U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
FISH FACILITIES WEEKLY REPORT
#02-2023

Project: McNary
Biologist: Bobby Johnson and Paul Bertschinger
Dates: March 10-16, 2023

Turbine Operation

Yes	No	Turbine Unit Status
	X	All 14 turbine units available for service? (See table & comments below for details.)

*All available turbine units are operated in accordance with App. C of the Fish Passage Plan.

McNary Unit Outages (OOS) and Return to Service (RTS).

	OOS		RTS		
Unit(s)	**Date**	**Time**	**Date**	**Time**	**Outage Description**
9	10/11/22	1008	4/3/23	NA	9-year overhaul
11 & 12	1/9	0630	7/28	NA	Control system upgrades
1 thru 4	3/13	0700	3/14	1540	BPA bus work

Comments: The one percent peak efficiency constraint and unit priority are being followed per the 2023 Fish Passage Plan (FPP). RTS dates are subject to change.

Adult Fish Passage Facilities

McNary fisheries biologists performed measured inspections of the adult fishways on March 10, 12 and 14. Picketed leads are currently raised. Visual adult fish counting will resume on April 1. Buses switches resulted in brief power outages with no ill effect at both ladders on March 13 and 14.

Fish Ladder Exits:

Yes	No	Location	Criteria	Measurements
X		Oregon Exit	Head over weir 1.0’ to 1.3’	1.1’ to 1.3’
X		Oregon Count Station Differential	0.0’ to 0.5’	0.1’
X		Washington Exit	Head over weir 1.0’ to 1.3’	1.1’ to 1.2’
X		Washington Count Station Differential	0.0’ to 0.5’	0.0’ to 0.1’

Comments: Debris loads were minimal to very light near Oregon shore exit and minimal near the Washington exit.

For the Oregon exit, a new temperature probe has been ordered. The traveling screens continue to be operated manually. The issue with the screens running continuously has not yet been resolved.

For the Washington exit, the count station window brush was found in the down position on March 14. The issue was immediately resolved.

Fishway Entrances and Collection Channel:

Yes	No	Sill	Location	Criteria	Measurements
X			North Oregon Entrance Head Differential	1.0' – 2.0'	1.0' to 1.3'
	X		NFEW2 Weir Depth	≥ 8.0'	6.9' to 7.3'
	X		NFEW3 Weir Depth	≥ 8.0'	6.7' to 6.9'
X			South Oregon Entrance Head Differential	1.0' – 2.0'	1.2' to 1.4'
X			SFEW1 Weir Depth	≥ 8.0'	8.0' to 8.1'
	X		SFEW2 Weir Depth	≥ 8.0'	7.9' to 8.2'
X			Oregon Collection Channel Velocities	1.5 to 4.0 fps	Averaged 2.1 fps
X			Washington Entrance Head Differential	1.0' – 2.0'	1.5'
X			WFE2 Weir Depth	≥ 8.0'	9.3' to 10.1'
X			WFE3 Weir Depth	≥ 8.0'	9.2' to 10.0'

Comments: The above out of criteria points were due to the juvenile fish facility (JFF) being out of service, calibration drifts and possibly low tailwater elevations. The north Oregon entrances, NFEW2 and NFEW3 were out of criteria all week. These two weirs were probably out due to the JFF being out of service. There were control issues, which were resolved, with NFEW3 between March 10 and 12. The south Oregon entrance, SFEW2 was out of criterion on March 14, possibly due to calibration drifts.

At the Washington ladder entrance, the elevation of WFE3 continues to be monitored until a calibration check can be made.

Three floating orifice gates (FOG's) slots, W32, W37 and W 41 remain closed. Nine of 12 slots are open.

Auxiliary Water Supply System:

Operating Satisfactory	Standby	Out of Service	Fish Pump Blade Angle	Auxiliary Water Supply System (AWS)
Yes				WA shore Wasco County PUD Turbine Unit
	Yes			WA shore Wasco PUD Bypass
Yes			22°	Oregon Ladder Fish Pump 1
		Yes		Oregon Ladder Fish Pump 2 RTS date April 6, 2023
Yes			22°	Oregon Ladder Fish Pump 3
		Yes		OR North Powerhouse Pool supply from juvenile fishway

Comments: Fish pump 2 remains out of service as stator repairs continue. The current return to service date is April 6, 2023. The juvenile bypass system is scheduled to return March 27.

Juvenile Fish Passage Facility

The system remains out of service and dewatered for winter maintenance. Primary bypass is scheduled to begin the week of March 27. The first sample will be collected April 2. Buses switches resulted in brief power outages throughout the juvenile system with no ill effect on March 13 and 14.

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
X			Forebay debris load acceptable? (amount)	Moderate to heavy
X			Gatewell drawdown measured this week?	3 times
X			Gatewell drawdown acceptable	
	X		Any debris seen in gatewells (% coverage)	
	X		Any oil seen in gatewells?	

Comments: Debris loads were moderate to heavy near the powerhouse. Wind direction changes moved the residual debris across the forebay from the powerhouse to the Oregon shore and back. New debris and the debris load beside the spillway were minimal. Most of the debris was woody material.

No trash racks were cleaned this week. Trash differentials were measured three times. The next cleaning is scheduled for the week of March 27.

There are no problems to report.

Extended-length submersible bar screen (ESBSs)/Vertical barrier screen (VBSs):

Yes	No	NA	Item
		X	ESBSs deployed in all slots and in service?
		X	ESBSs inspected this week?
		X	ESBSs inspection results acceptable?
		X	VBSs differentials checked this week?
		X	VBSs differentials acceptable?

Comments: All ESBS's remained raised and winter maintenance continues. No camera inspections are required. ESBS installation will begin on April 3.

Daily VBS differential monitoring will resume when ESBS's are reinstalled.

Orifices, Collection Channel, Dewatering Structure, and Bypass Pipe:

Yes	No	NA	Item	Number of orifices in service
		X	Did orifices operate satisfactory?	NA
		X	Dewatering and cleaning systems operating satisfactory?	

Comments: The collection channel remains dewatered for winter maintenance. All systems remain out of service. Screen cleaning brush limit switch installed, and adjustment continued this week. Also, jump barrier netting improvements were completed.

A camera inspection of the bypass pipe occurred on March 15 and 16. It was determined further inspection is required. The section from the channel to the facility will be manually inspected on March 22. The section going out over the water may also be inspected on March 23.

Bypass Facility:

Yes	No	NA	Item
		X	Sample gates on?
		X	PIT-tag sampling system on?

Comments: The juvenile facility remains dewatered for winter maintenance, which is near completion.

TSW Operations: The TSW in bay 19 remains closed. Spillbay 19 currently has a standard spillgate installed. The TSW will be installed before April 10. The TSW in bay 20 was in place before March 1. It is being used as required by the Biological Opinion for adult fallbacks and is opened per the schedule released by RCC.

River Conditions

River Conditions at McNary Dam.

Daily Average River Flow (kcfs)		Daily Average Spill (kcfs)		Water Temperature (°F)		Water Clarity (Secchi disk - feet)	
High	Low	High	Low	High	Low	High	Low
113.9	84.3	1.9	0.0	41.0	39.0	6.0	6.0

Comments: The above data is provided by the control room. The data day runs from 0000 to 0000 hours. The spill recorded is due to the TSW.

Repairs to cranes 6 and 7 have been completed. However, due to their age and the importance of these cranes, they will only be used to adjust spillgates without hoist as outlined in the 2023 Fish Passage Plan.

All hoist maintenance has been completed. The hoist with the broken coupler has been repaired. Currently, only the hoist for bay 6 is out of service. If ordered parts arrive, the hoist could return to service late June.

Inspections of the weld cracks in the gate's dogging assembly in bay 16 are scheduled to begin March 21. Repairs could take two to three months. Since it is the dogging assembly that is damaged, the gate cannot be raised, and the bay will have to remain closed until the repairs are complete.

So, to start the season, bays 2 and 6 will require a crane for adjustment. Bay 16 will be closed.

Other

Inline Cooling Water Strainers: The next cooling water strainer inspections will occur on April 4.

Avian Activity: Casual avian observations continued. Avian counts will begin April 1.

For the report week, no terns, pelicans, or gulls, were observed on project. Cormorants were noted roosting on the juvenile bypass outfall or the navigation wing wall. A small flock of grebes was noted in the forebay once.

The two lasers and the LRAD were deployed on March 13. They have yet to be programmed and activated. The two large bird distress calls were deployed and activated on March 14.

Invasive Species: The next mussel station examinations will resume in late March.

Siberian Prawn: No sampling is currently occurring.

Fish Rescue/Salvage**:** No fish rescue occurred this week.

Research: USGS personnel will be installing their equipment along the upstream edge of the powerhouse and spillway on March 20 and 21 for a juvenile study. ODFW personnel will be removing their equipment from the area around the TSW on March 30 as their fallback study has concluded.

Project: Ice Harbor
Fisheries Biologist: Ken Fone

Turbine Operation

Yes	No	Turbine Unit Status
	x	All 6 turbine units available for service (see table & comments below for details).

*All available turbine units are operated in accordance with App. C of the Fish Passage Plan.

Ice Harbor Unit Outages (OOS) and Return to Service (RTS)

	OOS		RTS		
Unit	**Date**	**Time**	**Date**	**Time**	**Outage Description**
3	5/3/19	0641	---	---	Turbine runner replacement and stator rewind

Comments: None.

Adult Fish Passage Facility

Ice Harbor Fish Facility staff inspected the adult fishways on March 14, 15, and 16.

Fish Ladders:

Yes	No	Location	Criteria	Measurements
x		North Ladder Exit Differential	Head ≤ 0.3’	
x		North Ladder Picketed Lead Differential	Head ≤ 0.3’	
x		North Ladder Depth over Weirs	Head over weir 1.0’ to 1.3’	
x		South Ladder Exit Differential	Head ≤ 0.3’	
x		South Ladder Picketed Lead Differential	Head ≤ 0.3’	
x		South Ladder Depth over Weirs	Head over weir 1.0’ to 1.3’	

Fishway Entrances and Collection Channel:

Yes	No	Sill	Location	Criteria	Measurements
	x		South Shore Entrance (SFE-1) Weir Depth	≥ 8.0’ or on sill	6.1’
	x		South Shore Channel/Tailwater Differential	1.0’ – 2.0’	2.2’
x			South Shore Channel Velocity	1.5 – 4.0 fps	
x			North Powerhouse Entrance (NFE-2) Weir Depth	≥ 8.0’ or on sill	
x			North Powerhouse Entrance Channel/Tailwater Differential	1.0’ – 2.0’	
x			North Shore Entrance (NEW-1) Weir Depth	≥ 8.0’ or on sill	
x			North Shore Channel/Tailwater Differential	1.0’ – 2.0’	

Comments: The south shore entrance weir depth was below criteria and the channel/tailwater differential was above criteria on March 14. SFE-1 weir was slightly off of sill during the inspection and the tailwater was low. This resulted in the high channel/tailwater differential. The biologist requested that the powerhouse operator lower the weir to sill. SFE-1 weir is in manual control because of concern of the brake coil failing in automatic control. Electricians are investigating the problem.

Auxiliary Water Supply System:

Operating Satisfactory	Standby	Out of Service	Auxiliary Water Supply (AWS) System
6 pumps	2 pumps		Status of the 8 south shore AWS pumps
2 pumps		1 pump	Status of the 3 north shore AWS pumps

Comments: North shore AWS pump #1 has been out of service since March 1 because of a cylinder leak on the butterfly valve. North shore AWS pumps #2 and #3 were turned off briefly on March 13 as follows to accomplish maintenance on breaker XP 212. Pump #2 was turned off from 0847 hours to 0852 hours and from 1453 hours to 1457 hours. Pump #3 was turned off from 0848 hours to 0854 hours and from 1454 hours to 1458 hours.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
x			Forebay debris load acceptable? (amount)	Average of 46 square yards
		x	Gatewell drawdown measured this week?	
		x	Gatewell drawdown acceptable	
x			Any debris seen in gatewells (% coverage)	STSs partially blocking view into slots
	x		Any oil seen in gatewells?	

Comments: None.

Submersible Traveling Screens (STSs) / Vertical Barrier Screens (VBSs):

Yes	No	NA	Item
	x		STSs deployed in all slots that are in service?
		x	STSs in continuous-run mode (Note: if not, then STSs are in cycle-run mode)?
		x	STSs/VBSs inspected this week?
		x	STS/VBS inspection results acceptable?
		x	VBS differentials checked this week?
		x	VBS differentials acceptable?

Comments: The STSs are removed for annual maintenance.

Orifices, Collection Channel, Dewatering Structure, and Flume:

Yes	No	NA	Item	Number open and in service
		x	Orifices operating satisfactory?	0
		x	Dewaterer and cleaning systems operating satisfactory?	

Comments: The juvenile fish channel is unwatered for annual maintenance.

Juvenile Fish Facility: The fish facility is unwatered for annual maintenance.

Fish Sampling: Sampling begins on April 3.

Removable Spillway Weir (RSW): Voluntary spill through the RSW is periodically occurring for the downstream passage of adult steelhead that may have strayed into the Snake River. The RSW will be operated from 0500 hours to 0900 hours PST on Sundays, Wednesdays, and Fridays, from March 1 to April 2.

River Conditions

River conditions at Ice Harbor Dam.

Daily Average River Flow (kcfs)		Daily Average Spill (kcfs)		Water Temperature* (°F)		Water Clarity (Secchi disk - feet)	
High	Low	High	Low	High	Low	High	Low
27.5	22.5	1.6	0	40	38	8.0	7.0

*Unit 1 scroll case temperature.

Other

Inline Cooling Water Strainers: Unit 1, 2, 4, 5, and 6 turbine cooling water strainer inspections took place on March 2. A total of 25 dead juvenile lamprey, one live juvenile lamprey, and six dead Siberian prawns were recovered.

Avian Activity: There were very few piscivorous birds seen around the project.

Invasive Species: No exotic species that are new to the area have been found.

Siberian Prawn: Siberian prawns collected in the sample at the Juvenile Fish Facility will be humanely euthanized by the fish sampling contractor, frozen and properly disposed of in a landfill.

Fish Rescue/Salvage: None.

Research: No on-site research is occurring at this time.

Project: Lower Monumental
Biologists: Denise Griffith and Raymond Addis

Turbine Operation

Yes	No	Turbine Unit Status
X		All 6 turbine units available for service (see table & comments below for details).

* All available turbine units are operated in accordance with App. C of the Fish Passage Plan.

Lower Monumental Unit Outages (OOS) and Return to Service (RTS)

	OOS		RTS		
Unit	**Date**	**Time**	**Date**	**Time**	**Outage Description**

Comments: None

Adult Fish Passage Facility

Lower Monumental fish facility and EAS staff inspected the adult fishways on March 10, 11, 12 and 14.

Fish Ladder:

Yes	No	Location	Criteria	Measurements
X		North Ladder Exit Differential	Head ≤ 0.5’	
X		North Ladder Picketed Lead Differential	Head ≤ 0.4’	
X		North Ladder Depth over Weirs	Head over weir 1.0’ to 1.3’	
X		South Ladder Exit Differential	Head ≤ 0.5’	
X		South Ladder Picketed Lead Differential	Head ≤ 0.3’	
X		South Ladder Depth over Weirs	Head over weir 1.0’ to 1.3’	

Comments: None.

Fishway Entrances and Collection Channel:

Yes	No	Sill	Location	Criteria	Measurements
X			North Shore Entrance (NSE-1) Weir Depth	≥ 8.0’ or on sill	
X			North Shore Entrance (NSE-2) Weir Depth	≥ 8.0’ or on sill	
X			North Shore Channel/Tailwater Differential	1.0’–2.0’	
		X	South Powerhouse Entrance (SPE-1) Weir Depth	≥ 8.0’ or on sill	
		X	South Powerhouse Entrance (SPE-2) Weir Depth	≥ 8.0’ or on sill	
X			South Powerhouse Entrance Channel/Tailwater Differential	1.0’–2.0’	
	X	X	South Shore Entrance (SSE-1) Weir Depth	≥ 8.0’	
	X		South Shore Entrance (SSE-2) Weir Depth	≥ 6.0’	
X			South Shore Channel/Tailwater Differential	1.0’ – 2.0’	

Comments: South Powerhouse Entrance Weir SPE-1 was on sill during all inspections with readings of 6.5, 6.7, 7.4 and 7.1 feet respectively. South Powerhouse Entrance Weir SPE-2 was on sill during all inspections with 6.5, 6.7, 7.4 and 7.1 feet respectively. South Shore Entrance (SSE-1) Weir Depth was on sill during the March 11 and 14 inspections with readings of 7.6 and 8.1 feet respectively. South Shore Entrance (SSE-1) Weir Depth was out of criteria on the March 10 inspection with a reading of 7.4 feet. The powerhouse operator on duty was informed.

South Shore Entrance (SSE-2) Weir Depth was out of criteria on the March 10 inspection with a reading of 3.5 feet respectively. SSE-2 had been moved. The operator reset the gate to an elevation 437.0 to put it back into criteria.

Auxiliary Water Supply System:

Operating Satisfactory	Standby	Out of Service	Auxiliary Water Supply System (AWS)
X			AWS Fish Pump 1
X			AWS Fish Pump 2
X			AWS Fish Pump 3

Comments: None.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
X			Forebay debris load acceptable? (amount)	310 yd^2
X			Gatewell drawdown measured this week?	
X			Gatewell drawdown acceptable	
X			Any debris seen in gatewells (% coverage)	0 – 25%
	X		Any oil seen in gatewells?	

Comments: None.

STSs/VBSs:

Yes	No	NA	Item
X			STSs deployed and in service in operating and available units?
	X		STSs in continuous-run mode (Note: if not, then STSs are in cycle-run mode)?
	X		STSs inspected this week?
		X	STSs inspection results acceptable?
		X	VBSs differentials checked this week?
		X	VBSs differentials acceptable?

Comments: The STSs are running in cycle-run mode until an average length of sub-yearling Chinook salmon and sockeye salmon can be determined.

Orifices, Collection Channel, Dewatering Structure, and Flume:

Yes	No	NA	Item	Number open and in service
X			Orifices operating satisfactory?	18
X			Dewaterer and cleaning systems operating satisfactory?	

Comments: None.

Collection Facility: Collection for condition sample took place on March 10 and 13. A total of 28 fish were collected with 28 fish being bypassed during this reporting period.

Transport Summary: Daily barge transport is scheduled to begin on April 24.

Spillway Weir: Spring spill for steelhead started at 00:00:01 on March 1.

River Conditions

River conditions at Lower Monumental Dam.

Daily Average River Flow (kcfs)		Daily Average Spill (kcfs)		Water Temperature (°F)*		Water Clarity (Secchi disk - feet)	
High	Low	High	Low	High	Low	High	Low
26.4	19.7	1.4	0.0	38.0	36.8	7.1	6.6

*Scrollcase temperatures.

Other

Inline Cooling Water Strainers: The cooling water strainers were examined on March 14. No live fish were recovered. Mortalities included 12 juvenile lamprey.

Avian Activity: Tailrace counts of foraging piscivorous birds at Lower Monumental Dam are scheduled to begin on April 1. Bird hazing by USDA personnel is schedule to begin on April 3.

Invasive Species: Zebra or quagga mussels' examinations will occur again in April.

Siberian Prawn: Siberian prawns collected in the sample at the Juvenile Fish Facility are humanely euthanized by PSMFC and Anchor, frozen and properly disposed of in a landfill. Daily and total Siberian prawn counts at Lower Monumental Dam for this reporting period are reported below.

Date	Sample (euthanized)	Collection*
Totals	0	0

*Collection and sample numbers are the same as the facility when sampling at 100%

Fish Rescue/Salvage: No Fish Rescue/Salvage took place during this reporting period.

Research: A PNNL study on behavior and survival of juvenile Pacific lamprey at Lower Monumental Dam will start on April 1 and run to September 30.

Project: Little Goose
Biologists: Deborah Snyder

Turbine Operation

Yes	No	Turbine Unit Status
	X	All 6 turbine units available for service (see table & comments below for details).

*All available turbine units are operated in accordance with App. C of the Fish Passage Plan.

Little Goose Unit Outages (OOS) and Return to Service (RTS)

	OOS		RTS		
Unit	**Date**	**Time**	**Date**	**Time**	**Outage Description**
5	4/14/2017	14:11	06/30/2023	ERTS	Spider and upper guide bearing repair.

Comments: Contractual obligations and performance issues realigned the Unit 5 ERTS date into 2023.

Adult Fish Passage Facility

USACE staff inspected the adult Fishway on March 13, 14, and 15.

Fish Ladder:

Yes	No	NA	Location	Criteria	Measurements
X			Fish Ladder Exit Differential	Head ≤ 0.5’	
X			Fish Ladder Picketed Lead Differential	Head ≤ 0.3’	
X			Fish Ladder Depth over Weirs	Head over weir 1.0’ to 1.3’	
	X		Fish Ladder Cooling Water Pumps in Service		
		X	Fish Ladder Exit Cooling Water Pumps Operating Satisfactorily		

Fishway Entrances and Collection Channel:

Yes	No	Sill	Location	Criteria	Measurements
X			South Shore Entrance (SSE-1) Weir Depth	≥ 8.0’	
X			South Shore Entrance (SSE-2) Weir Depth	≥ 8.0’	
X			South Shore Channel/Tailwater Differential	1.0’ – 2.0’	
X			North Powerhouse Entrance (NPE-1) Weir Depth	≥ 7.0’ or on sill	03/07 - sill
X			North Powerhouse Entrance (NPE-2) Weir Depth	≥ 7.0’ or on sill	03/07 - sill
X			North Powerhouse Entrance Channel/Tailwater Differential	1.0’–2.0’	
X			North Shore Entrance (NSE-1) Weir Depth	≥ 6.0’ or on sill	
X			North Shore Entrance (NSE-2) Weir Depth	≥ 6.0’ or on sill	
X			North Shore Channel/Tailwater Differential	1.0’–2.0’	
X			Collection Channel Surface Velocity	1.5 – 4.0 fps	

Comments: The adult fishway was initially returned to service on February 14, dewatered February 16 due to discovery of a second fish viewing window leak, then subsequently watered back up and commissioned for the season on February 23. The AWS pumps returned to service on February 23. The Fish Ladder Exit Cooling Water Pump was pulled, inspected, and readied for modest repairs on February 21. The Collection Channel Surface Velocity is measured at NPE. Rickley channel velocity measurements were completed and met criteria on March 16. Navlock power outage and testing disabled PSMFC PIT tag receivers located between the fish ladder turnpool and fish counting window from March 4 to March 11, and again on March 15.

Auxiliary Water Supply System:

Operating Satisfactory	Standby	Out of Service	Auxiliary Water Supply System (AWS)
X			AWS Fish Pump 1
X			AWS Fish Pump 2
X			AWS Fish Pump 3

Comments: Fish pumps 1, 2, and 3 were returned to service February 23.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comment
X			Forebay debris load acceptable? (amount)	High 4,700 ft² - Low 20 ft²
		X	Gatewell drawdown measured this week?	
		X	Gatewell drawdown acceptable	
	X		Any debris seen in gatewells (% coverage)	
	X		Any oil seen in gatewells?	

Comments: The forebay had minimal floating debris inside the trash shear boom with the highest measurement occurring on March 15 at 300 ft². The overall total forebay debris high occurred March 13. The season initial draw down differential measurements were rescheduled for the week of March 20 post ESBS installation.

ESBS/VBS:

Yes	No	NA	Item
X			ESBSs deployed in all slots and in service?
	X		ESBSs inspected this week?
		X	ESBSs inspection results acceptable?
	X		VBSs differentials checked this week?
		X	VBSs differentials acceptable?
	X		VBSs inspected this week?

Comments: Installation of Unit 4-6 ESBS's were completed on March 13 and installation of units 1-3 took place March 14. Gatewells 2 – 6 were hand dipped March 14 resulting a fair amount of debris retrieved from gatewell 3. Gatewells to unit 1 were hand dipped on March 15.

Orifices, Collection Channel, Dewatering Structure, and Flume:

Yes	No	NA	Item	Number open and in service
X			Orifices operating satisfactory?	18
X			Dewaterer and cleaning systems operating satisfactory?	

Comments: The juvenile bypass system was initially watered up March 6, was halted to fix pinhole leaks discovered in the 42" primary emergency fish bypass pipe, resumed and was fully commissioned on March 7.

Collection Facility: The juvenile collection facility is scheduled to water up the week of March 20. Every other day collection for condition monitoring in conjunction with secondary bypass will commence on March 25 with the first sample being conducted on March 26. Everyday collection is scheduled to begin April 23 coinciding with every other day barge transportation.

Transport Summary: Collection for fish transportation is scheduled to begin April 23 with the first barge departure on April 24. Every other day barging is scheduled thereafter pending situational transition to everyday barging due to any unforeseen increase in fish numbers.

Spillway Weir: Little Goose began operation of the adjustable spillway weir (ASW) on March 1 to facilitate passage of adult steelhead overshoots. Operation occurred three days each week every other day for four hours in the morning. Spring spill operations are scheduled to being on April 3. Summer spill operations are scheduled to begin on June 21.

River Conditions

River conditions at Little Goose Dam.

Daily Average River Flow (kcfs)		**Daily Average Spill (kcfs)**		**Water Temperature* (°F)**		**Water Clarity (Secchi disk - feet)**	
High	Low	High	Low	High	Low	High	Low
28.7	18.6	1.3	0.0	40.9	40.5	6.0	6.0

*Ladder temperature.

Other

Inline Cooling Water Strainers: Inline cooling strainer inspections commenced on December 1, 2022. Inspections will continue in accordance with the Fish Passage Plan (FPP) and results will be submitted to the District.

Avian Activity: Daily piscivorous bird counts at Little Goose Dam are scheduled to begin April 1, while USDA-APHIS bird abatement contract services are in place.

Invasive Species: No invasive species have been observed on the mussel station.

Siberian Prawn: Juvenile fish collection will begin March 25. Siberian prawns collected in the sample at the Juvenile Fish Facility will be humanely euthanized by Oregon Department of Fish and Wildlife and EAS Bio personnel, frozen and properly disposed of in a landfill

Gas Bubble Trauma (GBT): Oregon Department of Fish and Wildlife will perform GBT monitoring services with the scheduled start date to be determined.

Fish Rescue/Salvage: No fish rescue and salvage operations transpired during this reporting period.

Research: The Nez Perce Tribe (NPT) will begin adult steelhead kelt collection efforts on March 26 with an anticipated conclusion date of July 1.

Project: Lower Granite
Biologists: Elizabeth Holdren and David Miller

Turbine Operation

Yes	No	Turbine Unit Status
	X	All 6 turbine units available for service (see table & comments below for details).

*All available turbine units are operated in accordance with App. C of the Fish Passage Plan.

Lower Granite Unit Outages (OOS) and Return to Service (RTS)

	OOS		RTS		
Unit	Date	Time	Date	Time	Outage Description
5	02/06	0700	3/16	1300	Annual maintenance, bearing temperature indication upgrades

Comments: None.

Adult Fish Passage Facility

Lower Granite staff inspected the adult fishway on March 13, 14, 15, and 16.

Fish Ladder:

Yes	No	NA	Location	Criteria	Comments
X			Fish Ladder Exit Differential	Head ≤ 0.5’	
X			Fish Ladder Picketed Lead Differential	Head ≤ 0.3’	
X			Fish Ladder Depth over Weirs	Head over weir 1.0’ to 1.3’	
	X		Fish Ladder Cooling Water Pumps in Service		
		X	Fish Ladder Cooling Water Pumps Operating Satisfactorily		

Comments: None.

Fish Ladder Entrances and Collection Channel:

Yes	No	Sill	Location	Criteria	Comments
X			South Shore Entrance (SSE-1) Weir Depth	≥ 8.0’	
X			South Shore Entrance (SSE-2) Weir Depth	≥ 8.0’	
X			South Shore Channel/Tailwater Differential	1.0’ – 2.0’	
	X		North Powerhouse Entrance (NPE-1) Weir Depth	≥ 8.0’ or on sill	7.9’
	X		North Powerhouse Entrance (NPE-2) Weir Depth	≥ 8.0’ or on sill	7.9’
X			North Powerhouse Entrance Channel/Tailwater Differential	1.0’–2.0’	
	X		North Shore Entrance (NSE-1) Weir Depth	≥ 7.0’ or on sill	6.9’
	X		North Shore Entrance (NSE-2) Weir Depth	≥ 7.0’ or on sill	6.9’, 6.9’
	X		North Shore Channel/Tailwater Differential	1.0’–2.0’	0.7’, 0.9’
X			Collection Channel Surface Velocity	1.5 – 4.0 fps	

Comments: Ladder collection channel operation and configuration will continue to be evaluated this season to resolve ongoing issues. FOGs 1, 4, 7, and 10 are in operation. Although there is no spill and both entrance gates are operating, north shore did not meet channel/tailwater head differential criteria. Efforts of the electrical crew were able to bring the ladder into criteria with the exception of the north shore channel/tailrace differential.

Auxiliary Water Supply System:

Operating Satisfactorily	Standby	Out of Service	Auxiliary Water Supply (AWS)
Yes			AWS Fish Pump 1
Yes			AWS Fish Pump 2
No		Yes	AWS Fish Pump 3

Comments: AWS pump 3 remained out of service for maintenance.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
X			Forebay debris load acceptable? (amount)	
	X		Trash rack differentials measured this week?	
		X	Trash rack differentials acceptable	
		X	Any debris seen in gatewells (% coverage)	
		X	Any oil seen in gatewells?	

Comments: None.

ESBSs/VBSs:

Yes	No	NA	Item
	X		ESBSs deployed in all slots and in service?
	X		ESBSs inspected this week?
		X	ESBSs inspection results acceptable?
	X		VBSs differentials checked this week?
		X	VBSs differentials acceptable?

Comments: None.

Orifices, Collection Channel, Dewatering Structure, Bypass Pipe:

Yes	No	NA	Item	Number open and in service
		X	Orifices operating satisfactory?	
		X	Dewaterer and cleaning systems operating satisfactory?	

Comments: The juvenile bypass system was watered up March 15 at 1210 hours in primary bypass operation.

Collection Facility: Condition sampling is scheduled to begin at 0700 March 25 with the first sample worked up March 26. Research collection for in-river survival tagging will be take place the weeks of April 3 and April 10, collection for the transport study will begin the week of April 20, and collection is scheduled to begin April 23.

Transport Summary: The first research trip is scheduled for April 20.

Spillway Weir: The RSW will continue to be operated for steelhead overshoot passage from 0700-1100 hours Sundays, Tuesdays, and Thursdays until spring spill begins April 3. There were 33 adult steelhead and 2 juvenile steelhead and 4 juvenile Chinook salmon detected at the RSW since March 1. There have been 1 adult steelhead, 1 juvenile steelhead, and 13 juvenile Chinook salmon detected through the Juvenile Bypass System since it was opened on March 15.

River Conditions

River conditions at Lower Granite Dam.

Daily Average River Flow (kcfs)		Daily Average Spill (kcfs)		Water Temperature* (°F)		Water Clarity (Secchi disk - feet)	
High	Low	High	Low	High	Low	High	Low
27.8	21.2	1.8	0.0	40.0	40.0	5+	5+

*Cooling water intake temperature.

Other

Inline Cooling Water Strainers: Unit cooling strainer inspections were conducted on February 23.

Invasive Species: No zebra/quagga muscles were detected on the trap substrate.

Avian Activity: Biologist daily piscivorous bird counts at Lower Granite Dam will begin April 1. Some gulls and cormorants are present in the tailrace.

Gas Bubble Trauma (GBT) Monitoring: N/A

Adult Fish Trap Operations: The adult trap was watered up February 28. Collection for sampling started at 0730 hours on March 1 at a 25% (18% /week) sample rate. Collection for sampling will be conducted Monday through Friday until broodstock collection starts August 18.

Fish Rescue/Salvage: N/A

Research:

National Marine Fisheries Service (NMFS) PIT tagging of Adult Wild Chinook salmon and Adult Steelhead for ISEMP-Related Dispersal Monitoring:

The goal of this project is to PIT tag up to 4000 unclipped adult Chinook salmon and 4000 unclipped adult steelhead collected in the adult trap daily sample for dispersal monitoring.

Sampling of Steelhead, Chinook salmon, and Sockeye salmon by the Idaho Department of Fish and Game (IDFG) and NOAA Fisheries for Biological data collection.

Upriver migrating steelhead, spring/summer Chinook salmon, and sockeye salmon are collected from the adult trap beginning April 4 through December 15. The goal is to collect 5-20% of adult steelhead, spring/summer Chinook salmon, and sockeye salmon ascending the ladder April 4-December 15. Data collection includes fish scales, genetics tissue, sex and length, wild/hatchery composition, and non-adipose clipped hatchery fish assessment. All natural origin adult steelhead and spring/summer Chinook salmon trapped will be PIT tagged to estimate headwater tributary escapement. Sockeye salmon may be PIT tagged in the future to estimate metrics regarding conversion rates. Some steelhead and spring/summer Chinook salmon may be radio-tagged or spaghetti-tagged. This information on adult fish forms the basis for status information used in several forums including BiOp-RPA identified needs.

Sampling and PIT tagging of Walleye by the Idaho Department of Fish and Game (IDFG) and NOAA Fisheries.

Walleye collected in the adult fish trap will be PIT tagged to investigate movement and ascension rate of walleye that successfully exit the fish ladder into the upstream reservoir. PIT tag data collected will be used to gain an understanding of the potential expansion and threat of walleye upstream of LWG to ESA-listed salmonids and guide future management actions of walleye in the Snake River Basin.

PIT Tagging and Genetic Sample Collection from Bull Trout for USFWS:

Bull trout will be collected as part of the normal adult trap daily sample and using the adult SbyC system to recapture previously PIT tagged fish. Untagged bull trout will be PIT tagged, fin clipped for genetic analysis, and have morphometric data collected including weight and length etc. Fin clips will be sent to USFWS to determine the fish's origin. Previously PIT tagged bull trout will only have morphometric data collected. All fish will be released back into the adult fish ladder.