Out of Criteria – NWW Weekly Report #26 – August 23 – 29, 2024

1. McNary

Units 1, 2, 6, 7, 8, 10, 11 and 12 were available on August 28. That day, transmission line 5 tripped during relay testing at 1343 hours. Units 10, 11 and 12 were removed from service. When reenergizing line 5 and restarting units 11 and 12, smoke was noted coming from around a bus switchgear. Before the line could be deenergized, the bus tripped causing McNary to go black, all systems lost power (24MCN09 MFR). Units 1, 2, 6, 7, 8, 11 and 12 were all offline at 1413 hours. The emergency diesel generator, which is dedicated to this purpose, was used to establish spill for the incoming flow at 1430 hours. Fuses from a bus not in use were moved to the bus that had tried, with the bus being restored at 1500 hours. The station service unit along with the station air supply was restored by 1515 hours. Water intrusion into the main units' turbine guide bearing was noted in units 1, 2, 6, 8 and 10 at 1600 hours. Units 12, 11, 7, and 6 returned to service at 1846, 1859, 1915 and 1956 hours, respectively. *Due to these circumstances, unit loads may go outside the hard one percent criterion. The remaining units returned to service on August 29.

Both ladders lost power on August 28, at 1413 hours. Both ladders were monitored during the outage and after by operators and the fisheries staff. At the Washington ladder, the PUD unit continued to supply auxiliary water. At the Oregon ladder, fish pumps 2 and 3 were out of service, but the 1000 cfs conduit was open. Power returned to both ladders' exits and entrances by 1600 hours. No issues were noted at the Washington shore ladder. For the Oregon ladder, fish pumps 3 and 2 returned to service at 2011 and 2015 hours, respectively. The entrance weirs were returned to automatic mode.

At the Oregon south shore entrance, we noted SFEW1 had hit its upper limit and was out of the water, though the indicator showed the weir to be at the same depth as SFEW2 on August 29. The operators resolved the issue by rebooting the weir's control system and had the weir at proper depth by 0800 hours. Fish pumps 2 and 3 were out of service for ground checks from 0254 to 0336 hours.

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

NFEW2 and NFEW3 were out of criteria on August 25. These out of criteria points may be due to low tailwater elevations and calibration drifts. WFE2 was on its lower limit on August 29.

Fish pump 1 remained out of service for a scheduled 5-year overhaul. Return to service dates are subject to change.

The facility was in secondary bypass for sample collection on August 28 when the power and air both went out of service at 1413 hours. With the units tripping offline, a debris surge occurred, and debris accumulated on the perforated plate. Cleaning the plate was continuous. With no air, the system could not be switched to primary bypass, so the adult release gate was opened to reduce the water level in the separator. Though high, no water or fish were lost from the separator. General maintenance was called, arrived with a come-along and helped move the primary/secondary gate to the primary position at 1515 hours, just as the air and power returned to service. The sample gates were turned off at 1545 hours. All facility systems were checked and reset. Due to the uncertainty of the overall situation, we felt it best to stay in primary bypass, and monitor the channel and ladders instead. Normal sample collection resumed August 30.

For the juvenile channel on August 28, all power and the air supply were lost at 1413 hours. After checking the separator at the facility, the channel was examined at 1421 hours. Due to the forebay elevation rising, so did the channel elevation, from 327.50 (a normal low fluctuation) to 327.87 (0.87 above the set point and a high-water alarm when the power was on). This range only reflects what was measure around the power outage. During the outage, the elevation could have been higher. While monitoring the channel, the only way to adjust the water would have been to manually open one or two of the side dewatering valves. Fortunately, this was not needed as the power and air supply returned at 1515 hours. The control system rebooted, and the only issue was the brush cycle sequence reset, so we ran the brushes by using the start button to ensure the screens were clean. Later, at 1845

hours, there must have been a brief power outage as the brush cycle sequence reset again so the fisheries staff ran the brushes again with the start buttons.

High-water alarms came in on August 26, at 2046 and 2204 hours. More high-water alarms came in on August 27 at 0300, 0335, and 0620 hours. Later that day, during orifice adjustments, five high-water and one low-water alarm came in. This is very unusual when doing orifice exchanges properly. The channel elevation will continue to be monitored.

New this year, both TSW's had remained open through the spill season. No switch to standard gates occurred. Tidewater had requested closure of the two TSW's on August 23 (24MC08 MFR). These closures are recorded in Table 2 below. The closures only occurred when the captain asked for them. After some regional discussion, the TSW in bay 19 was closed on August 28 and replaced with bay 4 at 1351 hours just before the black out. Bay 20 was not closed after this change. Bay 4 and the TSW in bay 20 will be closed for the season on September 1 at 0001 hours.

2. Ice Harbor

Yes	No	Sill	Location	Criteria	Measurements
	x		South fish entrance channel/tailwater differential	1.0' – 2.0'	2.2'
	x		North fish entrance channel/tailwater differential	1.0' – 2.0'	2.1'

South fish entrance channel/tailwater differential was above criteria on August 27. This was caused by low tailwater level. The weir gate is already on its sill, and shutting off a south shore auxiliary water supply pump will likely cause flow to be too low to meet other criteria.

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.

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.

The pump for the bird-abatement hydrocannon tripped off on August 29 due to a grounding issue.

3. Lower Monumental

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

4. Little Goose – N/A

5. Lower Granite Dam

6. Yes	No	Sill	Location	Criteria	Comments
	X		North Shore Channel/Tailwater Differential	1.0'–2.0'	0.7', 0.6', 0.9'
	X		Collection Channel Surface Velocity	1.5 – 4.0 fps	1.2, 1.3

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 on the system used at LMN. Efforts of the electrical crew continue to bring the ladder back into criteria however the control

system drifts out of calibration shortly after. The fish ladder was designed to operate between 633' and 638' MSL with a minimum operating elevation of 633.0'.

August 22 at 0900 hours the Lower Granite EEO reported an oil sheen in headgate slot 2C. Unit 2 was out of service when the oil was observed. The sheen was cleaned up and no signs of oil were seen in the gatewell slot. The headgate cylinder was the cause of the oil.

Yes	No	NA	Item
	X		ESBS/VBSs inspection results acceptable?

ESBS/VBS's were inspected August 25 and 26. A section of the VBS bar was observed going through a small section of the VBS. Though the bar is not an immediate concern, LWG has scheduled to remove unit 1 from service to make repairs September 9-11.

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
FISH FACILITIES WEEKLY REPORT
#26-2024

Project: McNary
Biologist: Bobby Johnson and Paul Bertschinger
Dates: August 23-29, 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**
14	5/13	1232	11/18	NA	Isophase replacement and headgate work
13	5/21	0955	11/18	NA	Isophase replacement and headgate work
3 & 4	5/29	0634	11/15	NA	Control system upgrades
8	8/19	0713	8/23	0947	Annual maintenance
5	8/21	1057	9/30	NA	Turbine noise
9	8/26	0633	8/29	1902	Annual maintenance
10 to 12	8/27	1003	8/27	1120	ESBS camera inspections, rotated through units
10	8/28	1343	8/29	1703	Black out, replace turbine oil
11	8/28	1343	8/28	1859	Black out
12	8/28	1343	8/28	1846	Black out
1	8/28	1413	8/29	1910	Black out, replace turbine oil
2	8/28	1413	8/29	1807	Black out, replace turbine oil
6	8/28	1413	8/28	1956	Black out, replace turbine oil
7	8/28	1413	8/28	1915	Black out
8	8/28	1413	8/29	2016	Black out, replace turbine oil

Comments: RTS dates are subject to change. For unit 5, access to the area needed to dewater the unit is still being cleaned of contamination from sand blasting of station service unit 2's the draft tube. The hard one percent criteria remained in place. The soft one percent criteria will begin on September 1. The sawtooth unit priority pattern for temperature abatement may conclude on September 1 just after temperature monitoring concludes.

Units 1, 2, 6, 7, 8, 10, 11 and 12 were available on August 28. That day, transmission line 5 tripped during relay testing at 1343 hours. Units 10, 11 and 12 were removed from service. When reenergizing line 5 and restarting units 11 and 12, smoke was noted coming from around a bus switchgear. Before the line could be deenergized, the bus tripped causing McNary to go black, all systems lost power (24MCN09 MFR). Units 1, 2, 6, 7, 8, 11 and 12 were all offline at 1413 hours. The emergency diesel generator, which is dedicated to this purpose, was used to establish spill for the incoming flow at 1430 hours. Fuses from a bus not in use were moved to the bus that had tried, with the bus being restored at 1500 hours. The station service unit along with the station air supply was restored by 1515 hours. Water intrusion into the main units' turbine guide bearing was noted in units 1, 2, 6, 8 and 10 at 1600 hours. Units 12, 11, 7, and 6 returned to service at 1846, 1859, 1915 and 1956 hours, respectively. *Due

to these circumstances, unit loads may go outside the hard one percent criterion. The remaining units returned to service on August 29.

Adult Fish Passage Facilities

McNary fisheries staff performed measured inspections of the adult fishways on August 23, 25 and 28. The inspection on August 28 was only for the Washington shore ladder as the black out described above and below occurred before the Oregon shore inspection could be completed. Adult fish counting, and video review of nighttime lamprey passage continued.

Both ladders lost power on August 28, at 1413 hours. Both ladders were monitored during the outage and after by operators and the fisheries staff. At the Washington ladder, the PUD unit continued to supply auxiliary water. At the Oregon ladder, fish pumps 2 and 3 were out of service, but the 1000 cfs conduit was open. Power returned to both ladders' exits and entrances by 1600 hours. No issues were noted at the Washington shore ladder. For the Oregon ladder, fish pumps 3 and 2 returned to service at 2011 and 2015 hours, respectively. The entrance weirs were returned to automatic mode.

At the Oregon south shore entrance, we noted SFEW1 had hit its upper limit and was out of the water, though the indicator showed the weir to be at the same depth as SFEW2 on August 29. The operators resolved the issue by rebooting the weir's control system and had the weir at proper depth by 0800 hours. Fish pumps 2 and 3 were out of service for ground checks from 0254 to 0336 hours.

Fish Ladder Exits:

Yes	No	Location	Criteria	Measurements
X		Oregon Exit	Head over weir 1.0' to 1.3'	1.0' to 1.2'
X		Oregon Count Station Differential	0.0' to 0.5'	0.2' to 0.5'
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'	0.2' to 0.3'

Comments: Debris loads were minimal near both exits. The general maintenance staff has been coming in on Saturday to clean the picketed leads at both exits.

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

The black out described above appeared to have not adverse effect on the exits.

Fishway Entrances and Collection Channel:

Yes	No	Sill	Location	Criteria	Measurements
X			North Oregon Entrance Head Differential	1.0' – 2.0'	1.3' to 1.4'
	X		NFEW2 Weir Depth	≥ 8.0'	7.8' to 8.0'
	X		NFEW3 Weir Depth	≥ 8.0'	7.8' to 8.0'
X			South Oregon Entrance Head Differential	1.0' – 2.0'	1.3' to 1.4'
X			SFEW1 Weir Depth	≥ 8.0'	8.1' to 8.3'
X			SFEW2 Weir Depth	≥ 8.0'	8.2'
X			Oregon Collection Channel Velocities	1.5 to 4.0 fps	1.8 fps
X			Washington Entrance Head Differential	1.0' – 2.0'	1.6' to 1.8'
X			WFE2 Weir Depth	≥ 8.0'	9.4' to 10.6'
X			WFE3 Weir Depth	≥ 8.0'	8.2' to 9.3'

Comments: NFEW2 and NFEW3 were out of criteria on August 25. These out of criteria points may be due to low tailwater elevations and calibration drifts. WFE2 was on its lower limit on August 29.

The effects on the entrances of the black out are described above. Other than being out of criteria during the power lose, there appears to have been no adverse issues.

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, return to service Sept 30
X*			21° 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.

*During the black out, the Wasco PUD remained in service. The Oregon ladder fish pump outages are described above.

Juvenile Fish Passage Facility

The juvenile system alternates between primary and secondary bypass every 24 hours at 0700 hours. There was one interruption in this schedule during the black out, which will be described below. The sawtooth unit pattern remained in effect. Sample tank mortality was 16.7 percent (one smolt) on August 29.

The facility was in secondary bypass for sample collection on August 28 when the power and air both went out of service at 1413 hours. With the units tripping offline, a debris surge occurred, and debris accumulated on the perforated plate. Cleaning the plate was continuous. With no air, the system could not be switched to primary bypass, so the adult release gate was opened to reduce the water level in the separator. Though high, no water or fish were lost from the separator. General maintenance was called, arrived with a come-along and helped move the primary/secondary gate to the primary position at 1515 hours, just as the air and power returned to service. The sample gates were turned off at 1545 hours. All facility systems were checked and reset. Due to the uncertainty of the overall situation, we felt it best to stay in primary bypass, and monitor the channel and ladders instead. Normal sample collection resumed August 30.

For the juvenile channel on August 28, all power and the air supply were lost at 1413 hours. After checking the separator at the facility, the channel was examined at 1421 hours. Due to the forebay elevation rising, so did the channel elevation, from 327.50 (a normal low fluctuation) to 327.87 (0.87 above the set point and a high-water alarm when the power was on). This range only reflects what was measure around the power outage. During the outage, the elevation could have been higher. While monitoring the channel, the only way to adjust the water would have been to manually open one or two of the side dewatering valves. Fortunately, this was not needed as the power and air supply returned at 1515 hours. The control system rebooted, and the only issue was the brush cycle sequence reset, so we ran the brushes by using the start button to ensure the screens were clean. Later, at 1845 hours, there must have been a brief power outage as the brush cycle sequence reset again so the fisheries staff ran the brushes again with the start buttons.

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
X			Forebay debris load acceptable? (amount)	Minimal 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, spill and new debris loads were minimal. Debris (woody material and aquatic vegetation) did move from the Oregon shore and back. Some debris was spilled. New debris load was mostly aquatic vegetation. No trash rack cleaning is scheduled.
The emergency bulkhead remained in 14A slot. The slots in units 7, 13, at 14A and 14B slots remained covered. This improved contractor access by units 13 and 14.

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 except 14A slot. With the emergency bulkhead in 14A slot, the ESBS remained uninstalled. 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. With units 3, 13 and 14 being out of service, the ESBS's remained in manual mode so the brush cycle sequence would not occur. Camera inspections occurred in units 9 through 12 on August 27. No issues were found. Testing of ESBS screen brush programming continued with the screens in unit 4.

The black out had no adverse effect on ESBS operation after the power was restored.

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
X*			Dewaterer and cleaning systems operating satisfactory?	

Comments: With headgate testing in 14A slot, the orifices in units 13 and 14 along with the make-up north orifices in unit 12 were closed. As these orifices were being closed make-up north orifices were being opened in units 3 and 4 on August 27. Also, that day, due to water elevation fluctuations, orifice cycling was reduced to once a day. Finally, ESBS camera were scheduled to occur on primary bypass days only. Several orifice attraction lights had their bulbs replaced on August 29.

*High-water alarms came in on August 26, at 2046 and 2204 hours. More high-water alarms came in on August 27 at 0300, 0335, and 0620 hours. Later that day, during orifice adjustments, five high-water and one low-water alarm came in. This is very unusual when doing orifice exchanges properly. The channel elevation will continue to be monitored.

The effects of the black out on the juvenile channel are discussed in the opening of juvenile section.

Bypass Facility:

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

Comments: The sample system is being used when in secondary bypass for sample collection. The PIT tag system will not be in use again this season, which is similar to past years.

There were 16 juvenile lamprey and 208 smolts bypassed with subyearling Chinook being the dominate race/species this week. Juvenile shad were the predominate species seen overall.

The effects of the black out on the juvenile facility are discussed in the opening of juvenile section.

TSW Operations: The TSW's in bays 19 and 20 will be discussed below. Both TSW's are attached to a hoist. New this year, both TSW's had remained open through the spill season. No switch to standard gates occurred. Tidewater had requested closure of the two TSW's on August 23 (24MC08 MFR). These closures are recorded in Table 2 below. The closures only occurred when the captain asked for them. After some regional discussion, the TSW in bay 19 was closed on August 28 and replaced with bay 4 at 1351 hours just before the black out. Bay 20 was not closed after this change. Bay 4 and the TSW in bay 20 will be closed for the season on September 1 at 0001 hours.

Table 2. TSW closures for barge traffic.

Date	Time Closure Started	Time Fully Open	Bays	Comments
Aug 24	0718	0753	19/20	1 Barge
Aug 24	1310	1341	19/20	1 Barge
Aug 25	0824	0918	19	2 Barge
Aug 25	1334	1402	19/20	1 Barge
Aug 25	1415	1502	19/20	1 Barge
Aug 26	0406	0502	19/20	1 Barge
Aug 26	0725	0738	20	No effect
Aug 27	0520	0628	19/20	None
Aug 27	2256	2340	19/20	None

The barge entered the basin with the bays not fully closed on August 25, at 1134 and August 26 at 0725 hours.

River Conditions

Table 3. 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
114.3	97.5	56.6	19.0	70.5	68.1	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 smolt monitoring staff continues to monitor water temperature, which will conclude on August 31, throughout the juvenile system. Their results are stated daily and weekly in separate reports. Adult ladder water temperatures are reported by an automated system year-round.

The summer spill season continued with 20 kcfs (both TSW's open in bays 19 and 20) being spilled except as describe above in the TSW section and here. When there was spill in excess of available powerhouse capacity and during the black out, the spill volume was above that value. The summer season will conclude on September 1, at 0001 hours. Later that morning, at 0600 hours, the TSW in bay 20 will begin to be used for adult fallbacks.

During the black out on August 28, all systems lost power at 1413 hours. The emergency diesel generator, which is dedicated to this purpose, was used to establish spill for the incoming flow at 1430 hours. The spill pattern was followed as best as possible under the circumstance. The spillway's power returned at 1715 hours. Three spillbay indicators were fixed by 1730 hours.

Rehabilitated of downstream wall dogs continued. The dogs for bays 14 and 17 are being rehabilitated.

Other

Inline Cooling Water Strainers: The next cooling water strainer inspections will occur on December 3.

Avian Activity: Bird counting continued, and the results are reflected in Table 4 below.

Table 4. McNary Project's Daily Avian Count.

Date	Zone	Gull	Cormorant	Tern	Pelican	Grebe
August 23	Spill	211	0	0	0	0
	Powerhouse	0	0	0	0	0
	Outfall	20	0	0	0	0
	Forebay	0	0	0	2	0
August 24	Spill	154	0	0	0	0
	Powerhouse	5	0	0	0	0
	Outfall	8	0	0	0	0
	Forebay	0	0	0	0	0
August 25	Spill	60	0	0	0	0
	Powerhouse	3	0	0	0	0
	Outfall	32	1	0	0	0
	Forebay	0	0	0	0	0
August 26	Spill	95	0	0	0	0
	Powerhouse	55	0	0	0	0
	Outfall	20	0	0	0	0
	Forebay	0	0	0	0	0
August 27	Spill	455	0	0	0	0
	Powerhouse	0	0	0	0	0
	Outfall	13	1	0	0	0
	Forebay	0	0	0	1	0
August 28	Spill	210	0	0	0	0
	Powerhouse	1	0	0	0	0
	Outfall	27	1	0	0	0
	Forebay	0	0	0	0	0
August 29	Spill	106	0	0	0	0
	Powerhouse	29	0	0	0	0
	Outfall	39	3	0	0	0
	Forebay	0	0	0	0	0

In the spill zone, gulls in high fluctuating numbers were noted feeding and roosting.

In the powerhouse zone, gulls in low fluctuating numbers were observed feeding and roosting.

In the outfall zone, gulls in fluctuating numbers long with a few cormorants were noted roosting. No feeding was observed. One osprey was noted roosting.

For the forebay zone, an occasional pelican was observed feeding. A few gulls, cormorants, and ospreys along with one tern were noted outside the zone.

With the osprey nest being unsuccessful, the LRAD was redeployed on August 23 and was somewhat effective.

The laser on the navigation lock wing wall opposite the outfall was shipped to the manufacture for a repair evaluation.

The two distress calls on the navigation lock wing wall remained in service and have been functioning well.

There is no other hazing.

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

Siberian Prawn: Two prawns were observed in the sample this week. This brings the season total to 18.

Fish Rescue/Salvage**:** None occurred this week.

Research: PNNL removed their study trailers on August 23. Their tagging trailers and transformers will be removed on September 3 and 5, respectively. The spillway equipment will be removed at a later date.

For a CRITFC study, there were tissue samples removed from two juvenile lamprey collected at the facility this week. The yearly total is 507 fish, which were returned to the river unharmed.

Project: Ice Harbor
Biologist: Ken Fone
Biological Science Technician: Ben McArthur
Dates: August 23-29, 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
4	8/19/24	1305	8/29/24	1341	Annual Maintenance

Comments: None.

Adult Fish Passage Facility

Ice Harbor Fish Facility staff inspected the adult fishways on August 26, 27, 28.

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’	2.2’
x			South shore channel velocity	1.5 – 4.0 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’	2.1’

Comments: South fish entrance channel/tailwater differential was above criteria on August 27. This was caused by low tailwater level. The weir gate is already on its sill, and shutting off a south shore auxiliary water supply pump will likely cause flow to be too low to meet other criteria.

North fish entrance channel/tailwater differential was slightly above criteria on August 28, because of low tailwater level. Also, turbulent tailwater from spill made accurate physical measurement difficult.

Auxiliary Water Supply (AWS) System:

Operating Satisfactory	Standby	Out of Service	Auxiliary Water Supply System
6 pumps	1 pump	1 pump	Status of the 8 south shore AWS pumps
2 pumps	0-1 pump	0-1 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 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 9 square yards
x			Gatewell drawdown measured this week?	
x			Gatewell drawdown acceptable	
x			Any debris seen in gatewells (% coverage)	0-3% 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: The STSs in unit 2 were noticed to have been left in continuous run mode on August 28 when amperage readings were taken. They were returned to cycle-run mode the morning of August 29.

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.

The pump for the bird-abatement hydrocannon tripped off on August 29 due to a grounding issue. Electricians will investigate. There have not been any piscivorous birds recently noted at the bypass pipe outfall.

Juvenile Fish Facility: The fish facility is in primary bypass mode. The raw water supply to the juvenile fish facility was shut off and the facility pipes and tanks were drained for winterization on August 27.

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

Removable Spillway Weir (RSW): Summer spill for fish passage is occurring. The RSW is closed due to project outflows being below 30 kcfs.

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
30.6	21.9	8.9	8.9	71	71	9.0	8.0

*Unit 1 scroll case temperature.

Other

Inline Cooling Water Strainers: Cooling water strainer differential pressure is routinely monitored. The strainers will be cleaned if there is indication of clogging caused by debris or juvenile shad, and inspection results will be reported.

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 spillway and at the discharge of the navigation lock while it is 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: No on-site research is occurring.

Project: Lower Monumental
Biologists: Denise Griffith and Raymond Addis
Dates: August 23 - 29, 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	8/19/24	0705	8/26/24	1445	Reseal Thrust Bearing due to oil leak.
Unit 1	8/27/24	1400	8/29/24	1122	Outage to finish rooftop bus repair
Unit 2	8/27/27	1400	8/29/24	1122	Outage to finish rooftop bus repair
Unit 3	8/27/27	1400	8/29/24	1122	Outage to finish rooftop bus repair
Unit 4	8/27/27	1400	8/29/24	1122	Outage to finish rooftop bus repair
Unit 5	5/01/24	0624	8/29/24	1514	T2/rooftop bus to BPA line repair/annual maintenance
Unit 6	7/08/24	0850	9/19/24	ERTS	DC low voltage upgrade

Comments: T2 rooftop bus to BPA line repairs completed, line returned to service at 1122 on August 29. Unit 1 operated at spin-no-load from 1400 on August 27 to 1122 August 29 to provide station power during the outage to finalize T2's rooftop bus repair.

Adult Fish Passage Facility

Lower Monumental fish facility and EAS staff inspected the adult fishways on August 23, 24, 25 and 26.

Fish Ladder Exit:

Yes	No	Location	Criteria	Measurements
X		North Ladder Exit Differential	Head $\leq$ 0.5'	
X		North Ladder Picketed Lead Differential	Head $\leq$ 0.4'	
X		North Ladder Depth over Weirs	Head over weir 1.0' to 1.3'	
X		South Ladder Exit Differential	Head $\leq$ 0.5'	
X		South Ladder Picketed Lead Differential	Head $\leq$ 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 SPE-1 weir was at sill during all inspections with readings of 7.2, 7.5, 7.5 and 7.6 feet respectively. South Powerhouse Entrance SPE-2 weir was at sill during all inspections with of 7.2, 7.5, 7.5 and 7.6 feet respectively. South Shore Entrance SSE-1 weir was at sill during the August 23 inspection with a reading of 7.7 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: None

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
X			Forebay debris load acceptable? (amount)	8 yrd²
X			Gatewell drawdown measured this week?	
X			Gatewell drawdown acceptable	
X			Any debris seen in gatewells (% coverage)	0 – 5%
		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 facility ran in primary bypass for two days and secondary bypass for condition sampling the third day, every-third day, this entire reporting period. A total of 11 fish were collected with 11 being bypassed this reporting period.

The flush water pipe for the truck transport recovery tank was removed during a repair and the truck tank cannot be used until this is addressed.

Due to the issues with the lamprey overshoot system, raceways 2 through 4 were drained to take the pressure off the system. An engineer from the powerhouse said the lamprey overshoot pipe adds so much water to the main flume piping that it creates a pressurized system. This issue will move forward with plans to work on funding and plans to repair in the future. It is not deemed as a critical issue and will not impede fish passage.

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

Spillway Weir: Late Summer 8 kcfs spill continues. Spill was increased to approximately 11kcfs from 1400 on August 27 to 1122 on August 29 to make up for unit outages.

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
29.0	17.1	11.1	8.0	70.0	69.9	6.2	5.5

*Scrollcase temperatures.

Other

Inline Cooling Water Strainers: Cooling water strainers inspections are done until December.

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

Date	Time	Gulls	Cormorants	Terns	Grebes	Pelicans
8/23/2024	1000	75	5	0	0	1
8/24/2024	1245	45	16	0	0	0
8/25/2024	930	32	5	0	0	2
8/26/2024	1000	32	16	0	0	0
8/27/2024	910	103	5	0	0	0
8/28/2024	1627	13	4	0	0	0
8/29/2024	1330	64	14	0	0	0

Comments: Bird hazing by USDA personnel ended on June 30.

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

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*
8/23/2024	---	---
8/24/2024	---	---
8/25/2024	91	91
8/26/2024	---	---
8/27/2024	---	---
8/28/2024	---	---
8/29/2024	75	75
Total	166	166

*Collection refers to extrapolated values based on sampling percent.

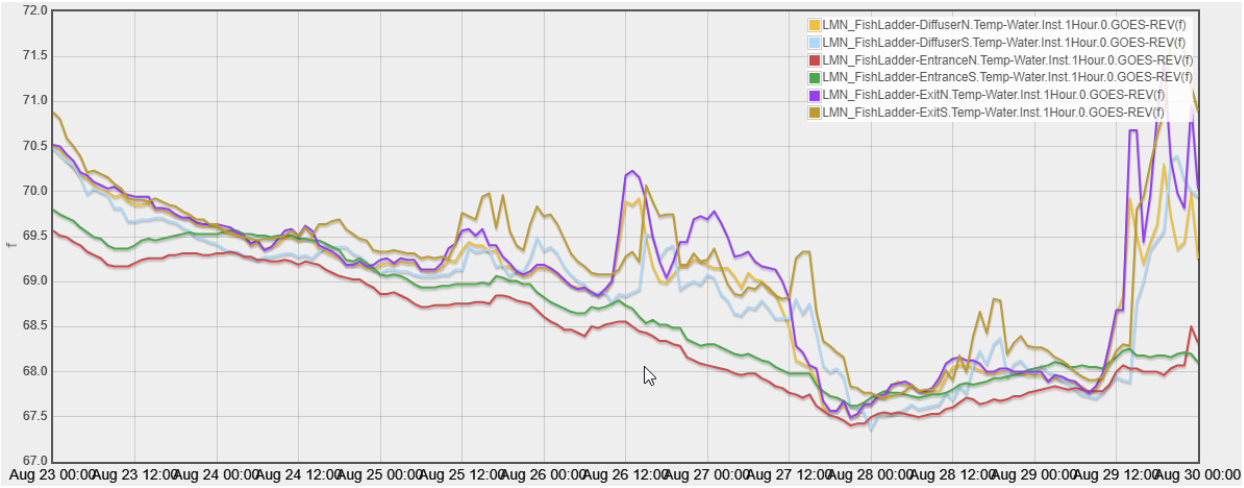
Fish Rescue/Salvage: No fish rescues were performed during this reporting period.

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. On August 29, hydrology noticed an issue with the ladder entrance battery. Hydrology will be coming to project on September 3 to replace the battery.



Project: Little Goose Dam
Biologist: Deb Snyder, Brooke Gerard
Dates: August 23 – August 29, 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	8/28/2024	09:16	08/28/2024	13:27	Governor Oil Balancing
3	8/19/2024	07:00	9/27/2024	17:00	Annual 6-year overhaul.
5	4/14/2017	14:11	11/30/2024	ERTS	Spider and upper guide bearing repair.

Comments: Contractual obligations, performance issues, and projected flow data once again realigned the Unit 5 ERTS date into late fall 2024. Unit 1 governor oil balancing performed in accordance with FPP Chapter 8 section 4.3.11

Adult Fish Passage Facility

EAS Bio staff inspected the adult Fishway on August 24, 26, 28.

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	
		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. FSC board readings of SSE Channel elevation continue to report discrepancies an average of 8.2 feet below physical staff gauge measurements documenting the same channel elevation. Criteria evaluations default to physical staff gauge measurements in this area. All other channel staff gauge and NPE and NSE FSC board channel heights reflect similar and corresponding readings. 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.

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 20 ft^2 - Low 0 ft^2
	X		Gatewell drawdown measured this week?	
		X	Gatewell drawdown acceptable	
X	X		Any debris seen in gatewells (% coverage)	8/23- 2C:1%, 5C:1% 8/27- 2C: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 August 25 and 26 at 15 ft^2. The overall total forebay debris high occurred on August 27 and 28 at 20 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. The third round of gatewell camera inspections was completed July 8-11. Unit 2 annual camera inspections were completed July 31.

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. During this reporting period a total of 287 fish were collected, 338 were trucked, 0 were bypassed, and there were 7 sample or facility mortalities. The descaling and mortality rates were 3.3% and 2.4%, respectively. The collection and transport facility operated within criteria; 20 adult lampreys were removed from the collection facility 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. 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.

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.

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
27.1	20.2	6.4	6.3	68.6	67.5	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 are scheduled to begin April 1, while USDA-APHIS bird abatement contract services are in place.

Date	Time	Gulls	Cormorants	Caspian Terns	Pelicans
8-23	0730	0	0	0	0
8-24	1200	0	0	0	0
8-25	1049	0	0	0	0
8-26	0730	0	0	0	0
8-27	0730	0	0	0	0
8-28	0730	0	0	0	0
8-29	0730	0	0	0	0

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*
8-23	251	251
8-24	265	265
8-25	175	175
8-26	304	304
8-27	228	228
8-28	213	213
8-29	211	211
Totals	1,647	1,647

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

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: No fish rescue activities took place during the report period.

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: August 23-29, 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**
5	08/26	0717			ANNUAL PM

Comments: Units 1-6 were rotated out of service for ESBS August 25 and 26.

Adult Fish Passage Facility

Lower Granite Biologists and EAS staff inspected the adult fishway August 23, 24 and 28.

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’	
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	
		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’	0.7’, 0.6’, 0.9’
	X		Collection Channel Surface Velocity	1.5 – 4.0 fps	1.2, 1.3

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 on the system used at LMN. Efforts of the electrical crew continue to bring the ladder back into criteria however the control system drifts out of calibration shortly after. The fish ladder was designed to operate between 633’ and 638’ MSL with a minimum operating elevation of 633.0’.

Auxiliary Water Supply System:

Operating Satisfactorily	Standby	Out of Service	Auxiliary Water Supply (AWS)
Yes	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)	35 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: August 22 at 0900 hours the Lower Granite EEO reported an oil sheen in headgate slot 2C. Unit 2 was out of service when the oil was observed. The sheen was cleaned up and no signs of oil were seen in the gatewell slot. The headgate cylinder was the cause of the oil.

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: ESBS/VBS's were inspected August 25 and 26. A section of the VBS bar was observed going through a small section of the VBS. Though the bar is not an immediate concern, LWG has scheduled to remove unit 1 from service to make repairs September 9-11.

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:

Collection Facility: Collection for truck transport began at 0700 on Aug 1.

Transport Summary: Truck transport continues with LWG supporting transport from LGO as necessary.

Spillway Weir: Late summer spill continues.

PIT tag interrogations: RSW detections included 64,385 juvenile and 107 adult Chinook salmon, 48,218 juvenile and 634 adult steelhead, 8,864 juvenile and 3 adult sockeye, and 2,592 juvenile coho salmon. Juvenile bypass system detections included 10,168 juvenile and 15 adult Chinook salmon, 14,579 juvenile and 59 adult steelhead, 220 juvenile and 4 adult sockeye, and 240 juvenile coho salmon through August 29 (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
25.0	21.2	6.4	6.0	65.5	64.0	5.0	5.0

*Cooling water intake temperature.

Other

Inline Cooling Water Strainers: N/A

Introduced Species: No zebra/quagga muscles were detected on the trap substrate. Siberian prawns collected in the sample included 104,714 live and 11,634 mortalities this report week. All live Siberian prawns are euthanized.

Avian Activity: Biologist daily piscivorous bird counts began April 1. Bird hazing concluded June 30.

Date	Time	Gulls	Cormorants	Caspian Terns	Pelicans
August 23	0850	9	12	0	0
August 24	1110	0	10	0	0
August 25	1100	7	5	0	0
August 26	1515	6	9	0	0
August 27	1610	0	3	0	0
August 28	1337	0	4	0	0
August 29	0707	6	0	0	0

Gas Bubble Trauma (GBT) Monitoring: N/A

Idaho Department of Fish and Game (IDFG) Adult Fish Trap Operations: Collection for sampling continues with fish being collected 24-hours per day at a 70% sample rate. Fall chinook broodstock collection for WDFW and NPT began August 18 and will continue until escapement goals are met. Fish are being transported to Lyons Ferry Hatchery Tuesday through Saturday and to Dworshak Hatchery Sundays and Mondays.

Fish Rescue/Salvage: NA.

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.

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.

United States Geological Survey (USGS) Wild Juvenile Fall Chinook Salmon Genetics Sampling:

The goal of this study is to determine the origin of unmarked subyearling Chinook salmon in LWG sample. The USGS has developed an approach to estimate the daily abundance of natural origin subyearling Chinook salmon passing LWG each year. The goal is to collect fin clips from 15 unmarked subyearling on Monday's, Wednesday's, and Friday's May 15 to August 31. Genetic samples will be used to determine origin of unclipped subyearling Chinook salmon thus validating estimates of origin and model abundance.

PNNL Juvenile Pacific Lamprey Passage Behavior and Survival study:
Juvenile lamprey (macropthalmia) were collected from LWG sample, as needed, to meet PNNL downriver study objectives. LWG collected a total of 1502 juvenile lamprey this season 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 1000 juvenile and 500 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 program's efficacy and assist with guiding future management. LWG SMP have collected genetic samples from 889 juvenile and 500 larval lamprey this season.

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.