

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for **Week 45** of 2019, which covers the period from **03– 09 November**.

1. OPERATION SUMMARY:

- a. Daily average river flows ranged from 83.9 to 134.1 kcfs. Daily average powerhouse forebay elevation ranged from 73.4' to 74.9' msl. Daily average project tailwater ranged from 8.0' to 11.5' msl. Secchi disk measurements 6.0 to 7.0+'. Daily average water temperature ranged from 51°F to 52°F.
- b. Daily average spill remained 1.0 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
2	0820 on 29 Oct	0857 on 04 Nov	XJ1 Open, U2 forced OOS.
3	0001 on 21 Oct	1416 on 07 Nov	P.O. Annual / Cooler Replacement
11	1009 on 04 Nov	1150 on 04 Nov	P.O. Model Validation
11	1620 on 04 Nov	1716 on 04 Nov	P.O. Model Validation
11	0924 on 05 Nov	1205 on 05 Nov	P.O. Model Validation
11	1548 on 05 Nov	1601 on 05 Nov	P.O. Model Validation
12	1314 on 04 Nov	1619 on 04 Nov	P.O. Model Validation
12	0743 on 05 Nov	0855 on 05 Nov	P.O. Model Validation
12	1152 on 05 Nov	1230 on 05 Nov	P.O. Model Validation
12	1529 on 05 Nov	1546 on 05 Nov	P.O. Model Validation
13	1232 on 05 Nov	1242 on 05 Nov	P.O. Model Validation
13	1435 on 05 Nov	1523 on 05 Nov	P.O. Model Validation
14	1251 on 05 Nov	1432 on 05 Nov	P.O. Model Validation
14	1610 on 05 Nov	1621 on 05 Nov	P.O. Model Validation
14	0959 on 06 Nov	1032 on 06 Nov	P.O. Model Validation
15	1034 on 06 Nov	1107 on 06 Nov	P.O. Model Validation
15	1237 on 06 Nov	1310 on 06 Nov	P.O. Model Validation
16	1310 on 06 Nov	1348 on 06 Nov	P.O. Model Validation
16	1532 on 06 Nov	1556 on 06 Nov	P.O. Model Validation
17	0813 on 07 Nov	0835 on 07 Nov	P.O. Model Validation
17	1000 on 07 Nov	1014 on 07 Nov	P.O. Model Validation
17	1037 on 07 Nov	1055 on 07 Nov	P.O. Model Validation
18	1057 on 07 Nov	1128 on 07 Nov	P.O. Model Validation
18	1330 on 07 Nov	1339 on 07 Nov	P.O. Model Validation
18	1508 on 07 Nov	1529 on 07 Nov	P.O. Model Validation

- 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	1624 on 30 Oct	1907 on 04 Nov	F.O. Lower Guide Oil Leak

- Table 3. Fish unit drawdowns, in feet.

Date	F1	F2
11/3	---	---
11/4	---	---
11/5	---	---
11/6	0.2'	0.4'
11/7	0.2'	0.2'
11/8	---	---
11/9	0.2'	0.2'

2. MAINTENANCE ACTIVITIES:

- a. Auxiliary Water System Closures.

- FV 1-1 closed for cleaning from 1303 to 1340 on 04 November.
- FV 3-7 closed for cleaning from 1350 to 1405 on 04 November.
- FV 3-9 closed for cleaning from 1350 to 1405 on 04 November.
- FV 1-1 closed for cleaning from 1456 to 1529 on 07 November.
- FV 3-7 closed for cleaning from 1540 to 1550 on 07 November.
- FV 3-9 closed for cleaning from 1540 to 1550 on 07 November.

- b. STS/VBS Inspections.

STS-VBS INSPECTION			
UNIT #	PREVIOUS STS HRS	HRS WHEN INSPECTED	HRS RUN
11	47724	48561	837
12	36484	37324	840
13	05722	06563	841
14	08498	09103	605
15	18305	18669	364
16	31244	31435	191
17	25812	26633	821
18	66319	67156	837

- 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) concluded on 30 September. Fish counts can be viewed [here](#).
- b. PSMFC – Smolt Monitoring Facility: Smolt monitoring operations concluded for the season at Bonneville Juvenile Fish Monitoring Facility at 0700 on Thursday, 31 October. The system was placed in bypass mode at that time. Full flow PIT tag interrogation will remain active until the 2-mile pipe is dewatered, typically around mid-December. Spill and corner collector operations for the juvenile fish passage season concluded just after midnight on 01 September. GBT monitoring activities have concluded for the season. Please follow this [link](#) to the FPC web page for further details. Truck releases of summer/fall out-migrants originating from Snake River dams ended on 01 November.
- c. CRITFC – Adult Salmonid Sampling: Adult salmonid sampling concluded in the AFF on 18 October.
- d. 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 and concluded on 18 October. Whooshh’s equipment is planned for removal from the AFF after its dewatering in November.
- e. 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 and removing equipment.

4. FISHWAYS:

- a. Project biologists inspected from 03 – 09 November.
- b. Fish passage plan observations.
 - Table 4. FPP out of criteria items.

Date	Location	FPP Violation	Cause	Response
Bradford Island				
11/8,9	PH1CC (South)	Differential < 1.0’	Unknown	NA
11/3	PH1CC (North)	Differential > 2.0’	Unknown	NA
11/6	A-Branch	Differential >1.1’	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. FG6-11 should be open at tailwaters $\geq 14.0'$.

- 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 (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 $\geq 16.7'$.
- On 23 August 2017, FG 3-27 (B-branch) was found to be mechanically unsound. It has been set to manual and remains in the open position to avoid further damage. FG3-27 should be open between tailwaters of 10.5'- 28.0' Repairs are planned for the 2019-2020 outage.

c. Adult Fishways.

- (1) The AFF went into bypass mode for the season on 18 October.
- (2) Sensor calibration occurred did not occur this reporting week.
- (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 closed.
- (4) The DSM remains in service.
- (5) STSs are installed.

e. Lamprey Fishways.

- (1) The Bradford Island, Cascades Island, and Washington Shore LPSs were shut down for the season on 31 October.
- (2) The Bradford Island Wetted Wall (BIWW) remains out of service.

(3) The PH2 Lamprey Flume Structure (LFS) remains out of service.

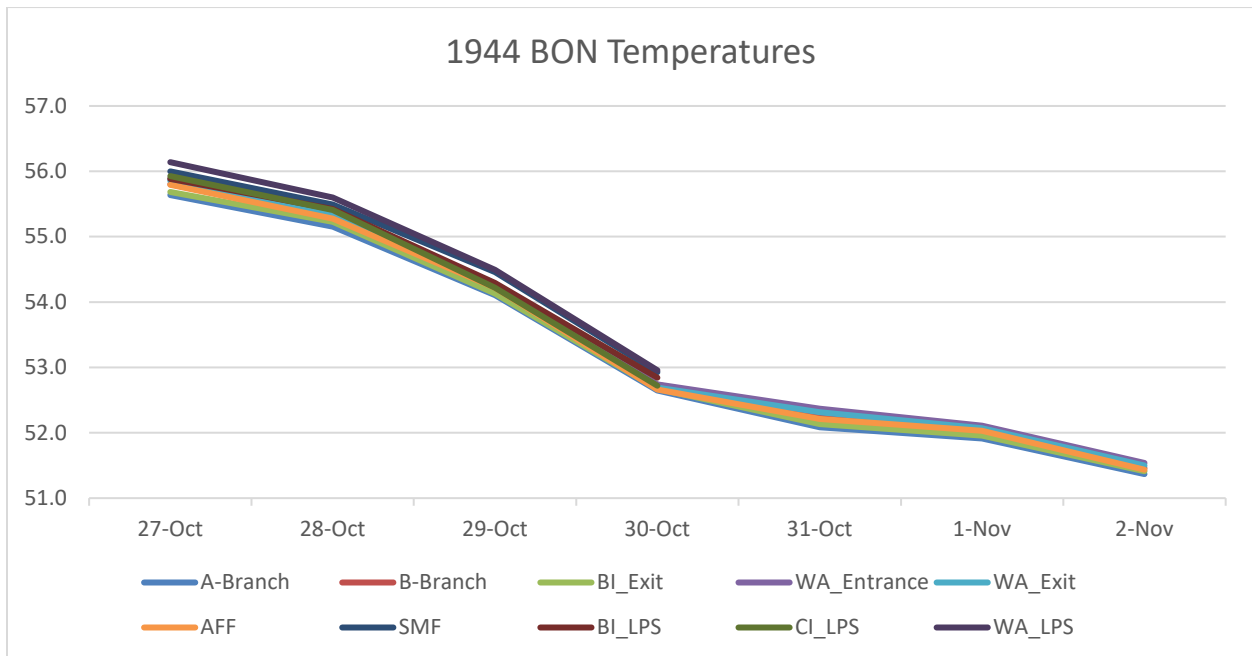
(4) The AFF Lamprey trap remains out of service.

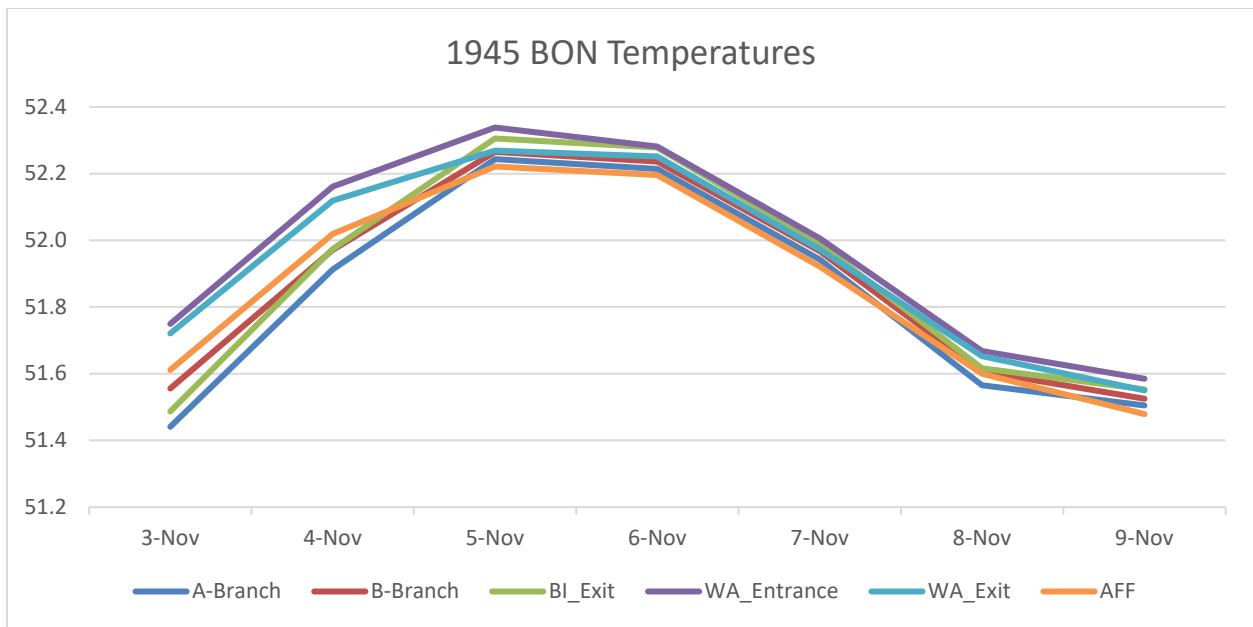
f. Avian Monitoring. Avian counts are recorded 01 April – 31 October.

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	AFF	SMF	BI_LPS	CI_LPS	WA_LPS
27-Oct	55.6	55.8	55.7	55.9	55.9	55.8	56.0	55.9	55.9	56.1
28-Oct	55.2	55.3	55.2	55.4	55.3	55.3	55.5	55.4	55.4	55.6
29-Oct	54.1	54.2	54.1	54.3	54.2	54.2	54.5	54.3	54.2	54.5
30-Oct	52.6	52.7	52.7	52.7	52.7	52.7	52.9	52.8	52.7	53.0
31-Oct	52.1	52.2	52.1	52.4	52.3	52.2	---	---	---	---
1-Nov	51.9	52.0	52.0	52.1	52.1	52.0	---	---	---	---
2-Nov	51.4	51.5	51.4	51.5	51.5	51.4	---	---	---	---
3-Nov	51.4	51.6	51.5	51.8	51.7	51.6	---	---	---	---
4-Nov	51.9	52.0	52.0	52.2	52.1	52.0	---	---	---	---
5-Nov	52.2	52.3	52.3	52.3	52.3	52.2	---	---	---	---
6-Nov	52.2	52.2	52.3	52.3	52.3	52.2	---	---	---	---
7-Nov	51.9	52.0	52.0	52.0	52.0	51.9	---	---	---	---
8-Nov	51.6	51.6	51.6	51.7	51.7	51.6	---	---	---	---
9-Nov	51.5	51.5	51.6	51.6	51.6	51.5	---	---	---	---





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

6. CONSTRUCTION:

a. Nighttime construction on the new PH2 Oil Water Separator began 14 October.

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

8. TELETYPES CURRENTLY IN EFFECT:

a. A teletype sent on 30 October states effective 04 November at 0600 until further notice, operate the Bonneville tailwater for Chum Salmon spawning operations. Please see teletype for more details.

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 Bonneville Project