

MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for **Week 23** of 2020, which covers the period from **31 May – 06 June**.

1. OPERATION SUMMARY:

a. Daily average river flows ranged from 356.4 to 408.2 kcfs. Daily average powerhouse forebay elevation ranged from 73.2' to 74.8' msl. Daily average project tailwater ranged from 25.3' to 27.4' msl. Secchi disk measurements ranged from 3.0' to 4.0'. Daily average water temperature ranged from 57° to 58°F.

b. Daily average spill ranged from 148.7 to 220.7 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	0715 on 06 Apr	1325 on 04 Jun	P.O., 5 year overhaul
9	0006 on 01 Jun	1303 on 04 Jun	P.O, Annual
12	0753 on 20 Apr	---	P.O., 4 year overhaul
15	0003 on 01 Jun	1550 on 04 Jun	P.O., Annual/ QTCI

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	2228 on 01 Jun	0533 on 02 Jun	R.S., Nighttime Lamprey Ops	7 hrs, 5 mins
F1	2327 on 03 Jun	0234 on 04 Jun	R.S., Nighttime Lamprey Ops	3 hrs, 7 mins
F2	0233 on 04 Jun	0631 on 04 Jun	R.S., Nighttime Lamprey Ops/ Float Trash	3 hrs, 58 mins
F1	2258 on 04 Jun	0422 on 05 Jun	R.S., Nighttime Lamprey Ops	4 hrs, 24 mins
F2	2231 on 05 Jun	0512 on 06 Jun	R.S., Nighttime Lamprey Ops	6 hrs, 41 mins
F2	2232 on 06 Jun	---	R.S., Nighttime Lamprey Ops	---

- Table 3. Fish Unit Drawdowns, in Feet.

Date	F1	F2
5/31	2.6'	3.6'
6/1	4.7'	1.9'
6/2	1.4'	0.6'
6/3	2.9'	2.5'
6/4	1.0'	1.1'
6/5	0.3'	0.2'
6/6	0.2'	0.4'

2. MAINTENANCE ACTIVITIES:

- a. Auxiliary Water System Closures.
 - FV 3-9 closed to float trash from 1401 to 1406 on 31 May.
 - FV 3-7 closed for cleaning from 0719 to 0740 on 01 June.
 - FV 3-9 closed for cleaning from 0719 to 0740 on 01 June.
 - FV 3-9 closed for cleaning from 1405 to 1415 on 02 June.
 - FV 3-7 closed for cleaning from 1240 to 1325 on 04 June.
 - FV 3-9 closed for cleaning from 1240 to 1325 on 04 June.
 - FV 1-1 closed for cleaning from 1334 to 1400 on 04 June.
- b. STS/VBS Inspections. Nothing to report.
- c. Dewatering and Fish Salvages. On 03 June, project biologists recovered 3 juvenile steelhead from unit 2 tail logs. They were in good condition and released downstream.

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. PSMFC – Smolt Monitoring: Sample collections at the SMF began at 0700 on 02 March. Debris at the PDS and fish/debris separator was light to moderate consisting mostly of aquatic macrophytes, “mulch like” debris and a few sticks. GBT examinations began on 19 April and are typically performed two days per week through spill. Results of this week’s GBT examinations: 200 yearling Chinook and Steelhead plus one peamouth and one sucker examined with four fish (2.0%) GBT symptoms observed. four steelhead, six salmon and one unknown salmonid 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 - Pinniped hazing: Deck-based hazing began 01 March.
- d. CRITFC – Adult Salmonid Sampling. Adult Salmonid sampling in the AFF began on 25 May and typically occurs 5 days per week.

4. FISHWAYS:

- a. Project biologists inspected 31 May - 06 June.
- b. Fish passage plan observations.
 - Table 5. FPP Items Out of Criteria.

Date	Location	FPP Violation	Cause	Response
Bradford Island				
5/31	A-Branch	Weir Diff. > 1.1’	Unknown	NA
5/31	B-Branch	Weir Diff. > 1.1’	Unknown	NA
6/2	A-Branch	Weir Diff. > 1.4’	Unknown	NA
6/2	B-Branch	Weir Diff. > 1.4’	High TW	NA
6/1-6	B-Branch	FG-3-28 Open	Power Supply	WOR
Cascades Island				
5/31	UMT	Weir Diff. < 1.2’	Unknown	NA
Washington Shore				
5/31	Weir 67	Weir Diff. < 1.2’	Unknown	NA

- 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 06 June.
- (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 in 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.

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

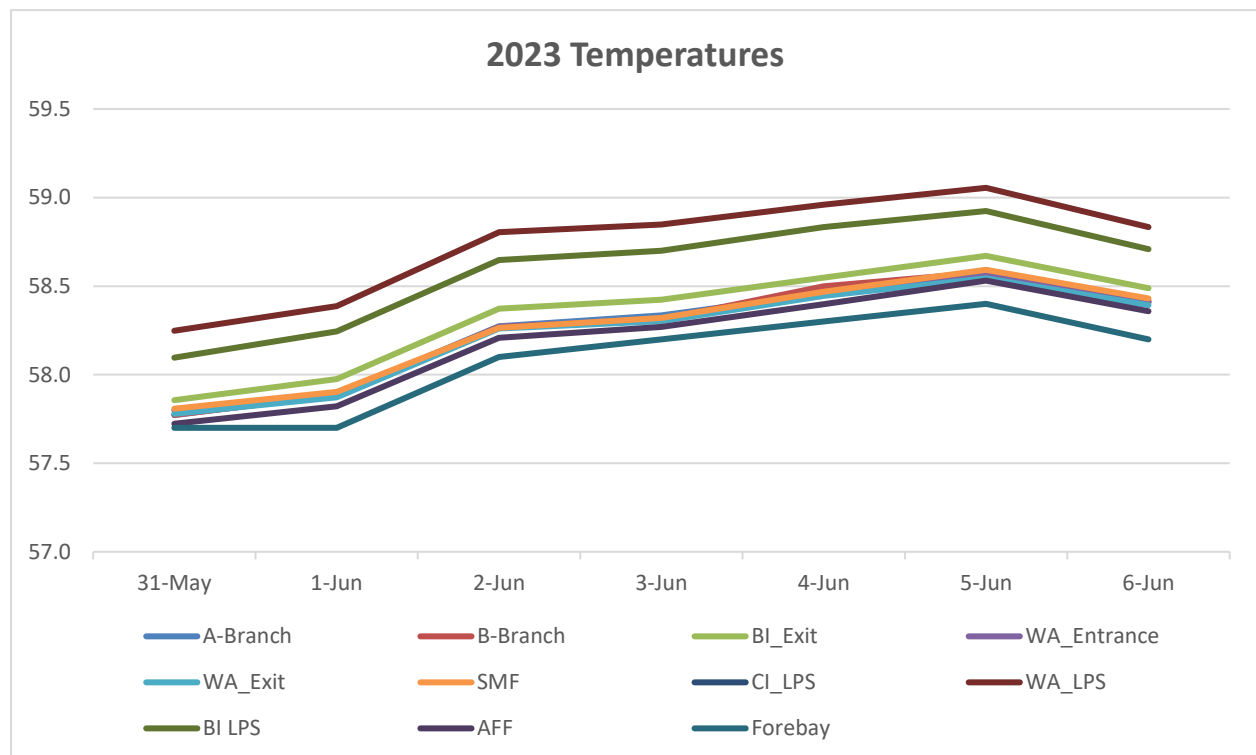
(1) Table 5. Avian Counts.

Date	Gulls	Cormorants	Terns	Wh. Pelicans	Grebes
5/31	2	0	0	0	0
6/1	7	6	0	0	0
6/2	14	2	0	0	0
6/3	10	6	0	0	0
6/4	11	9	0	0	0
6/5	0	0	0	0	0
6/6	2	1	0	0	0

5. WATER QUALITY MONITORING:

a. Fishway Temperatures. Temperatures are taken from 01 March - 30 November. CI LPS logger failure.

Date	A-Branch	B-Branch	BI_Exit	WA_Entrance	WA_Exit	SMF	CI_LPS	WA_LPS	BI LPS	AFF	Forebay
31-May	57.8	57.8	57.9	57.8	57.8	57.8	---	58.2	58.1	57.7	57.7
1-Jun	57.9	57.9	58.0	57.9	57.9	57.9	---	58.4	58.2	57.8	57.7
2-Jun	58.3	58.3	58.4	58.3	58.3	58.3	---	58.8	58.6	58.2	58.1
3-Jun	58.3	58.3	58.4	58.3	58.3	58.3	---	58.8	58.7	58.3	58.2
4-Jun	58.5	58.5	58.5	58.5	58.4	58.5	---	59.0	58.8	58.4	58.3
5-Jun	58.6	58.6	58.7	58.6	58.5	58.6	---	59.1	58.9	58.5	58.4
6-Jun	58.4	58.4	58.5	58.4	58.4	58.4	---	58.8	58.7	58.4	58.2



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 06 April states that effective 10 April through 15 June, operate in accordance with the FOP to provide Spring spill for fish passage. See teletype for details.

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Bonneville Project