Out of Criteria – NWW Weekly Report #43 – December 20 – 26, 2024

**1. McNary**

| Yes | No | Sill | Location | Criteria | Measurements |
|---|---|---|---|---|---|
| | X | | NFEW2 Weir Depth | ≥ 8.0’ | 7.9’ to 8.0’ |
| | X | | NFEW3 Weir Depth | ≥ 8.0’ | 7.9’ to 8.0’ |

At the Oregon shore entrances, NFEW2 and NEFW3 were out of criteria on December 22. The out of criteria points were mainly due to set point adjustments. More set point adjustments were done on December 22, as the north entrances were too shallow, and the south entrances were deeper than required.

**2. Ice Harbor –** No comments.

**3. Lower Monumental**

| Yes | No | Sill | Location | Criteria | Measurements |
|---|---|---|---|---|---|
| | X | | North Shore Entrance (NSE-1) Weir Depth | ≥ 8.0’ or on sill | 7.8 on 12/23 |

North Shore Entrance NSE-1 was found out of criteria at 7.8 during the inspection on December 23.

**4. Little Goose**

| Yes | No | Sill | Location | Criteria | Measurements |
|---|---|---|---|---|---|
| | X | | North Shore Channel/Tailwater Differential | 1.0’–2.0’ | 12/26 – 0.8 |

The fish system control program is proving unreliable and inadequate to balance the adult fishway in “automated” mode. Biologist personnel are manually adjusting and balancing the adult fishway with increasing frequency. EAS Bio personnel report the FSC board reflects weir and channel height readings with notable discrepancies compared to actual physical hand measurements taken during inspection periods. USACE Biologists, EAS Bio, and ODFW personnel are collaborating and manually taking physical readings for weir elevations at all three fishway entrances. FSC board readings of SSE Channel elevation continue to report discrepancies below physical staff gauge measurements. Criteria evaluations default to physical staff gauge measurements in this area. NPE FSC board no longer accurately reading weir heights, reporting measurements 1.2 and 1.1 ft higher than weirs currently positioned on sill (532 ft).

**5. Lower Granite Dam -** No comments.

**U.S. ARMY CORPS OF ENGINEERS**
**WALLA WALLA DISTRICT**
**FISH FACILITIES WEEKLY REPORT**
**#43-2024**

**Project: McNary**
Biologist: Bobby Johnson and Paul Bertschinger
Dates: December 20-26, 2024

## Turbine Operation

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

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

| | OOS | | RTS | | |
|---|---|---|---|---|---|
| **Unit** | **Date** | **Time** | **Date** | **Time** | **Outage Description** |
| 3 & 4 | 5/29 | 0634 | 1/24/25 | NA | Control system upgrades |

Comments: RTS dates are subject to change. Slight variations outside the soft one percent criterion are not recorded here. At BPA's request, units ran outside the soft constraint on December 20.

## Adult Fish Passage Facilities

McNary fisheries staff performed measured inspections of the adult fishways on December 20, 22 and 26. For water temperature monitoring, the Washington shore midpoint probe and the Oregon shore south entrance probe have been referred to district personnel.

The Oregon shore ladder outage is scheduled for January 6 to 23, 2025 and the Washington shore ladder outage is scheduled for January 27 to February 27, 2025. The Washington ladder outage is longer this winter in order to work on the leaking ladder seams.

Fish Ladder Exits:

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

Comments: Debris loads were minimal near both exits.

At the Oregon shore exit, issues with the control panel view touch screen noted on December 18 appeared to be resolved by December 22. At the Washington shore exit, weir 339 remains in bypass mode. The control system continued to regulate the exit without this weir moving.

Fishway Entrances and Collection Channel:

| Yes | No | Sill | Location | Criteria | Measurements |
|---|---|---|---|---|---|
| X | | | North Oregon Entrance Head Differential | 1.0' – 2.0' | 1.0' to 1.2' |
| | X | | NFEW2 Weir Depth | $\geq$ 8.0' | 7.9' to 8.0' |
| | X | | NFEW3 Weir Depth | $\geq$ 8.0' | 7.9' to 8.0' |

| | | | | | |
|---|---|---|---|---|---|
| X | | | South Oregon Entrance Head Differential | 1.0’ – 2.0’ | 1.4’ to 1.7’ |
| X | | | SFEW1 Weir Depth | ≥ 8.0’ | 8.8’ to 10.0’ |
| X | | | SFEW2 Weir Depth | ≥ 8.0’ | 8.8’ to 9.9’ |
| X | | | Oregon Collection Channel Velocities | 1.5 to 4.0 fps | 2.2 fps |
| X | | | Washington Entrance Head Differential | 1.0’ – 2.0’ | 1.3’ to 1.6’ |
| X | | | WFE2 Weir Depth | ≥ 8.0’ | 9.2’ to 9.6’ |
| X | | | WFE3 Weir Depth | ≥ 8.0’ | 9.1’ to 9.5’ |

Comments: At the Oregon shore entrances, NFEW2 and NEFW3 were out of criteria on December 22. The out of criteria points were mainly due to set point adjustments. More set point adjustments were done on December 22, as the north entrances were too shallow, and the south entrances were deeper than required.

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 | | | 22° or 23° | Oregon Ladder Fish Pump 1, RTS 12/16 |
| X | | | 20° to 22° | Oregon Ladder Fish Pump 2 |
| X | | | 20° to 22° | Oregon Ladder Fish Pump 3 |
| | | X | | OR North Powerhouse Pool from juvenile fishway |

Comments: The juvenile fishway is no longer suppling auxiliary flow.

**Juvenile Fish Passage Facility**

With all systems down and dewatered, winter maintenance continued.

Forebay Debris/Gatewell Debris/Oil:

| Yes | No | NA | Item | Comments |
|---|---|---|---|---|
| X | | | Forebay debris load acceptable? (amount) | Moderate near the powerhouse |
| X | | | Gatewell drawdown measured this week? | Checked three times |
| X | | | Gatewell drawdown acceptable | |
| | X | | Any debris seen in gatewells (% coverage) | |
| | X | | Any oil seen in gatewells? | |

Comments: The debris load near the powerhouse was moderate. New incoming debris and the debris load at the spill were minimal. Most of the debris was woody material, which is slowly building up.

No trash rack cleaning is scheduled until January, when four slots will be checked.

There are no problems to report.

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

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

Comments: All ESBS’s are raised for maintenance, which has begun. No camera inspections were required as the screens are raised. ESBS screen brush programming is being updated in unit 1 to 4 at this time.

With all ESBS's raised, VBS monitoring has concluded and will resume next spring.

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: All orifices are closed, and all systems are out of service for winter maintenance which continued.

Bypass Facility:

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

Comments: The sample system remained out of service. The PIT tag system was not utilized this season. Winter maintenance continued. New netting was installed on the two sample tank net frames this week.

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

## River Conditions

Table 2. River Conditions at McNary Dam.

| Daily Average River Flow (kcfs) | | Daily Average Spill (kcfs) | | Water Temperature (°F) | | Water Clarity (Secchi disk - feet) | |
|---|---|---|---|---|---|---|---|
| High | Low | High | Low | High | Low | High | Low |
| 140.2 | 103.8 | 0.0 | 0.0 | 46.0 | 45.0 | 6.0 | 6.0 |

Comments: The above data is from the control room, with the data day starting at 0000 hours. Spill of flow in excess of available powerhouse capacity did not occur this week. Rehabilitated of downstream wall dogs continued. The dogs for bay 13 are removed for repair. The dogs in bay 12 will be removed next week.

## Other

Inline Cooling Water Strainers: The next cooling water strainer inspections will occur on January 7.

Avian Activity: Casual bird observations continued during other inspections.

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

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

In the outfall zone, gull numbers were low and cormorant numbers were stable with the birds roosting. Approximately 50 to 75 cormorants over winter on the outfall pipe.

For the forebay zone, grebes in large numbers were noted. The birds were mostly roosting a large distance from the powerhouse. A few gulls and cormorants were noted outside the zone.

There is no hazing occurring.

Invasive Species: The mussel station examinations revealed no issues on December 22.

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

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

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

**Project: Ice Harbor**
Biologist: Ben McArthur
Dates: December 20-26, 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 |

Comments: none

## Adult Fish Passage Facility

Ice Harbor Fish Facility staff inspected the adult fishways on December 23. No other inspections were conducted this week due to the Holiday break.

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 | |
| 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: none.

Auxiliary Water Supply (AWS) System:

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

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

## Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil:

| Yes | No | NA | Item | Comments |
|---|---|---|---|---|
| x | | | Forebay debris load acceptable? (amount) | 17 square yards |
| | | x | Gatewell drawdown measured this week? | |
| | | x | Gatewell drawdown acceptable | |
| | | x | Any debris seen in gatewells (% coverage) | |
| | | x | Any oil seen in gatewells? | |

Comments: All STSs are removed

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: All STSs are removed

Orifices, Collection Channel, Dewatering Structure, and Flume:

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

Comments: The JCC was dewatered on December 18, in preparation for winter maintenance.

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

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

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

## River Conditions

River conditions at Ice Harbor Dam.

| Daily Average River Flow (kcfs) | | Daily Average Spill (kcfs) | | Water Temperature* (°F) | | Water Clarity (Secchi disk - feet) | |
|---|---|---|---|---|---|---|---|
| High | Low | High | Low | High | Low | High | Low |
| 25.9 | 20.2 | 0 | 0 | 46 | 45 | 10.8 | 7.3 |

*Unit 1 scroll case temperature.

## Other

Inline Cooling Water Strainers: Cooling water strainers were cleaned on 23 December. A combined total of approximately 334 juvenile shad were removed from the strainers of units 2-6.

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

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

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

Fish Rescue/Salvage: None.

Research: There is no research occurring currently.

**Project: Lower Monumental**
Biologists: Denise Griffith and Raymond Addis
Dates: December 20 – 26, 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 | 12/12/24 | 0700 | 01/10/25 | | Annual maintenance |

Comments: None.

## Adult Fish Passage Facility

Lower Monumental fish facility staff inspected the adult fishways on December 23 and 26. Only two ladder inspections were completed by fish facility staff due to the holidays.

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 | 7.8 on 12/23 |
| X | | | North Shore Entrance (NSE-2) Weir Depth | ≥ 8.0’ or on sill | |
| X | | | North Shore Channel/Tailwater Differential | 1.0’–2.0’ | |
| | | X | South Powerhouse Entrance (SPE-1) Weir Depth | ≥ 8.0’ or on sill | |
| | | X | South Powerhouse Entrance (SPE-2) Weir Depth | ≥ 8.0’ or on sill | |
| X | | | South Powerhouse Entrance Channel/Tailwater Differential | 1.0’–2.0’ | |
| X | | | South Powerhouse Channel Velocity | 1.5 – 4.0 fps | AVG 2.2 fps |
| | | X | South Shore Entrance (SSE-1) Weir Depth | ≥ 8.0’ | |
| | | X | South Shore Entrance (SSE-2) Weir Depth | ≥ 6.0’ | |
| X | | | South Shore Channel/Tailwater Differential | 1.0’ – 2.0’ | |

Comments: North Shore Entrance NSE-1 was found out of criteria at 7.8 during the inspection on December 23. South Powerhouse Entrance SPE-1 weir was at sill during all inspections with readings of 7.3 and 7.4 feet, respectively. South Powerhouse Entrance SPE-2 weir was at sill during all inspections with of 7.3 and 7.4 feet,

respectively. South Shore Entrance SSE-1 weir was at sill during all inspections with readings of 7.9 and 8.0 feet, respectively. South Powerhouse channel velocity averaged 2.2 ft/sec.

Auxiliary Water Supply System:

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

Comments: None

**Juvenile Fish Passage Facility**

Forebay Debris/Gatewell Debris/Oil:

| Yes | No | NA | Item | Comments |
|---|---|---|---|---|
| X | | | Forebay debris load acceptable? (amount) | 209 yrd² large woody debris along shore/exits |
| | | X | Gatewell drawdown measured this week? | |
| | | X | Gatewell drawdown acceptable | |
| | | X | Any debris seen in gatewells (% coverage) | |
| | | X | Any oil seen in gatewells? | |

Comments: Gatewell debris will not be measured again until the spring. STSs are raised in all slots blocking a clear view of the gatewell, therefore making a value for the debris in the slots inaccurate.

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 are pulled for the winter season.

Orifices, Collection Channel, Dewatering Structure, and Flume:

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

Comments: The collection channel is dewatered for winter maintenance season. All orifices are closed.

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

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

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

Spillway Weir: Spill has ended for the season.

## River Conditions

River conditions at Lower Monumental Dam.

| Daily Average River Flow (kcfs) | | Daily Average Spill (kcfs) | | Water Temperature (°F)* | | Water Clarity (Secchi disk - feet) | |
|---|---|---|---|---|---|---|---|
| High | Low | High | Low | High | Low | High | Low |
| 24.8 | 16.8 | 0.0 | 0.0 | 44.0 | 44.0 | 7.0 | 7.0 |

*Scrollcase temperatures were taken from unit 2, as unit 1 is currently dewatered for annual maintenance.

## Other

Inline Cooling Water Strainers: Cooling water strainers will be inspected again in January.

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

Invasive Species: Zebra or quagga mussel traps will be inspection again in January.

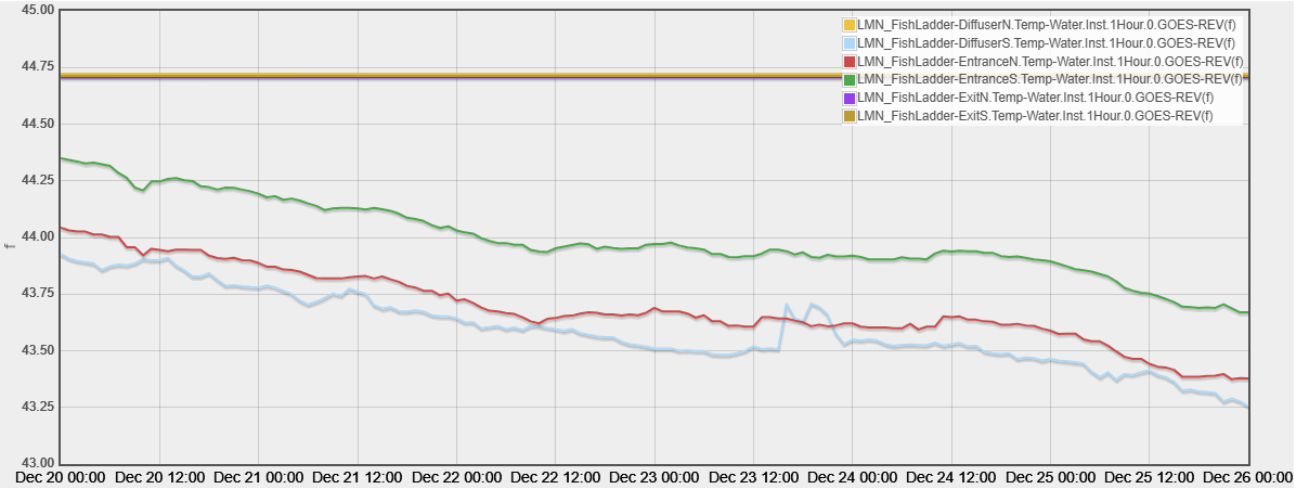
Siberian Prawn: Siberian prawn collection ended for the season.

Fish Rescue/Salvage: No fish salvage occurred this week.

Research: No research is occurring at this time.

Temperature Probes: The adult passage temperature probes operated correctly except for the north and south exit probes. Hydrology has been notified and will come out to examine them after the holidays, during the second week in January.

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



**Project: Little Goose Dam**
Biologist: Deb Snyder, Latricia Rozeboom
Dates: December 20 – December 26, 2024

## Turbine Operation

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

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

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

| | OOS | | RTS | | |
|---|---|---|---|---|---|
| **Unit** | **Date** | **Time** | **Date** | **Time** | **Outage Description** |
| 1 | 12/02/2024 | 0630 | 12/23/2024 | 16:00 | Unit Annual |
| 3 | 8/19/2024 | 07:00 | 11/30/2025 | 17:00 | Annual 6-year overhaul. |
| 5 | 4/14/2017 | 14:11 | 01/31/2025 | ERTS | Spider and upper guide bearing repair. |

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

## Adult Fish Passage Facility

USACE staff inspected the adult Fishway on December 26 due to limited staffing and Holiday schedule.

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 | | X | North Powerhouse Entrance (NPE-1) Weir Depth | ≥ 7.0’ or on sill | |
| X | | X | North Powerhouse Entrance (NPE-2) Weir Depth | ≥ 7.0’ or on sill | |
| X | | | North Powerhouse Entrance Channel/Tailwater Differential | 1.0’–2.0’ | |
| X | | | North Shore Entrance (NSE-1) Weir Depth | ≥ 6.0’ or on sill | |
| X | | | North Shore Entrance (NSE-2) Weir Depth | ≥ 6.0’ or on sill | |
| | X | | North Shore Channel/Tailwater Differential | 1.0’–2.0’ | 12/26 – 0.8 |
| X | | | Collection Channel Surface Velocity | 1.5 – 4.0 fps | |

Comments: The adult fishway was returned to service on February 15. The AWS pumps returned to service on February 22. The Collection Channel Surface Velocity is measured at NPE. The fish system control program is proving unreliable and inadequate to balance the adult fishway in “automated” mode. Biologist personnel are manually adjusting and balancing the adult fishway with increasing frequency. EAS Bio personnel report the FSC board reflects weir and channel height readings with notable discrepancies compared to actual physical hand

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

Auxiliary Water Supply System:

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

Comments: Fish pumps 1 and 3 were returned to service February 22. Fish pump 2 was returned to service on February 28.

## Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil:

| Yes | No | NA | Item | Comment |
|---|---|---|---|---|
| X | | | Forebay debris load acceptable? (amount) | High 315 ft² - Low 315 ft² |
| | X | | Gatewell drawdown measured this week? | |
| | | X | Gatewell drawdown acceptable | |
| | X | | Any debris seen in gatewells (% coverage) | |
| | X | | Any oil seen in gatewells? | |

Comments: The forebay had minimal floating debris **inside** the trash shear boom with the highest measurement occurring on December 26 at 115 ft². The overall total forebay debris high occurred on December 26 at 315 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. ESBS screens pulled and visually inspected on units 1, 3, and 5 the week of December 9$^{th}$. ESBS screens pulled on units 2, 4, and 6 December 17.

Orifices, Collection Channel, Dewatering Structure, and Flume:

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

Comments: The juvenile bypass system was watered up on March 7 without incident and dewatered for seasonal winter maintenance on December 18.

Collection Facility: The juvenile collection facility was successfully watered up on March 20. Every other day collection for condition monitoring in conjunction with secondary bypass commenced March 25 with the first sample being conducted on March 26. Every day collection began April 23 coinciding with barge transportation operations. Every-other day collection was initiated on July 8 due to water temperatures above 68°F. Every day collection resumed at 0700 on August 1st corresponding with the start of every other day trucking operations as per the FPP. Final season collection cycle and truck transport transpired the morning of November 1.

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

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

## River Conditions

River conditions at Little Goose Dam.

| Daily Average River Flow (kcfs) | | Daily Average Spill (kcfs) | | Water Temperature* (°F) | | Water Clarity (Secchi disk - feet) | |
|---|---|---|---|---|---|---|---|
| High | Low | High | Low | High | Low | High | Low |
| 25.2 | 17.2 | 0.0 | 0.0 | 43.3 | 43.3 | 6.0 | 6.0 |

*Ladder temperature.

## Other

Inline Cooling Water Strainers: The 2024 season inline cooling strainer inspections commenced on December 1, 2023, and continued through July 28, 2024, with results submitted to the District. Season 2025 inline cooling strainer inspections commenced November 14, 2024, and will continue in accordance with the Fish Passage Plan with results submitted to District.

Avian Activity: Daily piscivorous bird counts at Little Goose Dam began April 1, while USDA-APHIS bird abatement contract services are in place. Daily bird counts for the season ended on November 7.

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

Siberian Prawn: Juvenile fish collection began March 25 and ended on November 1. Siberian prawns collected in the sample at the Juvenile Fish Facility were humanely euthanized by Oregon Department of Fish and Wildlife and EAS Bio personnel, frozen and properly disposed of in a landfill.

Gas Bubble Trauma (GBT): Oregon Department of Fish and Wildlife began GBT monitoring on April 4 and completed final monitoring activities on July 23.

Fish Rescue/Salvage: No Fish salvage activities occurred during this 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: December 20-26, 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 inspected the adult fishway December 23.

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’ | |
| X | | | Collection Channel Surface Velocity | 1.5 – 4.0 fps | |

Comments: Fish ladder control system operation and configuration is an ongoing issue that began when the system was installed in 2016.

Auxiliary Water Supply System:

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

Comments:

**Juvenile Fish Passage Facility**

Forebay Debris/Gatewell Debris/Oil:

| Yes | No | NA | Item | Comments |
|---|---|---|---|---|
| X | | | Forebay debris load acceptable? (amount) | 145 $yd^2$ |
| | 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 | ESBS/VBSs inspected this week? |
| | | X | ESBS/VBSs inspection results acceptable? |
| | X | | VBSs differentials checked this week? |
| | | X | VBSs differentials acceptable? |

Comments: ESBSs removed from service December 16-19.

Orifices, Collection Channel, Dewatering Structure, Bypass Pipe:

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

Comments: The Juvenile Bypass System was dewatered December 19.

Collection Facility: The facility is dewatered for winter maintenance.

Transport Summary: N/A

Spillway Weir: N/A

PIT tag interrogations: RSW detections for the season included 64,493 juvenile and 183 adult Chinook salmon, 48,459 juvenile and 808 adult steelhead, 8,864 juvenile and 3 adult sockeye, 2,592 juvenile and 31 adult coho salmon. Juvenile bypass system detections included 10,256 juvenile and 27 adult Chinook salmon, 14,599 juvenile and 144 adult steelhead, 221 juvenile and 4 adult sockeye, 240 juvenile and 10 adult coho salmon (DART).

## River Conditions

River conditions at Lower Granite Dam.

| Daily Average River Flow (kcfs) | | Daily Average Spill (kcfs) | | Water Temperature* (°F) | | Water Clarity (Secchi disk - feet) | |
|---|---|---|---|---|---|---|---|
| High | Low | High | Low | High | Low | High | Low |
| 24.6 | 19.7 | 0.0 | 0.0 | 41.0 | 41.0 | 5.0 | 5.0 |

*Cooling water intake temperature.

## Other

Inline Cooling Water Strainers: Unit cooling water strainers were inspected December 23.

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

Avian Activity: N/A

Gas Bubble Trauma (GBT) Monitoring: N/A

Adult Fish Facility Operations: N/A

Fish Rescue/Salvage: N/A

Research: N/A