Out of Criteria – NWW Weekly Report #11 – May 10-16, 2024

1. McNary

WFE3 was out of criteria all week. This could be due to calibration issues related to the spill season.

Fish pump 1 remained out of service for a scheduled 5-year overhaul. RTS June 25

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

2. Ice Harbor

The south shore channel velocity was noted to be slightly lower than criteria on May 15. This was due to rising tailwater and channel water levels that pool over the lower stationary ladder weirs, slowing the channel velocity. Another south shore auxiliary water supply pump was started on May 15 to help increase the velocity.

North shore AWS pump #1 has been out of service since March 1, 2023, because of a hydraulic cylinder leak on the butterfly valve. A new cylinder is being ordered.
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 is being replaced with a refurbished one.

The STS in slot 2B was found to have the mesh separating from the frame at one edge, creating a narrow gap several feet long. The bad STS was pulled out of the slot and replaced with a spare STS No stranded fish were observed inside the STS.

Yes	No	NA	Item	Number open and in service
	x		Dewaterer 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 rebuilt to enable it to work in automatic mode. The weirs are being operated at the actuator to adjust the water level as needed until the problem can be fixed.

Personnel noticed that the bird abatement hydrocannon was not shooting out any water on Apr 30. The hydrocannon pump was restarted but keeps tripping off. An electrician determined that the motor is drawing high amperage and needs to be replaced. A spare motor will be wired up for installation.

3. Lower Monumental

Yes	No	Sill	Location	Criteria	Measurements
	X		North Shore Entrance (NSE-1) Weir Depth	$\geq$ 8.0’ or on sill	5/10 – 7.2 ft
	X		North Shore Entrance (NSE-2) Weir Depth	$\geq$ 8.0’ or on sill	5/10 – 7.8 ft 5/15 – 7.5 ft
	X	X	South Powerhouse Entrance (SPE-2) Weir Depth	$\geq$ 8.0’ or on sill	

On May 10, automotive system readings from channel and tailwater digital gauges did not match the readings at staff gauges SG10N and SG6N and digital reading for weir NSE-2 did not match the gauge at the weir control. Powerhouse operator manually placed both NSE weirs at 430 to correct. On May 15, a combination of the digital reading for weir NSE-2 did not match the gauge at the weir control and high spill and flow levels lead to this issue. Entrance SPE-2 weir should have been set at sill during the May 10 inspection, however, the gauge at the weir controls showed a reading of 436.2 feet and 430.6 feet on the digital system. The powerhouse operator checked if the weir would lower or was down at sill with bad readings. SPE-2 lowered approximately 1 foot, so was not at sill. Powerhouse electronics technicians calibrated the system.

4. Little Goose

Yes	No	Sill	Location	Criteria	Measurements
		X	North Powerhouse Entrance (NPE-1) Weir Depth	≥ 7.0’ or on sill	
		X	North Powerhouse Entrance (NPE-2) Weir Depth	≥ 7.0’ or on sill	
X	X		North Shore Entrance (NSE-1) Weir Depth	≥ 6.0’ or on sill	5/10 – 5.9
X	X		North Shore Entrance (NSE-2) Weir Depth	≥ 6.0’ or on sill	5/10 – 5.9
X	X		North Shore Channel/Tailwater Differential	1.0’–2.0’	5/14 – 0.7

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. For example, the FSC board readings of May 14 report the SSE Channel elevation was 531.7 feet, while physical measurements document the same channel height was 539.9 feet.

Bypassed fish occurred because of a barge dock loading boom malfunction addressed further in 24LGS05 MFR, transport fish were released to river.

5. Lower Granite Dam

Yes	No	Sill	Location	Criteria	Comments
	X	X	North Powerhouse Entrance (NPE-1) Weir Depth	≥ 8.0’ or on sill	5.4’, 5.4’, 6.4’ 6.4’
	X	X	North Powerhouse Entrance (NPE-2) Weir Depth	≥ 8.0’ or on sill	5.4’, 5.4’, 6.4’ 6.4’
	X		North Powerhouse Entrance Channel/Tailwater Differential	1.0’–2.0’	0.6’, 0.7’, 0.4’,0.6’
	X		North Shore Entrance (NSE-1) Weir Depth	≥ 7.0’ or on sill	6.3’, 6.6’
	X		North Shore Entrance (NSE-2) Weir Depth	≥ 7.0’ or on sill	5.8’, 6.0’
	X		North Shore Channel/Tailwater Differential	1.0’–2.0’	2.1’, 0.5’
	X		Collection Channel Surface Velocity	1.5 – 4.0 fps	1.4, 1.4

Fish ladder control system operation and configuration is an ongoing issue that began when the system was installed in 2016. LWG is moving forward with inhouse design and install of fish ladder control system based of the system used at LMN. Efforts of the electrical crew continue to bring the ladder into criteria however the control system drifts out of calibration shortly after. Tailwater hydraulic conditions result in a drawdown of the north shore with tailwater elevation below the staff gage elevation. There is a swell at the north powerhouse where the back eddy collides with powerhouse and spillway flow that may be impacting channel/tailwater differentials.

AWS Pump 1 remains in slow mode due to the inability to operate in fast mode while operating at MOP elevation. AWS pump 2 remains out of service for maintenance. It is recommended that pump 1 be removed from service and replaced with pump 2 when the three-year overhaul repairs are complete. Swapping the AWS pumps will be scheduled when the mechanical crew has completed reconfiguring the fish ladder cooling pumps to its original state.

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
FISH FACILITIES WEEKLY REPORT
#11-2024

Project: McNary
Biologist: Bobby Johnson and Paul Bertschinger
Dates: May 10-16, 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**
9	11/27/23	0631	5/21/24	NA	Control system upgrades
10	5/13	1230	5/13	1513	Collector ring
1, 8, 13 & 14	5/13	0807	5/13	1020	Trash rack cleaning, rotated through units
14	5/13	1232	11/18	NA	Isophase replacement and headgate work
1 & 8	5/14	1001	5/14	1110	ESBS camera inspections, rotated through units

*Comments: After the run test, unit 9 was returned to out of service status at 1241 on May 13. For unit 10, after a brief outage, the unit remained in service after the run test. RTS dates are subject to change. The hard one percent criteria remained in place. Unit 14 briefly ran outside the constraint in order to ensure fish were flushed from the draft tube area before dewatering on May 13.

Adult Fish Passage Facilities

McNary fisheries staff performed measured inspections of the adult fishways on May 10, 12, and 15. Adult fish counting continued. The Oregon shore south powerhouse entrance temperature probe failed on May 12. District personnel will examine the probe on May 22.

Fish Ladder Exits:

Yes	No	Location	Criteria	Measurements
X		Oregon Exit	Head over weir 1.0’ to 1.3’	1.0’
X		Oregon Count Station Differential	0.0’ to 0.5’	0.1’ to 0.3’
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’	0.2’

Comments: Debris loads were minimal to very light near both exits.

At the Washington shore exit, the count station window brush was jammed in down position on May 10. The operators resolved the issue. Also, the two regulating weir alarms came in and were reset on May 21.

There are no other problems to report.

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'	8.2' to 8.3'
X			NFEW3 Weir Depth	≥ 8.0'	8.1' to 8.4'
X			South Oregon Entrance Head Differential	1.0' – 2.0'	1.2' to 1.4'
X			SFEW1 Weir Depth	≥ 8.0'	8.1' to 8.3'
X			SFEW2 Weir Depth	≥ 8.0'	8.0' to 8.2'
X			Oregon Collection Channel Velocities	1.5 to 4.0 fps	2.1 fps
X			Washington Entrance Head Differential	1.0' – 2.0'	1.3' to 1.4'
X			WFE2 Weir Depth	≥ 8.0'	9.0' to 9.3'
	X		WFE3 Weir Depth	≥ 8.0'	7.8' to 7.9'

Comments: WFE3 was out of criterion all week. This could possibly be calibration issues related to the spill season.

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	OOS	Oregon Ladder Fish Pump 1, return to service June 25
X			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.

Juvenile Fish Passage Facility

The juvenile system alternated between primary and secondary bypass every 24 hours at 0700 hours. There were no interrupts in this schedule.

In order to collect steelhead smolts for tagging, for the sample collection days of May 10 and 14, the sample rates were split, with the A side set at 0.5 percent and the B side set at 10.0 percent.

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
X			Forebay debris load acceptable? (amount)	Minimal to very 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 powerhouse and spillway debris remained minimal to very light. New debris loads were minimal.

Trash rack cleaning occurred in units 1, 8, 13 and 14 on May 13. There were four yards of debris removed. No fish were observed. There are no problems to report. A few pieces of larger woody material were removed from the gatewell slots on May 11 and 13.

The emergency bulkhead was installed in 14A slot on May 14, at 0828 hours. Fish were dipped from the gatewell slot the day before. Approximately, 15 smolts were removed.

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: ESBS's are installed in all units. In order to install the emergency bulkhead in 14A slot, the ESBS was removed on May 13. The control program for the fish screens in unit 10 is not currently communicating with the panel view on the 8th floor. The brush cycle sequences are being monitored in the control room until repairs can occur later this month. Camera inspections in units 1 and 8 revealed no issues on May 14. Examination of ESBS screen brush programming continued.

Daily VBS monitoring continued, no high differentials were recorded, and no screens were cleaned.

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

Yes	No	NA	Item	Number open and in service
X			Orifices operating satisfactory?	42 to 43
	X		Dewaterer and cleaning systems operating satisfactory?	

Comments: There are no problems to report.

Orifices were adjusted for trash rack cleaning as required. Orifice operator rehabilitation continued. In order to help remove all fish from the slot, both orifices were opened in 14A slot on May 13, at 0800 hours, resulting in 43 open orifices. Before the emergency bulkhead was installed and the slot dewatered, these orifices were closed and a makeup north orifice was opened in 13C slot, returning the orifice count to 42.

Bypass Facility:

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

Comments: The sample system is being used on secondary bypass days. The sample gates will be used every other day. The PIT tag system will not be in use again this season, which is similar to past years.

There were 3,230 juvenile lamprey and 45,981 smolts bypassed this week. The primary species/race was yearling Chinook.

TSW Operations: The TSW's in bays 19 and 20 remained open. Both TSW's are attached to a hoist.

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
228.5	148.1	168.0	89.0	56.1	52.9	6.0	6.0

Comments: The above data is from the smolt monitoring staff, with the data day starting at 0700 hours. Water clarity comes from the control room.

The spring spill season continues. The spillway hoists, cranes, and gates are set up per the updated Fish Operation Plan and the FPP.

Bays 6 and 9 were adjusted by crane on May 13 and 16. If adjustments are required in bays 6 and 9, they will occur on Monday and Thursday. There were communication issues to bay 10 on May 13. This problem was resolved on May 16, from 0834 to 1454 hours.

Rehabilitation of the downstream wall dogs from bay 22 continues.

Other

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

Avian Activity: Bird counting continued, and the results are reflected in Table 3 below.

Table 3. McNary Project's Daily Avian Count.

Date	Zone	Gull	Cormorant	Tern	Pelican	Grebe
May 10	Spill	35	0	0	4	0
	Powerhouse	0	0	0	1	0
	Outfall	39	0	0	0	0
	Forebay	0	0	0	0	7
May 11	Spill	32	0	0	2	0
	Powerhouse	0	0	0	0	0
	Outfall	41	2	0	0	0
	Forebay	0	0	0	0	0
May 12	Spill	130	0	0	2	0
	Powerhouse	58	0	0	0	0
	Outfall	48	23	0	0	0
	Forebay	0	0	0	0	0
May 13	Spill	90	0	0	0	0
	Powerhouse	24	0	0	0	0
	Outfall	0	0	0	0	0
	Forebay	0	0	0	0	0
May 14	Spill	70	1	0	0	0
	Powerhouse	21	0	0	0	0
	Outfall	24	0	0	0	0
	Forebay	0	0	0	0	45
May 15	Spill	30	0	0	0	0
	Powerhouse	0	0	0	0	0
	Outfall	0	0	0	0	0
	Forebay	0	0	0	0	30
May 16	Spill	30	0	0	1	0
	Powerhouse	0	0	0	0	0
	Outfall	1	0	0	0	0
	Forebay	0	0	0	0	20

In the spill zone, gulls in fluctuating numbers along with a few pelicans and a cormorant were noted. Most birds were feeding.

In the powerhouse zone, gulls in fluctuating numbers were seen roosting on the water at the edge of the spill. One pelican was observed near the Oregon ladder floating orifice gates, and more were noted outside the counting time frame.

In the outfall zone, gulls and cormorants in fluctuating numbers were noted roosting on the outfall pipe along with a few of these birds feeding. An osprey pair has nested on the outfall pipe where the walkway ends. This and the boat hazing has resulted the fluctuating bird counts observed.

For the forebay zone, grebes were observed in fluctuating numbers. Most of the birds were roosting with some feeding. More grebes maybe outside the zone along with a few gulls, cormorants, pelicans, ospreys, and blue herons. Pelican numbers in the area is slowly increasing.

The LRAD remains out of service until the osprey are done nesting.

The laser on the navigation lock wing wall opposite the outfall will be removed on May 17 and sent into the manufacture for a repair evaluation.

Two bird distress calls on the navigation lock wing wall remained in service. One call was noted not functioning and a fuse was replaced on May 11.

USDA Wildlife Services continued shore and boat hazing. The osprey nest is not an issue. PSMFC has began stomach content examinations are the birds that were lethally taken from the boat.

A tori line was installed outside the Oregon ladder south entrance on May 16. These lines have been effective at other projects in discouraging pelicans from entering the ladder.

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

Siberian Prawn: No prawns were observed in the sample this week. None have been observed this season.

Fish Rescue/Salvage**:** Dipping 14A slot resulted in the removal of approximately 15 smolts on May 13. At unit 14's scroll case, a total of 52 live Chinook yearling and two steelhead smolts were removed on May 14 and 15. Also, five (three old and two fresh) Chinook yearling and two steelhead (old) mortalities were removed. Six live adult channel catfish and one catfish mortality were removed from unit 14's draft tube on May 15.

Research: For the smolt and juvenile lamprey passage studies, PNNL removed 264 smolts and 13 juvenile lampreys from the samples for tagging this week.

For a CRITFC study, there were tissue samples removed from 10 juvenile lamprey collected at the facility this week. The yearly total is 102 fish, which were returned to the river unharmed.

Gas bubble trauma examinations occur twice a week. Fish were collected on May 14 and 16, with the data being reported the next day. For the report week, no mortalities were removed from the recovery raceway and no signs of trauma were observed.

Project: Ice Harbor
Biologist: Ken Fone
Biological Science Technician: Ben McArthur
Dates: May 10-16, 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	4/8/24	1315	---	---	Foreign material found in TW6 transformer oil recirculating line
3	5/15/24	0710	5/15/24	1550	Servo pump upgrade, VBS inspection
2	5/16/24	0704	5/16/24	1204	Install transducer, STS inspection

Comments: None.

Adult Fish Passage Facility

Ice Harbor Fish Facility staff inspected the adult fishways on May 13, 14, and 15

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 fish entrance (SFE-1) weir depth	≥ 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	1.4 fps
x			Central fish entrance (CFE-2) weir depth	≥ 8.0’ or on sill	
x			Central fish entrance channel/tailwater differential	1.0’ – 2.0’	
x			North fish entrance (NFE-1) weir depth	≥ 8.0’ or on sill	
x			North fish entrance channel/tailwater differential	1.0’ – 2.0’	

Comments: The south shore channel velocity was noted to be slightly lower than criteria on May 15. This was due to rising tailwater and channel water levels that pool over the lower stationary ladder weirs, slowing the channel velocity. Another south shore auxiliary water supply pump was started on May 15 to help increase the velocity.

The north shore tailwater and channel water level sensors were recalibrated on May 13. Although turbulent conditions from spill make it difficult to do an accurate calibration, the tailwater sensor appeared to be reading

significantly higher than the physical reading attained with a tape measure. The calibration on the readout should facilitate keeping the entrance in criteria.

Auxiliary Water Supply (AWS) System:

Operating Satisfactory	Standby	Out of Service	Auxiliary Water Supply System
5-6 pumps	1-2 pumps	1	Status of the 8 south shore AWS pumps
2 pumps		1	Status of the 3 north shore AWS pumps

Comments: North shore AWS pump #1 has been out of service since March 1, 2023, because of a hydraulic cylinder leak on the butterfly valve. A new cylinder is being ordered.

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 is being replaced with a refurbished one.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
x			Forebay debris load acceptable? (amount)	Average of 3 square yards
x			Gatewell drawdown measured this week?	
x			Gatewell drawdown acceptable	
x			Any debris seen in gatewells (% coverage)	0-25% 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: Unit 6 and 3 VBSs, and unit 2 STSs, were inspected on May 13, 15, and 16, respectively. The STS in slot 2B was found to have the mesh separating from the frame at one edge, creating a narrow gap several feet long. The bad STS was pulled out of the slot and replaced with a spare STS. Fortunately, there were no stranded fish observed inside the STS.

Orifices, Collection Channel, Dewatering Structure, and Flume:

Yes	No	NA	Item	Number open and in service
x			Orifices operating satisfactory?	20
	x		Dewaterer 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 rebuilt to enable it to work in automatic mode. The weirs are being operated at the actuator to adjust the water level as needed until the problem can be fixed.

Personnel noticed that the bird abatement hydrocannon was not shooting out any water on Apr 30. The hydrocannon pump was restarted but keeps tripping off. An electrician determined that the motor is drawing high amperage and needs to be replaced. A spare motor will be wired up for installation.

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

Fish Sampling: Juvenile fish sampling is scheduled to occur on Mondays and Thursdays each week. See the tables below for a summary of the sampling results. Six steelhead and one Chinook in the May 13 sample exhibited partial descaling (less than 20% descaled per side of the fish) not attributed to predation attempts by birds or other fish. Two steelhead and two Chinook in the May 13 sample, and five steelhead and one Chinook in the May 16 sample had bodily injuries consisting of small cuts, punctures, or scrapes. Unit 2 intake trash racks will be raked to eliminate a possible cause of injuries and descaling.

Fish condition sampling results at Ice Harbor Dam:

Date: May 13

Species, Run, Rear type	Sampled	#Descaled	Morts	Avian Marks
Chinook yearling clipped	32	0	0	0
Chinook yearling unclipped	4	0	0	0
Chinook subyearling clipped	0	---	---	---
Chinook subyearling unclipped	3	0	0	0
Steelhead clipped	82	1	0	2
Steelhead unclipped	12	1	0	0
Sockeye clipped	0	---	---	---
Sockeye unclipped	0	---	---	---
Coho clipped	0	---	---	---
Coho unclipped	0	---	---	---
Total	133	2	0	2

Date: May 16

Species, Run, Rear type	Sampled	#Descaled	Morts	Avian Marks
Chinook yearling clipped	10	0	0	0
Chinook yearling unclipped	2	0	0	0
Chinook subyearling clipped	0	---	---	---
Chinook subyearling unclipped	4*	---	---	---
Steelhead clipped	45	0	0	1
Steelhead unclipped	10	0	0	0
Sockeye clipped	0	---	---	---
Sockeye unclipped	0	---	---	---
Coho clipped	0	---	---	---
Coho unclipped	0	---	---	---
Total	71	0	0	1

*Fry – not examined

Removable Spillway Weir (RSW): Spring spill for fish passage is occurring.

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
108.9	68.2	95.4	54.5	56	55	6.1	5.8

*Unit 1 scroll case temperature.

Other

Inline Cooling Water Strainers: The next monthly turbine unit cooling water strainer inspections will occur in early June.

Avian Activity: There were variable numbers of piscivorous birds seen around the project (see table below). The pelicans observed on May 11 and 12 were counted before bird hazing began for the day. The pelicans were scattered across the tailrace and not concentrated in any particular spot. Land-based hazing has been effective at moving pelicans in the tailrace further downstream, away from the dam. Land-based hazing of piscivorous birds is occurring for 16 hours each day. Boat-based hazing is occurring 5 days per week for up to 8 hours per day.

Daily maximum piscivorous bird counts at Ice Harbor Dam.

Date	Gulls	Cormorants	Caspian Terns	Grebes	Pelicans
May 10	1	4	0	0	0
May 11	0	2	0	0	55
May 12	0	0	0	0	125
May 13	0	6	0	0	0
May 14	4	0	0	0	0
May 15	2	6	0	0	3
May 16	2	3	0	0	1

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 are humanely euthanized by the fish sampling contractor, frozen and properly disposed of in a landfill. Daily and total Siberian prawn counts at Ice Harbor Dam for this reporting period are shown below.

Number of Siberian prawns in the sample at Ice Harbor Dam.

Date	**Sample (euthanized)**	**Collection***
May 13	0	0
May 16	16	16
Totals	16	16

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

Fish Rescue/Salvage: None

Research: No on-site research is occurring.

Project: Lower Monumental
Biologists: Denise Griffith and Raymond Addis
Dates: May 10 - 16, 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 1	5/14/24	1800	5/14/24	1800	Headcover pump discharge pipe disengaged.
Unit 5	5/01/24	0624	8/31/24	ERTS	T2/Rooftop bus out of service due to BPA Line outage
Unit 6	5/01/24	0624	8/31/24	ERTS	T2/Rooftop bus out of service due to BPA Line outage

Comments: BPA line tripped at 0624 hours on May 1. Units 5 and 6 remain out of service until T2 line is repaired. Estimated return to service date is August 31.

Adult Fish Passage Facility

Lower Monumental fish facility and EAS staff inspected the adult fishways on May 10, 11, 12 and 15.

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	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 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: North Shore Entrance NSE-1 weir depth was out of criteria during the May 10 inspection with a reading of 7.2 feet. North Shore Entrance NSE-2 weir depth was out of criteria during the May 10 and 15 inspections with readings of 7.8 and 7.5 feet respectively. On May 10, automotive system readings from channel and tailwater digital gauges did not match the readings at staff gauges SG10N and SG6N and digital reading for weir NSE-2 did not match the gauge at the weir control. Powerhouse operator manually placed both NSE weirs at 430 to correct. On May 15, a combination of the digital reading for weir NSE-2 did not match the gauge at the weir control and high

spill and flow levels lead to this issue. South Powerhouse Entrance SPE-1 weir was at sill during all inspections with readings 6.5, 6.4, 6.6 and 7.9 feet respectively. South Powerhouse Entrance SPE-2 weir was at sill during the May 11, 12 and 15 inspections with readings 6.4, 6.6 and 7.9 feet respectively. Entrance SPE-2 weir should have been set at sill during the May 10 inspection, however, the gauge at the weir controls showed a reading of 436.2 feet and 430.6 feet on the digital system. The powerhouse operator checked if the weir would lower or was down at sill with bad readings. SPE-2 lowered approximately 1 foot, so was not at sill. Powerhouse electronics technicians calibrated the system. South Shore Entrance SSE-1 weir was at sill during all inspections with readings of 5.9, 5.7, 6.3 and 8.0 feet respectively.

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

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
X			Forebay debris load acceptable? (amount)	37 yrd²
	X		Gatewell drawdown measured this week?	
		X	Gatewell drawdown acceptable	
X			Any debris seen in gatewells (% coverage)	1 – 10%
		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		VBSs differentials checked this week?
		X	VBSs differentials acceptable?

Comments: STSs running in cycle-run mode until sampling shows to average sub-yearling Chinook and sockeye lengths being less 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: Collection into the raceways for barge transport were halted May 5. The need to stop spill at Lower Monumental Dam when the fish barge transits the tailrace causes flow fluctuations and the need for raised MOP at Ice Harbor Dam. There are indications of adult fish passage delay at Ice Harbor Dam due to the fluctuations. Collection for transport will resume at 1300 on May 17 for the May 18 barge.

Transport Summary: Daily barge transport was halted at Lower Monumental with the May 3 barge, see Collection Facility above. Transport will resume on May 18. A total of 4,013 fish were collected of which 4,010 were bypassed.

Spillway Weir: Spring spill continues.

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
108.3	65.1	94.6	52.1	55.0	51.9	6.2	3.2

*Scrollcase temperatures.

Other

Inline Cooling Water Strainers: Cooling water strainers will next be inspected in May.

Avian Activity: Tailrace counts of foraging piscivorous birds at Lower Monumental Dam began on April 1.

Date	Time	Gulls	Cormorants	Terns	Grebes	Pelicans
5/10/2024	1500	11	0	0	0	12
5/11/2024	1730	25	0	0	0	21
5/12/2024	1100	6	0	0	0	36
5/13/2024	1530	16	0	0	0	22
5/14/2024	830	28	0	0	0	12
5/15/2024	1305	16	5	0	0	22
5/16/2024	1511	17	2	0	0	18

Comments: Bird hazing by USDA personnel began on April 8.

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

Siberian Prawn: Siberian prawns collected in the sample at the Juvenile Fish Facility are humanely euthanized by EAS personnel, 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*
5/10/2024	---	---
5/11/2024	1	4
5/12/2024	---	---
5/13/2024	3	15
5/14/2024	---	---
5/15/2024	0	0
5/16/2024	---	---
Total	4	19

*Collection refers to extrapolated values based on sampling percent.

Fish Rescue/Salvage: No fish rescue was performed this week for Lower Monumental Dam.

Research: This season, PNNL plan to obtain lamprey from Lower Monumental Dam to study behavior and survival of Pacific lamprey.

GBT examinations occurred on May 15. A total of 15 clipped yearling Chinook, 2 unclipped yearling Chinook, 2 unclipped subyearling Chinook, 60 clipped steelhead and 22 unclipped steelhead smolts were examined, both days combined. Gas bubble trauma was detected in the eyes of 2 steelhead smolts.

The Nez Perce steelhead kelt study and rehabilitation collection continued, one steelhead kelt was placed in the collection tank for this reporting period.

Project: Little Goose Dam
Biologist: Deb Snyder, Cole Reeves
Dates: May 10 – May 16, 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
5	4/14/2017	14:11	06/30/2024	ERTS	Spider and upper guide bearing repair.
1	5/16/24	13:02	5/16/2024	15:06	Governor Oil Balancing

Comments: Contractual obligations and performance issues realigned the Unit 5 ERTS date into 2024. Unit 1 was shut down May 16 for governor oil balancing purposes per FPP 4.3.11.

Adult Fish Passage Facility

EAS Bio staff inspected the adult Fishway on May 10, May 12, and May 14.

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’	
X		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	
		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	X		North Shore Entrance (NSE-1) Weir Depth	≥ 6.0’ or on sill	5/10 – 5.9
X	X		North Shore Entrance (NSE-2) Weir Depth	≥ 6.0’ or on sill	5/10 – 5.9
X	X		North Shore Channel/Tailwater Differential	1.0’–2.0’	5/14 – 0.7
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. Current LGS performance spill operations create rapid tailrace elevation changes during each 24-hour period. 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. For example, the FSC board readings of May 14 report the SSE Channel elevation at 531.7 feet, while physical measurements document the same channel height to be 539.9 feet.

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 10 ft² - Low 0 ft²
X			Gatewell drawdown measured this week?	
X			Gatewell drawdown acceptable	
X	X		Any debris seen in gatewells (% coverage)	5/10-4A:1%,5B:1%,5C:1%, 6A:1%, 6B:2%, 6C:1% 5/11- 4B:1%, 5B:5%, 6A:1%, 6B:1% 5/12- 2C:1% 5/14- 5B:1%, 5C:1%,6B:1%
	X		Any oil seen in gatewells?	

Comments: The forebay had minimal floating debris inside the trash shear boom with the highest measurement occurring on May 12 at 10 ft². The overall total forebay debris high occurred May 12 at 10 ft^2.

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. Gatewell camera inspections on all units took place from May 14 through May 16.

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. During this reporting period a total of 59,813 fish were collected, 43,932 were barged, 15,776 were bypassed, and there were 101 sample or facility mortalities. The descaling and mortality rates were 2.3% and 0.18%, respectively. Bypassed fish occurred because of a barge dock loading boom malfunction addressed further in 24LGS05 MFR, transport fish were released to river. The collection and transport facility otherwise operated within criteria and one lamprey was removed from the sample or separator during this report period.

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.

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 16, 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. 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
107.4	65.7	67.3	42.7	56.5	53.2	5.3	3.7

*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 are scheduled to begin April 1, while USDA-APHIS bird abatement contract services are in place.

Date	Time	Gulls	Cormorants	Caspian Terns	Pelicans
5-10	1100	1	8	0	0
5-11	0830	14	0	0	4
5-12	0830	0	0	0	2
5-13	0830	1	0	0	21
5-14	0800	26	5	0	21
5-15	0800	4	0	0	2
5-16	0800	6	1	0	11

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.

Date	Sample	Collection*
5-10	0	0
5-11	0	0
5-12	0	0
5-13	0	0
5-14	0	0
5-15	0	0
5-16	0	0
Totals	0	0

*Collection and sample numbers are equal when sample rates change to 100%

Gas Bubble Trauma (GBT): Oregon Department of Fish and Wildlife performed GBT monitoring on May 16. Of the 101 fish examined, 1 fish exhibited gas bubble trauma symptoms.

Fish Rescue/Salvage: Fish rescue activities due to every-other-day collection and return to primary bypass operations took place April 19 and April 21. Results were reported and submitted to District.

Research: The Nez Perce Tribe (NPT) commenced adult steelhead kelt collection efforts on March 27 with an anticipated conclusion date of July 1.

Project: Lower Granite
Biologists: Elizabeth Holdren and Steve Lee
Dates: May 10-16, 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**

Comments:

Adult Fish Passage Facility

Lower Granite Biologists and EAS staff inspected the adult fishway on May 10, 11, 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: LWG mechanical crew has returned the fish ladder exit cooling pumps to their original orientation and will be operational testing prior to 1 June.

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	X	North Powerhouse Entrance (NPE-1) Weir Depth	≥ 8.0’ or on sill	5.4’, 5.4’, 6.4’ 6.4’
	X	X	North Powerhouse Entrance (NPE-2) Weir Depth	≥ 8.0’ or on sill	5.4’, 5.4’, 6.4’ 6.4’
	X		North Powerhouse Entrance Channel/Tailwater Differential	1.0’–2.0’	0.6’, 0.7’, 0.4’,0.6’
	X		North Shore Entrance (NSE-1) Weir Depth	≥ 7.0’ or on sill	6.3’, 6.6’
	X		North Shore Entrance (NSE-2) Weir Depth	≥ 7.0’ or on sill	5.8’, 6.0’
	X		North Shore Channel/Tailwater Differential	1.0’–2.0’	2.1’, 0.5’
	X		Collection Channel Surface Velocity	1.5 – 4.0 fps	1.4, 1.4

Comments: Fish ladder control system operation and configuration is an ongoing issue that began when the system was installed in 2016. LWG is moving forward with inhouse design and install of fish ladder control system based of the system used at LMN. Efforts of the electrical crew continue to bring the ladder into criteria however the control system drifts out of calibration shortly after. Tailwater hydraulic conditions result in a drawdown of the

north shore with tailwater elevation below the staff gage elevation. There is a swell at the north powerhouse where the back eddy collides with powerhouse and spillway flow that may be impacting channel/tailwater differentials.

Auxiliary Water Supply System:

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

Comments: AWS Pump 1 remains in slow mode due to the inability to operate in fast mode while operating at MOP elevation. AWS pump 2 remains out of service for maintenance. It is recommended that pump 1 be removed from service and replaced with pump 2 when the three-year overhaul repairs are complete. Swapping the AWS pumps will be scheduled when the mechanical crew has completed reconfiguring the fish ladder cooling pumps to its original state.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
X			Forebay debris load acceptable? (amount)	71 yd^2
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		ESBSs inspected this week?
		X	ESBSs 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 minimum
X			Dewaterer and cleaning systems operating satisfactory?	

Comments: The juvenile facility is collecting daily for condition sampling and transport. Collection for the NOAA seasonal effect of transport and in river survival evaluation occurred Sunday through Thursday.

Collection Facility: Collection for transport and research continues daily. The upstream raceway gantry crowder power cord retracting reel failed 15 May. Electricians replaced the power cord that was damaged when the real failed 16 May but were unable to repair the retracting capabilities. Fish section maintenance repaired the reel 17 May however the cord came apart while loading the fish barge 18 May. An electrician was called in on Saturday and fixed the cable again. The path forward is to replace reel, preferably next week. A festoon system for the upstream raceway gantry power cord is recommended to avoid continued issues with the cord being on the grading.

Transport Summary: Fish were transported daily through May 16. Every other day barging will begin 18 May. Fish transport from LMN remains suspended.

Spillway Weir: Spring spill operation began April 3.

PIT tag interrogations: RSW detections included 47,362 juvenile and 9 adult Chinook salmon, 43,015 juvenile and 460 adult steelhead, 8,177 juvenile sockeye and 2,249 juvenile coho salmon at the RSW. Juvenile bypass system detections included 6,431 juvenile and 2 adult Chinook salmon, 9,833 juvenile and 26 adult steelhead, 143 juvenile sockeye and 211 juvenile coho salmon through May 16 (PTAGIS).

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
111.5	70.4	82.3	58.0	56.5	51.9	5.0	3.2

*Cooling water intake temperature.

Other

Inline Cooling Water Strainers: N/A

Invasive Species: No zebra/quagga muscles were detected on the trap substrate. One live and 6 dead Siberian prawns were collected in the sample.

Avian Activity: Biologist daily piscivorous bird counts and hazing began April 1. Bird hazers are on site daily.

Date	Time	Gulls	Cormorants	Caspian Terns	Pelicans
10 May	1235	0	0	0	0
11 May	1200	5	0	0	1
12 May	1230	0	0	0	0
13 May	1650	0	0	0	9
14 May	1330	0	0	0	1
15 May	1226	1	0	0	2
16 May	1330	22	0	0	4

Gas Bubble Trauma (GBT) Monitoring: May 16, SMP examined 87 salmonids; 1 adipose clipped steelhead exhibited GBT symptoms.

Adult Fish Trap Operations: Collection for sampling continues with fish being collected 24-hours per day Sunday-Thursday and sampled Monday- Friday at a 25% (18% /week) sample rate. Collection broodstock is scheduled to start August 18.

Fish Rescue/Salvage: N/A

Research:

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

The goal of this project is to PIT tag up to 4000 unclipped adult Chinook 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 March 1 through November 30. The goal is to collect 5-20% of adult steelhead, spring/summer Chinook salmon, and sockeye salmon ascending the ladder March 1-November 30. 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.

Nez Perce Tribe (NPT)/U. of Idaho (UI)/Columbia River Intertribal Fisheries Commission (CRITFC) – Kelt Study

This research investigates steelhead kelt physiology and endocrinology to evaluate the feasibility and success of rehabilitating strategies. The goal is to collect kelts from LWG and LGO juvenile fish facility separators. Up to 500 selected kelts are transported by NPT to Dworshak National Fish Hatchery for reconditioning and later release as part of this study.

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.

PNNL Juvenile Pacific Lamprey Passage Behavior and Survival study:

Juvenile lamprey (macropthalmia) will be collected from LWG sample, as needed, to meet PNNL downriver study objectives. No juvenile lamprey collected from LWG this week to support this study.

Columbia River Inter-Tribal Fisheries Commission (CRITFC) Pacific Lamprey Genetic Study:

CRITFC has requested that the SMP collect non-lethal tissue samples from up to 2000 juvenile and 1250 larval Pacific lamprey, not to exceed 10 juvenile and 5 larvae daily during the routine smolt monitor condition sampling from March through September. The purpose of this study is to fill two objectives; 1) Determine relative proportion of translocation offspring among the total abundance of larval and juvenile lamprey passing the juvenile bypass systems at BON, JDA, MCN, and LWG. 2) Describe life history characteristics of larval and juvenile lamprey emigrating from the Columbia and Snake River basins. The genetic information collected will be used to evaluate the tribal Pacific lamprey programs efficacy and assist with guiding future management. LWG SMP have collected genetic samples from 271 juvenile and 131 larval lamprey this season.

National Marine Fisheries Service (NMFS) In-River Survival:

NMFS PIT-tag Chinook and steelhead smolts for their Survival Study April through early June to compare smolt to adult returns of in-river migrating smolts to the smolt to adult returns of transported smolts. PIT-tagged fish are held for 24 hours before being bypassed to the LWG tailrace. Collection and tagging will continue Monday-Friday until the middle of June.

National Marine Fisheries Service (NMFS) Seasonal Effects of Transporting Fish from the Snake River to Optimize Transportation Strategy:

This study aims to build on the current database of information on the seasonality of smolt-to-adult return rates (SARs). Collection will occur Sunday-Thursday with fish being tagged Monday-Friday throughout the barging fish transport period. Collection and tagging continue as scheduled.

Idaho Power Hells Canyon Sturgeon Recruitment:

LWG Corps bio techs continue collecting passage and estimated lengths of White Sturgeon prior to removing them from the separator in support of Idaho Power Sturgeon program.