Out of Criteria – NWW Weekly Report #40 – November 29 – December 5, 2024

1. McNary

Yes	No	Location	Criteria	Measurements
	X	Oregon Exit	Head over weir 1.0’ to 1.3’	0.9’ to 1.3’

At the Oregon shore exit, alarms were noted on all three days. The exit controls remained in manual mode until December 3, at 1442 hours, when system control issues appeared to be resolved. However, due to control issues with weir 337, the system was returned to manual mode at 2345 hours. The control issue with weir 337 was resolved on December 4, at 1105 hours, returning the exit to automatic mode. The operators adjusted the exit in manual mode with forebay elevation changes before the issue was resolved. The out of criterion point above, related to the control issues, occurred on November 30.

Yes	No	Sill	Location	Criteria	Measurements
	X		NFEW2 Weir Depth	$\geq$ 8.0’	7.8’ to 8.1’
	X		NFEW3 Weir Depth	$\geq$ 8.0’	7.7’ to 8.1’

At the Oregon shore entrances, NFEW2 and NEFW3were out of criteria December 1. The out of criteria points may have been due to calibration drifts or set point adjustments.

A low-water alarm came in on December 2, at 0525 hours. Later, a low/high alarm sequence came in from 0715 to 0723 hours. Due to cyclic fluctuations in the water elevation, the channel will be monitored.

2. Ice Harbor

Yes	No	NA	Item	Number open and in service
	x		Dewatering and cleaning systems operating satisfactory?	

The replacement actuator for the water regulating weirs in the collection channel is in local control due to a problem with the actuator being undersized for this application. The actuator will be replaced to enable automatic control. The weirs are being operated at the actuator to adjust the water level as needed until the problem can be fixed.

Numerous false alarms were received during the week, indicating high water levels and high differentials in the collection channel. An electrician attempted to calibrate the water level sensors on November 12, but a control module for the sensors was discovered to have failed. Until the control module can be replaced, the screen cleaner will be operated in manual control to prevent excessive runtime.

3. Lower Monumental - No comments

4. Little Goose

Yes	No	Sill	Location	Criteria	Measurements
X	X		South Shore Entrance (SSE-1) Weir Depth	$\geq$ 8.0’	12/5 – 7.9

The fish system control program is proving unreliable and inadequate to balance the adult fishway in “automated” mode. Biologist personnel are manually adjusting and balancing the adult fishway with increasing frequency. EAS Bio personnel report the FSC board reflects weir and channel height readings with notable discrepancies compared to actual physical hand measurements taken during inspection periods. USACE Biologists, EAS Bio, and ODFW personnel are collaborating and manually taking physical readings for weir elevations at all three fishway entrances. FSC board readings of SSE Channel elevation continue to report discrepancies below physical staff gauge measurements. Criteria evaluations default to physical staff gauge measurements in this area. NPE FSC board no longer accurately reading weir heights, reporting measurements 1.2 and 1.1 ft higher than weirs currently positioned

on sill (532 ft). NSE FSC board channel heights reflect similar and corresponding readings to staff gauge measurements.

5. Lower Granite Dam

Yes	No	Sill	Location	Criteria	Comments
	X		South Shore Entrance (SSE-1) Weir Depth	≥ 8.0’	7.0’, 7.8’, 7.7’
	X		South Shore Entrance (SSE-2) Weir Depth	≥ 8.0’	7.1’, 7.9’
	X		South Shore Channel/Tailwater Differential	1.0’ – 2.0’	2.1’
	X		North Shore Channel/Tailwater Differential	1.0’–2.0’	0.6’, 0.8’
	X		Collection Channel Surface Velocity	1.5 – 4.0 fps	1.3, 1.2, 1.2

Fish ladder control system operation and configuration is an ongoing issue that began when the system was installed in 2016. SSE out of criteria reading were likely due to the tailrace elevation sensor float hanging up in the stilling well. The system was re-calibrated by electrical crew December 5.

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
FISH FACILITIES WEEKLY REPORT
#40-2024

Project: McNary
Biologist: Bobby Johnson and Paul Bertschinger
Dates: November 29-December 5, 2024

Turbine Operation

Yes	No	Turbine Unit Status		
	X	All 14 turbine units available for service. (see table & comments below for details).	**Hard**	**Soft**
	X	Available turbines operated within 1% peak efficiency? Constraint in effect.		X

Table 1. McNary Unit Outages (OOS) and Return to Service (RTS)

	OOS		RTS		
Unit	**Date**	**Time**	**Date**	**Time**	**Outage Description**
3 & 4	5/29	0634	12/13	NA	Control system upgrades
1 & 2	10/21	1209	12/13	NA	Governor air accumulator issue

Comments: RTS dates are subject to change. Slight variations outside the soft one percent criterion are not recorded here. If units due run outside the soft constraint, it is at BPA's request, which did occur on November 30 and December 2 to 5. Unit priority changed on December 1.

Adult Fish Passage Facilities

McNary fisheries staff performed measured inspections of the adult fishways on November 30, December 1 and 3. For water temperature monitoring, the Washington shore midpoint probe and the Oregon shore south entrance probe have been referred to district personnel.

Fish Ladder Exits:

Yes	No	Location	Criteria	Measurements
	X	Oregon Exit	Head over weir 1.0' to 1.3'	0.9' to 1.3'
X		Oregon Count Station Differential	0.0' to 0.5'	0.0' to 0.1'
X		Washington Exit	Head over weir 1.0' to 1.3'	1.0' to 1.2'
X		Washington Count Station Differential	0.0' to 0.5'	0.0' to 0.1'

Comments: Debris loads were minimal near both exits.

At the Oregon shore exit, alarms were noted on all three days. The exit controls remained in manual mode until December 3, at 1442 hours, when system control issues appeared to be resolved. However, due to control issues with weir 337, the system was returned to manual mode at 2345 hours. The control issue with weir 337 was resolved on December 4, at 1105 hours, returning the exit to automatic mode. The operators adjusted the exit in manual mode with forebay elevation changes before the issue was resolved. The out of criterion point above, related to the control issues, occurred on November 30.

At the Washington shore exit, weir 339 remains in bypass mode. The control system continued to regulate the exit without this weir moving.

Fishway Entrances and Collection Channel:

Yes	No	Sill	Location	Criteria	Measurements
X			North Oregon Entrance Head Differential	1.0' – 2.0'	1.2' to 1.4'
	X		NFEW2 Weir Depth	≥ 8.0'	7.8' to 8.1'
	X		NFEW3 Weir Depth	≥ 8.0'	7.7' to 8.1'
X			South Oregon Entrance Head Differential	1.0' – 2.0'	1.4' to 1.6'
X			SFEW1 Weir Depth	≥ 8.0'	8.0' to 8.5'
X			SFEW2 Weir Depth	≥ 8.0'	8.4' to 8.1'
X			Oregon Collection Channel Velocities	1.5 to 4.0 fps	1.9 fps
X			Washington Entrance Head Differential	1.0' – 2.0'	1.5' to 1.6'
X			WFE2 Weir Depth	≥ 8.0'	9.0' to 9.3'
X			WFE3 Weir Depth	≥ 8.0'	8.9 to 9.3'

Comments: At the Oregon shore entrances, NFEW2 and NEFW3were out of criteria December 1. The out of criteria points may have been due to calibration drifts or set point adjustments.

Auxiliary Water Supply System:

Operating Satisfactory	Standby	Out of Service	Blade angle	Auxiliary Water Supply System (AWS)
X				WA shore Wasco County PUD Turbine Unit
	X			WA shore Wasco PUD Bypass
		X	NA	Oregon Ladder Fish Pump 1, RTS 12/16
X			22° to 23°	Oregon Ladder Fish Pump 2
X			23°	Oregon Ladder Fish Pump 3
X				OR North Powerhouse Pool from juvenile fishway

Comments: Fish pump 1 remained out of service for a scheduled 5-year overhaul. Return to service dates are subject to change. With ESBS removal beginning, the juvenile fishway will be switched to emergency bypass and no long supply auxiliary flow beginning December 9.

Juvenile Fish Passage Facility

Fall primary bypass season and light winter maintenance continued. With ESBS removal beginning, the juvenile fishway will be switched to emergency bypass on December 9.

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
X			Forebay debris load acceptable? (amount)	Light near the powerhouse
X			Gatewell drawdown measured this week?	Daily
X			Gatewell drawdown acceptable	
	X		Any debris seen in gatewells (% coverage)	
	X		Any oil seen in gatewells?	

Comments: The debris load near the powerhouse was light. New incoming debris and the debris load at the spill were minimal. Most of the debris was aquatic vegetation and woody material, which is dissipating. No trash rack cleaning is scheduled. 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: The control program for the fish screens in unit 10 is not currently communicating with the panel view on the 8th floor. When the unit is in service, the brush cycle sequences will be monitored in the control room until repairs can occur in the future. Testing of ESBS screen brush programming continued with the screens in unit 4. After regional agreement, ESBS removal is scheduled to begin December 9. Due to this fact, no camera inspections will occur the rest of this season. The screens will be examined when they are raised.

Daily VBS monitoring continued, and no high differentials were recorded. A total of two screens were cleaned on December 3 and 5. Also, two screens were inspected, which includes cleaning, on December 3. No fish were observed. VBS monitoring will conclude once all ESBS's are raised.

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

Yes	No	NA	Item	Number open and in service
X			Orifices operating satisfactory?	42
X			Dewaterer and cleaning systems operating satisfactory?	

Comments: Orifices were adjusting for VBS cleaning and inspection as required. This fall, we should have about 40 of the 84 orifice operators rehabilitated.

The transition screen cleaning brush remains out of service.

A low-water alarm came in on December 2, at 0525 hours. Later, a low/high alarm sequence came in from 0715 to 0723 hours. Due to cyclic fluctuations in the water elevation, the channel will be monitored.

Emergency bypass will begin on December 9.

Bypass Facility:

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

Comments: The sample system remained out of service. The PIT tag system was not utilized this season.

Winter maintenance continued. The system will be dewatered and fully winterized on December 9.

TSW Operations: The TSW's in bays 19 and 20 remained closed.

River Conditions

Table 2. 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
119.3	107.6	0.0	0.0	51.0	49.0	6.0	6.0

Comments: The above data is from the control room, with the data day starting at 0000 hours. Spill of flow in excess of available powerhouse capacity did not occur this week. Rehabilitated of downstream wall dogs continued. The dogs from bays 14 and 17 were reinstalled on December 5. The dogs for bay 13 remain removed for repair.

Other

Inline Cooling Water Strainers: The cooling water strainer inspections revealed approximately 1,550 juvenile shad mortalities on December 3. No other fish were observed.

Avian Activity: Casual bird observations continued during other inspections.

In the spill zone, gull and cormorant numbers were low. Most of the gulls were flying by and the cormorants were roosting around the spill basin or on the water.

In the powerhouse zone, gulls and cormorants in low numbers were observed feeding occasionally.

In the outfall zone, gull numbers were low and cormorant numbers were stable with the birds roosting and occasionally feeding at the outfall.

For the forebay zone, grebes and gulls in lower numbers were observed. Most birds are roosting. A few gulls and cormorants along with one pelican were noted outside the zone.

There is no hazing occurring.

Invasive Species: The next mussel station examinations will occur in late December.

Siberian Prawn: With sampling concluded, no prawns have been observed.

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

Research: PNNL will remove their spillway equipment in mid-January.

Project: Ice Harbor
Biologist: Ken Fone
Biological Science Technician: Ben McArthur
Dates: November 29-December 5, 2024

Turbine Operation

Yes	No	Turbine Unit Status
	x	All 6 turbine units available for service (see table & comments below for details).
x		All available turbine units are operated in accordance with Appendix 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
1	6/27/23	0708	---	---	Turbine runner replacement and stator rewind
6	10/9/24	0640	---	---	6-year overhaul

Comments: None.

Adult Fish Passage Facility

Ice Harbor Fish Facility staff inspected the adult fishways on December 2, 4, and 5.

Fish Ladders:

Yes	No	Location	Criteria	Measurements
x		North ladder exit differential	Head $\leq$ 0.3’	
x		North ladder picketed lead differential	Head $\leq$ 0.3’	
x		North ladder depth over weirs	Head over weir 1.0’ to 1.3’	
x		South ladder exit differential	Head $\leq$ 0.3’	
x		South ladder picketed lead differential	Head $\leq$ 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 fish entrance (SFE-1) weir depth	$\geq$ 8.0’ or on sill	
x			South fish entrance channel/tailwater differential	1.0’ – 2.0’	
x			South shore channel velocity	1.5 – 4.0 fps	
x			Central fish entrance (CFE-2) weir depth	$\geq$ 8.0’ or on sill	
x			Central fish entrance channel/tailwater differential	1.0’ – 2.0’	
x			North fish entrance (NFE-1) weir depth	$\geq$ 8.0’ or on sill	
x			North fish entrance channel/tailwater differential	1.0’ – 2.0’	

Comments: None.

Auxiliary Water Supply (AWS) System:

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

Comments: South shore AWS pump #6 has been out of service since March 1, 2024, due to high vibration readings coming from the motor and gearbox. The gearbox was replaced with a refurbished one and will require an overhead 115 kv line outage during the winter maintenance period to remove the pump bulkhead.

North Fish Pump #1 was turned off for 5 minutes on 5 December to allow for changing of the oil filter. Only one pump was running during this time. North fish entrance channel/tailwater differential was not verified but it most likely stayed in criteria given the short amount of time the pump was turned off.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
x			Forebay debris load acceptable? (amount)	Average of 7 square yards
x			Gatewell drawdown measured this week?	
x			Gatewell drawdown acceptable	
x			Any debris seen in gatewells (% coverage)	0-2% coverage
	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 inspected this week?
		x	STSs inspection results acceptable?
		x	VBSs differentials checked this week?
		x	VBSs differentials acceptable?

Comments: None.

Orifices, Collection Channel, Dewatering Structure, and Flume:

Yes	No	NA	Item	Number open and in service
x			Orifices operating satisfactory?	20
	x		Dewatering and cleaning systems operating satisfactory?	

Comments: The replacement actuator for the water regulating weirs in the collection channel is in local control due to a problem with the actuator being undersized for this application. The actuator will be replaced to enable automatic control. The weirs are being operated at the actuator to adjust the water level as needed until the problem can be fixed.

Numerous false alarms were received during the week, indicating high water levels and high differentials in the collection channel. An electrician attempted to calibrate the water level sensors on November 12, but a control module for the sensors was discovered to have failed. Until the control module can be replaced, the screen cleaner will be operated in manual control to prevent excessive runtime.

On December 4, acoustic testing was conducted in the Collection Channel following installation of sound abatement panels earlier this year. Sound levels were reduced to 86 dB over the loudest part of the channel (above the downstream end Ice/Trash Sluiceway spill). Further installation of panels is intended to occur in 2025.

Juvenile Fish Facility: The fish facility is in primary bypass mode.

Fish Sampling: Juvenile fish sampling has ended for the season.

Removable Spillway Weir (RSW): Spill for fish passage is done for the year.

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
20.9	15.8	0	0	51	50	9.9	8.4

*Unit 1 scroll case temperature.

Other

Inline Cooling Water Strainers: Cooling water strainers were checked for seasonal fish and lamprey on 5 December. A combined total of approximately 500 Shad were removed from the strainers of units 2-5.

Avian Activity: There were variable numbers of piscivorous birds observed around the dam. The birds were roosting on Eagle Island and opportunistically foraging downstream of the dam and at the discharge of the navigation lock while it was being drained.

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

Siberian Prawn: Siberian prawns that were collected in the sample at the Juvenile Fish Facility were humanely euthanized by the fish sampling contractor, frozen and properly disposed of in a landfill. Fish sampling has ended for the season.

Fish Rescue/Salvage: None.

Research: There is no research occurring at this time.

Project: Lower Monumental
Biologists: Denise Griffith and Raymond Addis
Dates: November 29 – December 5, 2024

Turbine Operation

Yes	No	Turbine Unit Status
	X	All 6 turbine units available for service (see table & comments below for details).
X		Available turbines operated within 1% peak efficiency? Constraint in effect.

Comments: See Unit Outages and Return to Service comments below.

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

	OOS		RTS		
Unit	Date	Time	Date	Time	Outage Description
Unit 3	10/15/24	0700	12/05/24	1300	6-year overhaul/OPTO/Air cooler replacement

Comments: None.

Adult Fish Passage Facility

Lower Monumental fish facility staff inspected the adult fishways on December 2, 3 and 4.

Fish Ladder Exit:

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			South Powerhouse Channel Velocity	1.5 – 4.0 fps	AVG 2.3 fps
		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 SPE-1 weir was at sill during all inspections with readings of 7.2, 7.4 and 7.5 feet respectively. South Powerhouse Entrance SPE-2 weir was at sill during all inspections with of 7.2, 7.4 and

7.5 feet respectively. South Shore Entrance SSE-1 weir was at sill during all inspections with readings of 7.8, 8.2 and 8.4 feet respectively. South Powerhouse channel velocity averaged 2.3 ft/sec.

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)	233 yrd² large woody debris along shore
	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 in all slots and in service?
	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	VBS screens checked this week?
		X	VBS screens acceptable?

Comments: STSs were running on cycle-run mode due to the average sub-yearling Chinook and sockeye lengths being greater than 120 mm.

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: The collection facility is down for winter maintenance. Corrosion found in the separator will be repaired during the winter maintenance period.

Outfall pipe leakage at the expansion joint near the lamprey bypass Y is planned to be repaired the winter maintenance period.

Transport Summary: Transport at Lower Monumental has ended for the season.

Spillway Weir: Spill has ended for the season.

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
24.4	17.2	0.0	0.0	53.0	46.5	7.2	7.2

*Scrollcase temperatures.

Other

Inline Cooling Water Strainers: Cooling water strainers inspections will resume in December.

Avian Activity: All bird hazing is over for the season.

Invasive Species: Zebra or quagga mussel traps will be examined in December.

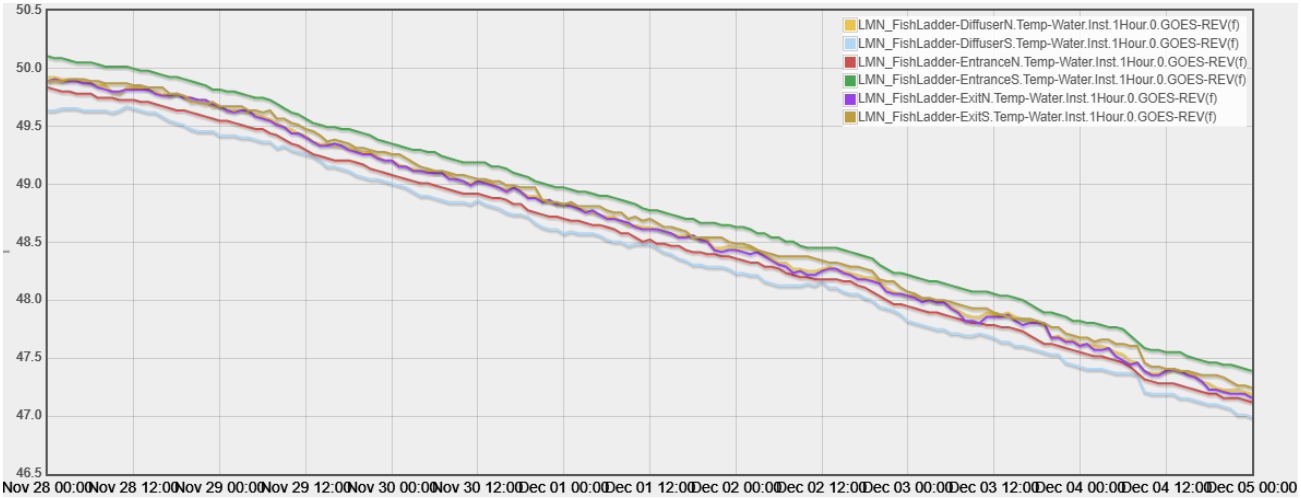
Siberian Prawn: Siberian prawn collection ended for the season.

Fish Rescue/Salvage: No fish salvage occurred during reporting period.

Research: The collection of lamprey for the PNNL study of the behavior and survival of Pacific lamprey has ended. GBT sampling has ended for the 2024 season. The Nez Perce steelhead kelt study and rehabilitation collection ended on for the season.

Temperature Probes: The adult passage temperature probes operated correctly during this reporting period.

The graph below shows the temperatures per recording point for the reporting period.



Project: Little Goose Dam
Biologist: Deb Snyder, Latricia Rozeboom
Dates: November 29 – December 5, 2024

Turbine Operation

Yes	No	Turbine Unit Status
	X	All 6 turbine units available for service? (See table and comments below for details)

*All available turbine units are operated in accordance with Appendix 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**
1	12/02/2024	0630	12/20/2024	17:00	Unit Annual
3	8/19/2024	07:00	11/30/2025	17:00	Annual 6-year overhaul.
5	4/14/2017	14:11	01/31/2025	ERTS	Spider and upper guide bearing repair.

Comments: Contractor has demobilized, returning in January to continue Unit 5 repairs with an ERTS date to January 31, 2025. Unit 3 Annual 6-year overhaul extended for oil leak precautionary measures.

Adult Fish Passage Facility

USACE staff inspected the adult Fishway on December 3, 4, and 5.

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	X		South Shore Entrance (SSE-1) Weir Depth	≥ 8.0’	12/5 – 7.9
X			South Shore Entrance (SSE-2) Weir Depth	≥ 8.0’	
X			South Shore Channel/Tailwater Differential	1.0’ – 2.0’	
X		X	North Powerhouse Entrance (NPE-1) Weir Depth	≥ 7.0’ or on sill	
X		X	North Powerhouse Entrance (NPE-2) Weir Depth	≥ 7.0’ or on 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 returned to service on February 15. The AWS pumps returned to service on February 22. The Collection Channel Surface Velocity is measured at NPE. The fish system control program is proving unreliable and inadequate to balance the adult fishway in “automated” mode. Biologist personnel are manually adjusting and balancing the adult fishway with increasing frequency. EAS Bio personnel report the FSC board reflects weir and channel height readings with notable discrepancies compared to actual physical hand measurements taken during inspection periods. USACE Biologists, EAS Bio, and ODFW personnel are

collaborating and manually taking physical readings for weir elevations at all three fishway entrances. FSC board readings of SSE Channel elevation continue to report discrepancies below physical staff gauge measurements. Criteria evaluations default to physical staff gauge measurements in this area. NPE FSC board no longer accurately reading weir heights, reporting measurements 1.2 and 1.1 ft higher than weirs currently positioned on sill (532 ft). NSE FSC board channel heights reflect similar and corresponding readings to staff gauge measurements. On May 29 the new fish ladder cooling pump installation was completed. The newly installed pump unit was commissioned for seasonal use June 9 at 1420 hours upon reaching criteria per FPP 2.4.2.14.i the prior evening of June 8 at 1900 hours. The fish ladder cooling pump was turned off for the season on September 19 at 0933 in accordance with FPP Chapter 8 section 2.4.2.14.

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 and 3 were returned to service February 22. Fish pump 2 was returned to service on February 28.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comment
X			Forebay debris load acceptable? (amount)	High 349 ft² - Low 168 ft²
	X		Gatewell drawdown measured this week?	
		X	Gatewell drawdown acceptable	
X	X		Any debris seen in gatewells (% coverage)	12/4-1B:1%, 12/3-1C:2%
	X		Any oil seen in gatewells?	

Comments: The forebay had minimal floating debris **inside** the trash shear boom with the highest measurement occurring on December 4 and 5 at 48 ft². The overall total forebay debris high occurred on December 4 at 349 ft².

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 ESBS's were fully functional and deployed the week of March 18. The third round of gatewell camera inspections was completed July 8-11. Unit 1 camera inspection of gatewells A and C completed December 3.

Orifices, Collection Channel, Dewatering Structure, and Flume:

Yes	No	NA	Item	Number open and in service
X			Orifices operating satisfactory?	19
X			Dewaterer and cleaning systems operating satisfactory?	

Comments: The juvenile bypass system was watered up on March 7 without incident.

Collection Facility: The juvenile collection facility was successfully watered up on March 20. Every other day collection for condition monitoring in conjunction with secondary bypass commenced March 25 with the first

sample being conducted on March 26. Every day collection began April 23 coinciding with barge transportation operations. Every-other day collection was initiated on July 8 due to water temperatures above 68°F. Every day collection resumed at 0700 on August 1st corresponding with the start of every other day trucking operations as per the FPP. Final season collection cycle and truck transport transpired the morning of November 1.

Transport Summary: Collection for fish transportation began April 23 with the first barge departure on April 24. Every day barging continued through May 16 upon transition to every other day barge operations. The last barge for the season departed on June 19. Collection for truck transport operations began August 1 with the first truck departure on August 3 and concluded with the final truck departure on November 1.

Spillway Weir: Little Goose began operation of the adjustable spillway weir (ASW) on March 1 to facilitate passage of adult steelhead overshoots. On March 21, the ASW transitioned to 625 ft. crest height spilling 24 hours 7 days per week per CBR LGS R 022724 1735. Spring spill operations began on April 3 spilling 24/7 up to the 125% gas cap. On April 16th we hit the 50 adult Chinook threshold at Ice Harbor and began spilling at performance spill (30% of outflow) from 0400 to 1200 to facilitate adult fish passage. On May 14 the ASW was positioned to Low Crest. On June 13 the ASW position changed to High Crest. Summer spill operations began as scheduled on June 21. On August 1 at 00:15 hours the ASW was closed per FPP Chapter 8 section 2.3.2.7.e.i, diminished outflows below the 35 kcfs threshold. The ASW was opened on September 1 and ceased November 15 for 4 daily hours of steelhead overshoot spill operations from 0600 to 1000 hours.

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
22.6	15.3	0.0	0.0	47.9	47.4	6.0	5.0

*Ladder temperature.

Other

Inline Cooling Water Strainers: Inline cooling strainer inspections commenced on December 1, 2023. 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 began April 1, while USDA-APHIS bird abatement contract services are in place. Daily bird counts for the season ended on November 7.

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

Siberian Prawn: Juvenile fish collection began March 25 and ended on November 1. Siberian prawns collected in the sample at the Juvenile Fish Facility were 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 began GBT monitoring on April 4 and completed final monitoring activities on July 23.

Fish Rescue/Salvage: Gatewell bladder net rescue of Unit 1B in preparations for Unit annual maintenance occurred December 2, results submitted to District.

Research: The Nez Perce Tribe (NPT) commenced adult steelhead kelt collection efforts on March 27 and concluded July 1.

Project: Lower Granite
Biologists: Elizabeth Holdren and Steve Lee
Dates: November 29 - December 5, 2024

Turbine Operation

Yes	No	Turbine Unit Status		
	X	All 6 turbine units available for service (see table & comments below for details).	Hard	Soft
X		Available turbines operated within 1% peak efficiency? Constraint in effect.		X

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

	OOS		RTS		
Unit	Date	Time	Date	Time	Outage Description
1	12/02	0804			Annual Maintenance

Comments:

Adult Fish Passage Facility

Lower Granite Biologists inspected the adult fishway December 2, 3, 4 and 5.

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:

Fish Ladder Entrances and Collection Channel:

Yes	No	Sill	Location	Criteria	Comments
	X		South Shore Entrance (SSE-1) Weir Depth	≥ 8.0’	7.0’, 7.8’, 7.7’
	X		South Shore Entrance (SSE-2) Weir Depth	≥ 8.0’	7.1’, 7.9’
	X		South Shore Channel/Tailwater Differential	1.0’ – 2.0’	2.1’
		X	North Powerhouse Entrance (NPE-1) Weir Depth	≥ 8.0’ or on sill	
		X	North Powerhouse Entrance (NPE-2) Weir Depth	≥ 8.0’ or on sill	
X			North Powerhouse Entrance Channel/Tailwater Differential	1.0’–2.0’	
X			North Shore Entrance (NSE-1) Weir Depth	≥ 7.0’ or on sill	
X			North Shore Entrance (NSE-2) Weir Depth	≥ 7.0’ or on sill	
	X		North Shore Channel/Tailwater Differential	1.0’–2.0’	0.6’, 0.8’
	X		Collection Channel Surface Velocity	1.5 – 4.0 fps	1.3, 1.2, 1.2

Comments: Fish ladder control system operation and configuration is an ongoing issue that began when the system was installed in 2016. SSE out of criteria reading were likely due to the tailrace elevation sensor float hanging up in the stilling well. The system was re-calibrated by electrical crew December 5.

Auxiliary Water Supply System:

Operating Satisfactorily	Standby	Out of Service	Auxiliary Water Supply (AWS)
N/A	X		AWS Fish Pump 1
Yes			AWS Fish Pump 2
Yes			AWS Fish Pump 3

Comments:

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
X			Forebay debris load acceptable? (amount)	92 yd
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:

ESBSs/VBSs:

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

Comments:

Orifices, Collection Channel, Dewatering Structure, Bypass Pipe:

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

Comments: The south side vertical screen cleaning brush is out of service. The south side vertical screen is being cleaned manually while parts are on order. Floor screen cleaner brush 3 chain came off sprocket and is currently out of service.

Collection Facility: The facility is dewatered for winter maintenance.

Transport Summary: N/A

Spillway Weir: N/A

PIT tag interrogations: RSW detections for the season included 64,492 juvenile and 182 adult Chinook salmon, 48,458 juvenile and 803 adult steelhead, 8,864 juvenile and 3 adult sockeye, 2,592 juvenile and 31 adult coho salmon. Juvenile bypass system detections included 10,254 juvenile and 24 adult Chinook salmon, 14,596 juvenile and 132 adult steelhead, 221 juvenile and 4 adult sockeye, 240 juvenile and 8 adult coho salmon (DART).

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
19.1	15.0	0.0	0.0	5.0	5.0	47.0	44.3

*Cooling water intake temperature.

Other

Inline Cooling Water Strainers: N/A

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

Avian Activity: N/A

Gas Bubble Trauma (GBT) Monitoring: N/A

Adult Fish Facility Operations: N/A

Fish Rescue/Salvage: N/A

Research: N/A