12 September through 1730 on 14 September, continuous, 74.0 to 75.5 feet, hard constraint, 74.5 to 75.5 feet, soft constraint.
The purpose of this request is to support construction activities for the BNSF railroad bridge replacement over the Little White Salmon River.
- A teletype sent on 02 September revised the teletype sent on 31 August. During the dates and times listed, operate Bonneville forebay operate within the following constraints:
From 0700 on 03 September through 1730 on 02 September, continuous, 74.5 to 76.0 feet, hard constraint.
From 0700 on 07 September through 1730 on 11 September, continuous, 74.0 to 76.5 feet, hard constraint.
From 0700 on 12 September through 1730 on 14 September, continuous, 74.0 to 75.5 feet, hard constraint, 74.5 to 75.5 feet, soft constraint.
The purpose of this request is to support construction activities for the BNSF railroad bridge replacement over the Little White Salmon River.
- A teletype sent on 02 September requests that Bonneville pool operate within a 1.5' band, hard constraint, from 1800 on 03 September through 1800 on 04 September and 0600 on 07 September through 1800 11 September to facilitate treaty fishing.
- A teletype sent on 02 September states that effective immediately through 31 October, the Bonneville dam spillway will be tagged out and unavailable for spill intermittently throughout this period to support a USGS fish tissue sampling crew. See teletype for details
- A teletype sent on 04 September revised the teletype sent on 02 September. During the dates and times listed, operate Bonneville forebay operate within the following constraints:
From 0700 on 07 September through 1730 on 11 September, continuous, 74.0 to 76.5 feet, hard constraint.
From 0700 on 12 September through 1730 on 14 September, continuous, 74.0 to 75.5 feet, hard constraint, 74.5 to 75.5 feet, soft constraint.
- The purpose of this request is to support construction activities for the BNSF railroad bridge replacement over the Little White Salmon River.
- A teletype sent on 07 September revised the teletype sent on 04 September. During the dates and times listed, operate Bonneville forebay operate within the following constraints:
From 0700 on 09 September through 1730 on 11 September, continuous, 74.0 to 76.5 feet, hard constraint.
From 0700 on 12 September through 1730 on 14 September, continuous, 74.0 to 75.5 feet, hard constraint, 74.5 to 75.5 feet, soft constraint.
The purpose of this request is to support construction activities for the BNSF railroad bridge replacement

over the Little White Salmon River.

- A teletype sent on 10 September requests that Bonneville pool operate within a 1.5' band, hard constraint, from 0600 on 14 September through 1800 on 18 September to facilitate treaty fishing.

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Bonneville Project