U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
FISH FACILITIES WEEKLY REPORT
#23-2015

Project: McNary
Biologist: Bobby Johnson
Dates: July 31 – August 6, 2015

Turbine Operation

Turbine unit outages are recorded in Table 1 below. McNary had 11 to 13 of 14 units available for power generation. The hard 1 percent constraint and the saw tooth unit priority continued. No turbine units ran outside the constraint. The 72 hour operational test of unit 12 will begin on August 7.

Table 1. Unit Outages at McNary Project.

Units	Outage Dates	Outage Length	Reason
12	Feb 8 – Aug 10	About 6 months.	Rewind contract.
9	Aug 3 to 7	About 5 days.	Annual maintenance.
7	Aug 6 to 11	About 5 days.	High pressure lift pump system replaced.

Adult Fish Passage Facilities

The McNary fisheries biologist performed measured inspections of the adult fishways on July 31, August 2 and 5. Visual adult fish counts, review of video tape for adult lamprey counts and exit temperature monitoring continued. All systems continued to be monitored diligently as warm water conditions prevailed.

The Oregon ladder fish pumps and the Wasco County Public Utility District (PUD) turbine unit in the Washington ladder remained on raw river water for cooling. On August 3, the fish pumps were cooled with potable water for 1. 5 hours in order to reduce the reservoir level for an inspection and valve maintenance. From July 31, at 1253 hours to August 3, at 1355 hours, the PUD unit was operated with potable cooling water. This reduced personnel call outs to clean raw water strainers.

The potable water reservoir continued to be filled by a City of Umatilla fire hydrant as needed. Operators monitored the reservoir level repeatedly. The reservoir supplies only basic water needs. A contract for repairs or replacement has not yet been awarded.

Operation of both fish pumps on raw water for cooling will continue until well pump 2 returns to service. Potable water was used for cooling during raw water strainer cleaning only. The fish pump raw water strainer was cleaned five to six times per day.

Fish Ladder Exits: Both ladder exits met all criteria except the Washington ladder exit on July 31. The head over weir and count station differential measured 1.4 and 1.6 feet, respectively. The biologist and roving operator immediately cleaned the trash rack and picketed leads, which resolved the problem. Picketed leads were cleaned at both exits as required, including weekends.

At the Washington ladder exit, the operators adjusted the regulating and tilting weir set points on July 31 and August 1. The regulating weir set point was adjusted again on August 5. The mechanics performed scheduled maintenance on the tilting weirs on August 3 as part of the oil accountability program. Aquatic vegetation quantities were minimal to light in the exit area.

At the Oregon ladder exit, weir 340 remained in bypass mode due to a failed encoder. Ladder operation was not adversely affected. The operators adjusted the regulating weir set point on August 2 and 5 along with the tilting weir set point on August 5. Debris loads varied between light and heavy as winds moved aquatic vegetation in and out along the Oregon shore. From August 3 to 6, the fisheries mechanic repaired the incinerator toilet near the Oregon count station.

Fishway Entrances and Collection Channel: At the Washington entrance, all entrance inspection points met criteria.

At the Oregon ladder, the north powerhouse entrance weir, NFEW3 measured depths of 7.8 feet on August 2 and 5. The biologist requested a weir set point adjustment on August 5. The biologist found the weir at an elevation of 255.7 feet on August 6. Following reviews of previous inspection records, facility staff determined that the weir had not changed elevation since July 27. After examination, the electrical staff found a wiring issue which they repaired by 1400 hours. All other inspection points were in criteria.

Collection channel surface velocities averaged 1.5 feet per second.

Auxiliary Water Supply System: The PUD turbine unit in the Washington ladder had no interruptions in service this week. Two of the three Oregon ladder fish pumps operated satisfactorily with blade angles of 30 degrees with no interruptions in service this week. Fish pump 2 is currently under contract for major overhaul. If pump shaft replacement is required, the fish pump overhaul completion might be delayed to April, 2016. Completion was previously scheduled for September, 2015. The juvenile facility continued to supply 450 cubic feet per second to the north powerhouse pool.

Juvenile Fish Passage Facility

The fish passage season consists of alternating days of primary and secondary bypass modes. The switch occurs every morning at 0700 hours. There were no deviations in the schedule. Secondary bypass occurred on July 31, August 2, 4 and 6. This week, 20 juvenile lamprey and 675 smolts were bypassed. Samples this week included increased numbers of juvenile shad.

The B side sample tank water temperature and fish in all areas continued to be monitored. Warm water temperatures continued to be a grave concern.

The juvenile facility continued to have a limited potable water supply.

Forebay Debris/Gatewell Debris/Oil: The forebay debris load was minimal to light and scattered across the powerhouse face except when northeast winds would temporarily move accumulations toward the Oregon shore. New incoming debris was minimal to light and consisted of aquatic vegetation.

No high trash rack differentials were recorded and no racks were cleaned.

One problem was observed in the gatewell slots. On August 6, a small amount of hydraulic fluid was removed from slot 7A.

ESBSs/VBSs: All turbine units have extended-length submersible bar screen (ESBSs) installed. The screens in slots 1A, 3B and 11C remained in timer mode. During unit testing, the screen in slot 12A triggered alarms repeatedly. On August 6, the operator calibrated the screen brush mechanism. No camera inspections occurred this week.

No high VBS (vertical barrier screen) differentials were recorded. On August 5, the screens in slots 1A and 8A were cleaned. VBS rehabilitations continued.

Orifices, Collection Channel, Dewatering Structure, and Bypass Pipe: Forty two orifices were in use. During VBS cleaning, orifices in the affected slots were closed, with makeup water coming from orifices in adjacent slots. Orifice attraction lights were replaced as required.

All systems functioned satisfactorily in automatic mode. The side and rectangular screen cleaning brushes were lubricated. The two hoists used to remove and install the emergency bypass floor panels were inspected by the general maintenance staff.

Bypass Facility: During the bypass season, primary and secondary bypass modes return all fish are to the river. Passive integrated transponder (PIT) tag detection occurs in the full flow pipe during primary bypass and throughout the facility during secondary bypass. Smolt monitoring occurs only on secondary bypass days.

The sample gates are turned on and off every other day so that they are in service only during secondary bypass. The gates and all operational systems functioned well. The PIT tag sample gates remained turned off. The facility bypass lines provide a superior route for the fish over the PIT tag sample release lines downstream of the PIT tag sample gates. Pacific State Marine Fish Commission (PSMFC) maintenance staff continued their weekly checks of the PIT tag detection system. The A and B side flume bypass gates remain off and open for secondary bypass.

Algae removal from the system continued on every primary bypass day. On August 3, the technician cleaning the count tanks inadvertently turned off the air supply to the A side sample

gate. The next day, from 0700 to 1120 hours, no sampling occurred on the A side until the biologist restored the air supply to the sample gate.

River Conditions

River conditions during the week are outlined in Table 2 below as provided by the smolt monitoring staff. The data period runs from 0700 to 0700 hours each day. Flows and spill are recorded in one-thousand cubic feet per second. Temperature is recorded in degrees Fahrenheit. The routine summer spill program in support of fish passage continued with 50 percent of river flow being spilled. The spill pattern was altered for navigation as required.

The smolt monitoring staff continued recording water temperature data. The results are published in a separate report.

Table 2. River Conditions at McNary Dam.

Daily Average River Flow		Daily Average Spill		Water Temperature		Water Clarity* (Secchi disk - feet)	
High	Low	High	Low	High	Low	High	Low
156.5	124.9	78.5	62.8	71.4	70.0	6.0	6.0

*Control room data.

Other

Inline Cooling Water Strainers: No juvenile lamprey or smolts were observed during the cooling water strainer examinations on August 4. A few crayfish and juvenile shad were noted.

Invasive Species: The next zebra mussel station examination will occur in late August. Bureau of Reclamation and Walla Walla District personnel toured McNary Project on August 4 to begin a mussel risk assessment for the project.

Avian Activity: Avian counts are recorded in Table 3 below.

United States Department of Agriculture – Animal and Plant Health Inspection Service – Wildlife Services (USDA–APHIS–WS) personnel concluded bird hazing activities on August 1. That day, about four hours of hazing were missed so the employee could take the government vehicle into Hermiston, Oregon to have a new battery installed.

Bird hazing distress calls remain deployed around the project and continued to function satisfactorily. The fisheries mechanic and the general maintenance staff continued to clean the bird hazing water cannon pump intake three times a week. The fisheries mechanic continued to install bird wire on the downstream navigation lock wing wall handrail, where gulls and occasionally cormorants were observed roosting.

Table 3. McNary Project's Daily Avian Count.

Date	Zone	Gull	Cormorant	Tern	Pelican	Grebe
Jul 31	Forebay	0	0	0	0	7
	Spill	2	0	0	19	0
	Powerhouse	0	0	0	1	0
	Outfall	0	0	0	3	0
Aug 1	Forebay	0	0	0	0	9
	Spill	14	1	14	14	0
	Powerhouse	0	0	0	0	0
	Outfall	0	0	0	1	0
Aug 2	Forebay	0	0	0	0	2
	Spill	8	0	13	14	0
	Powerhouse	0	0	0	0	0
	Outfall	0	0	0	0	0
Aug 3	Forebay	0	0	0	0	6
	Spill	12	1	22	28	0
	Powerhouse	0	0	0	0	0
	Outfall	0	0	0	0	0
Aug 4	Forebay	1	0	0	0	0
	Spill	40	2	10	14	0
	Powerhouse	0	0	0	2	0
	Outfall	0	1	0	1	0
Aug 5	Forebay	0	0	0	0	0
	Spill	15	0	0	8	0
	Powerhouse	0	1	0	0	0
	Outfall	0	0	2	0	0
Aug 6	Forebay	4	0	1	0	4
	Spill	25	0	0	7	0
	Powerhouse	0	0	0	0	0
	Outfall	0	0	0	0	0

A small grebe group was observed in the forebay along with an occasional gull, tern and osprey. Small numbers of gulls and cormorants were roosting on the rocks by the Washington shore boat dock, which is outside the forebay boating restricted zone (BRZ).

Terns and gulls along with an occasional cormorant were observed in the tailwater area feeding in the spillway flow along with pelicans along spill flow edge and the shorelines. Overall bird numbers continued to decline.

An occasional pelican, tern and cormorant were noted feeding at the juvenile bypass outfall. Pelicans were also observed roosting on the rocks downstream in the wildlife park.

Research: The adult lamprey passage study continued.

Project: Ice Harbor
Biologists: Ken Fone
Dates: July 31 – August 6, 2015

Turbine Operation

Unit 6 has been out of service for annual maintenance since 0716 hours on July 6. All available units were operated within the 1% peak efficiency range (hard constraint).

Adult Fish Passage Facility

Fish facility personnel inspected the adult fishways on August 3, 4, 5, and 6.

Fish Ladders: The north fish ladder inspection areas (head differentials at fishway exit and picketed leads, and depth over weirs) were in criteria on all inspections. The south fish ladder inspection areas (head differentials at fishway exit and picketed leads, and depth over weirs) were in criteria on all inspections. The south shore upstream picketed lead needs to be cleaned frequently to stay within criteria. Criteria for head differentials at ladder exits and picketed leads, and depth over the weirs are 0.5 feet or less, 0.3 feet or less, and 1.0-1.3 feet, respectively. The water surfaces above the fish ladder exits were clear of debris and the bubblers were operating satisfactorily.

Fishway Entrances and Collection Channel: The south shore entrance (SFE-1) depth and channel/tailwater differential were in criteria, except for a depth of 7.2 feet on August 4 caused by the entrance gate being 0.2 feet off of sill in automatic control. The gate control was switched to manual and lowered down to sill. The north powerhouse entrance (NFE-2) depth and channel/tailwater differential were in criteria on all inspections. The north shore entrance (NSE-1) depth and channel/tailwater differential were in criteria on all inspections. Fishway entrance criteria are 8 feet depth or greater, or on sill. Channel/tailwater differential criteria are 1 – 2 feet.

The south shore channel velocity was in criteria on all inspections. The channel velocity criterion is 1.5-4.0 feet/second.

Auxiliary Water Supply (AWS) System: Two of the three north shore AWS pumps were operated throughout the week. North shore pump 3 has been out of service since 0846 hours on April 22 for pre-lubrication pump replacement. Six of theeight south shore AWS pumps were operated throughout the week.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil: There was no surface debris observed in the forebay. There was little to no surface debris coverage in the gatewells.

STSs/VBSs: The STSs are being operated in cycling mode. Inspection of each unit's STSs and unit 6 VBSs occurred on July 20 and 22. There were no screen problems observed.

Orifices, Collection Channel, Dewatering Structure, and Bypass Pipe: The bypass is operating with 20 orifices open. Orifices were routinely cycled and back-flushed once per day. Orifice light 6BS was found to be not working on July 10 due to a bad fixture. Orifice 6AS was opened and 6BS closed (with 6BN open) until the fixture can be replaced.

Juvenile Fish Facility: Fish are being routed through the bypass.

Fish Sampling: Fish sampling is done for the season.

Removable Spillway Weir (RSW): Mandated spill for fish passage began on April 3. The RSW is in operation.

River Conditions

River conditions during the week are outlined in Table 1 below.

Table 1. River conditions at Ice Harbor Dam.

Daily Average River Flow (kcfs)		Daily Average Spill (kcfs)		Water Temperature* (^{o}F)		Water Clarity (Secchi disk - feet)	
High	Low	High	Low	High	Low	High	Low
33.8	23.1	23.9	13.1	70	70	7.4	6.0

*Unit 1 scrollcase temperature.

Other

Inline Cooling Water Strainers: The turbine cooling water strainers for units 5 and 6, units 1 and 2, and units 3 and 4 were inspected on July 6, 20, and 22, respectively. There were 11 Siberian prawns found (all mortalities).

Invasive Species: No new exotic species have been found.

Avian Activity: The counting and recording of piscivorous bird numbers ended for the season on July 30. In general, the amount of birds around the dam remained relatively high during the week, with the majority of birds roosting on Eagle Island.

Research: Hydroacoustic transducers mounted on the STS frame in gatewell slot 1B, and on 1B trash rack, are collecting data for the turbine intake fish distribution study.

Project: Lower Monumental
Biologists: Bill Spurgeon and Raymond Addis
Dates: July 31 – August 6, 2015

Turbine Operation

The units are being operated within the hard constraint 1% operational criteria. Unit 1 was removed from service on December 10, 2014 for unit rehabilitation with an estimated return to service date of January 12, 2017. Units 4, 5 and 6 were rotated out of service on August 4 and Units 2 and 3 on August 5 for STS/VBS inspections.

Adult Fish Passage Facility

The adult fishway was inspected by Corps and Blue Leaf Environmental biologists on July 31, August 1, 2 and 5.

Fish Ladders: Fishway exit head differentials and depths over the weirs were within criteria (≤ 0.5' and 1.0'-1.3', respectively) on all inspections. Picketed lead head differentials were in criteria (≤ 0.4' and ≤ 0.3' for north and south shore fishways, respectively) on all inspections.

Fishway Entrances and Collection Channel: NSE1 and NSE2 weir gates were in depth criteria (criteria: ≥ 8' or on sill) on all inspections. North shore channel/tailwater head was in criteria (1'-2') on all inspections.

SPE1 and SPE2 weir gates were in sill criteria (criteria: ≥ 8' or on sill) on all inspections. While on sill, both gate depth readings ranged from 5.6 to 6.6 feet. South powerhouse channel/tailwater head was in criteria (1'-2') on all inspections.

SSE1 weir gate was in sill criteria (criteria: ≥ 8' or on sill) on all inspections. While on sill, gate depth readings ranged from 5.9 to 6.7 feet. SSE2 was in criteria (6' above sill) on all inspections. South shore channel/tailwater head was in criteria (1'-2') on all inspections with the exception of July 31, August 1 and 2 readings with readings of 0.8, 0.7 and 0.4 respectively. Power plant operators were informed of the discrepancies after each inspection.

Auxiliary Water Supply System: AWS pumps 1, 2, and 3 were operated throughout this period.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil: There was an average of 15 square yards of forebay debris observed during this period. Gatewell debris ranged from 0-10% surface coverage.
No problems observed in gatewells.

STSs/VBSs: STSs were operated in continuous-run mode due to average sub-yearling Chinook length being less than 120 mm. STS/VBS inspections were conducted August 4 and 5 with all screens found in good operating condition.

Orifices, Collection Channel, Dewatering Structure, Flume: The collection channel was operated with 18 orifices open.

Collection Facility: Operated in collection for transport mode. No problems occurred.

Transport Summary: Alternate day barging began on May 22 and continued through this period.

River Conditions

Routine spill in support of fish passage was initiated at 0001 hours on April 3. Spill this period conformed to the specified requirements. Spill was either halted or limited during barge docking and loading operations. River conditions during the week are outlined in Table 1 below.

Table 1. River conditions at Lower Monumental Dam.

Daily Average River Flow (kcfs)		Daily Average Spill (kcfs)		Water Temperature (^{o}F)*		Water Clarity (Secchi disk - feet)	
High	Low	High	Low	High	Low	High	Low
31.1	22.8	17.4	10.3	70	68.1	4.8	3.4

*Scrollcase temperatures.

Other

Inline Cooling Water Strainers: Cooling water strainers were inspected on August 3. There were no live fish recovered. Mortalities included 3 American shad and 7 Siberian prawn.

Invasive Species: No zebra mussels were observed at the monitoring stations on August 2.

Avian Activity: Daily tailrace counts of feeding piscivorous birds are summarized in Table 2 below. Gulls and cormorants were the dominant species observed during inspections this week. Hazing ended on June 2.

Table 2. Lower Monumental Tailrace Counts of Foraging Piscivorous Birds.

Date	Time (hours)	Gulls	Cormorants	Caspian Terns	Pelicans
July 31	1100	1	0	0	0
August 1	1100	3	0	0	0
August 2	1100	1	2	0	0
August 3	1100	2	0	0	0
August 4	1120	3	0	0	0
August 5	1100	3	0	0	0
August 6	1100	2	0	0	0

Research: No onsite research is in progress at this time.

Project: Little Goose
Biologist: Richard Weis
Dates: July 31 – August 6, 2015

Turbine Operation

Most all turbine units were available for service throughout this report period. Unit 2 is out of service for Digital Governor Install starting July 14. Unit 6 was removed from service for annual maintenance on July 27. Hard constraint 1% peak efficiency criteria are in effect. No violations were seen.

Adult Fish Passage Facility

Adult fishway inspections were performed on August 02 and 06.

Fish Ladder: The ladder exit head differentials ranged between 0.0 and 0.2 feet (criteria ≤ 0.5 ft.). Water depths over the ladder weirs held steady at 1.2 feet (criteria 1.0-1.3 ft.) and picketed lead head differentials held steady at 0.2 feet (criteria ≤ 0.3 ft.). The air bubbler used to prevent debris from collecting near the ladder exit operated satisfactorily.

Fishway Entrances and Collection Channel: The Adult Fishway system is in Automatic mode. We are still getting incorrect gate elevation readings when the gate is in the lower quarter of the fish channel at NSE. NSE 1 and 2 are in manual mode. Channel to tailwater head differentials ranged between 1.2 and 1.7 feet (criteria 1.0 to 2.0 ft.). SSE weir depths held steady at 8.2 feet (criteria ≥ 8.0 ft). NPE weir depths ranged between 4.2 and 4.4 feet and were on sill (criteria ≥7.0 ft. or on sill). NSE weir depths ranged between 5.8 and 6.6 feet (criteria ≥ 6.0 ft.). Collection channel surface water velocities measured at the North powerhouse ranged between 1.6 and 1.9 fps (criteria 1.5 to 4.0 fps). The monthly water velocity measured at the north powerhouse using the Rickly velocity equipment measured 1 foot from bottom, mid depth and surface averaged 3.8fps.

Auxiliary Water Supply System: Fish pumps 2 and 3 operated as designed. Fish pump 1 gear box was rebuilt and is waiting on parts to allow placement of the gear box into position.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil: The trash/shear boom is currently still on shore. Efforts are underway to have it repaired. Woody debris in the immediate forebay was 0 square feet for the week.

Spillway Weir: Spillway weir was removed for the season on June 18.

ESBS/VBS: ESBS screens are all deployed and gatewells are cleaned except gatewell 5A which still has oil absorbent pads deployed as a slight sheen of oil had been seen. All criteria were met. Drawdowns were not conducted this week.

Orifices, Collection Channel, Dewatering Structure, and Flume: The Juvenile bypass system is running with 21 open orifices.

Transportation Facility: The Juvenile Fish Facility (JFF) was transporting fish every other day. GBT (Gas Bubble Trauma) sampling ended for the season.

Transport Summary: The collection and transportation facility operated within criteria this report period. A total of 1,929 fish were collected for transport. The descaling and mortality rates were 0.4% and 1.2% respectively. This weekly report period saw 4 adult lamprey removed from sample and released upstream at Little Goose Landing.

River Conditions

River conditions during the week are outlined in Table 1 below.

Table 1. River conditions at Little Goose Dam.

Daily Average River Flow (kcfs)		Daily Average Spill (kcfs)		Water Temperature* (^{o}F)		Water Clarity (Secchi disk - feet)	
High	Low	High	Low	High	Low	High	Low
30.8	24.1	11.2	9.3	70.7	68.5	5.9	4.4

*Ladder temperature.

Other

Inline Cooling Water Strainers: All cooling water strainers were checked on July 15. No fish were seen.

Invasive Species: The zebra mussel substrate monitor was inspected on July 17. No zebra mussels were detected.

Avian Activity: Bird hazing ended on June 16. See Table 2 below for the numbers observed.

Table 2. Daily maximum tailrace piscivorous bird counts at Little Goose Dam*.

Date	Time (hours)	Gulls	Cormorants	Caspian Terns	Pelicans
July 31	0915	17	4	0	0
August 1	0800	10	0	0	0
August 2	1220	9	11	0	0
August 3	1150	15	5	0	1
August 4	1045	21	11	0	2
August 5	1015	9	8	0	1
August 6	1100	21	12	0	0

*Bird counts are taken from a single observation, Forebay and Tailrace.

Research: No onsite research is in progress at this time.

Project: Lower Granite
Biologists: Elizabeth Holdren
Dates: July 31 – August 6, 2015

Turbine Operation

Units are operating within the hard constraint 1% operational criteria. Unit 4 was removed for service at 0920 hours June 24 for annual maintenance/six year overhaul. Unit 2 was returned to service from standby at 0459 hours August 3. Unit 1 was returned to standby mode at 0500 hours August 3.

Adult Fish Passage Facility

The adult fishway was inspected by Corps or Blue Leaf Environmental biologists on August 1, 2, 3, and 5.

Fish Ladder: Fish ladder exit head differential and depth over the weirs were in criteria (≤0.5' and 1.0-1.3', respectively) on all inspections. Picketed lead head differential was in criteria (≤ 0.3') on all inspections.

Fishway Entrances and Collection Channel: SSE1 and SSE2 weir gates were in depth criteria (criteria ≥8' or on sill) on all inspections. South shore channel/tailwater head differential was in criteria (criteria 1'-2') on all inspections.

NPE1 and NPE2 weir gates were in sill criteria (criteria ≥8' or on sill) on all inspections. While on sill, the weir gate depth readings were 5.9', 5.8, 5.8', and 5.8 feet. North powerhouse channel/tailwater head differential was in criteria (criteria 1'-2') on all inspections with the exception of a 0.8 feet reading August 2.

NSE1 remains closed. NSE2 is set with a chain fall hoist at 626.0 feet. NSE2 was in depth criteria (criteria ≥7' or on sill) on all inspections. North shore channel/tailwater head differential was out of criteria (criteria 1'-2') on three inspections with head differential readings of 0.7', 0.8', and 0.9 feet.

Collection channel velocity was out of criteria (criteria 1.5-4.0 fps) on all inspections with readings ranging from 1.0 - 1.0 fps and a weekly average of 1.0 fps. Alternative methods of measuring collection channel velocity are being investigated.

Auxiliary Water Supply System: The fish ladder is in two pump operation with AWS pumps 1 and 2 operating and pump 3 is in standby mode.

Fish Ladder Temperature Mitigation: Auxiliary pump 1 (supplies water to the ladder exit) and the three temporary ladder cooling pumps remain in 24 hour operation.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil: Forebay debris was minimal. Daily gatewell surfaces inspections continue. Floating debris is being removed daily to prevent orifice blockages. No oil was reported in gatewell slots.
ESBSs/VBSs: Video inspections are scheduled for late August.

Orifices, Collection Channel, Dewatering Structure, Bypass Pipe: Orifices are being backflushed every three hours.

Collection Facility: Collection for juvenile transport and condition sampling continues. Adult sockeye fallback collection from Lower Granite juvenile fish facility separator ended at 1100 hours, August 5. A total of 5 adult sockeye were collected and transported to Eagle Fish Hatchery (EFH) from the JFF separator during this emergency operation. August 6 the permit to collect sockeye for IDFG transport to Eagle Hatchery was extended. Fallback collection will resume August 10.

Transport Summary: Every other day barge transport is occurring with barges departing on even numbered days.

River Conditions

Spill with no RSW in service (FPP Table LWG-9) continues. River conditions during the week are outlined in Table 1 below.

Table 1: River conditions at Lower Granite Dam.

Daily Average River Flow (kcfs)		Daily Average Spill (kcfs)		Water Temperature* (F^o)		Water Clarity (Secchi disk - feet)	
High	Low	High	Low	High	Low	High	Low
31.7	13.8	24.9	12.1	69.3	64.0	5.0+	5.0

*Cooling water intake temperature.

Other

Inline Cooling Water Strainers: Unit cooling water strainers were inspected July 29. No organisms were recovered.

Invasive Species: No evidence of zebra/quagga mussel was observed July 3.

Avian Activity: Piscivorous bird observation counts are taken from the juvenile fish separator platform one hour after sunrise and one hour before sunset. Maximum piscivorous bird counts are summarized in Table 2 below.

Table 2. Daily maximum tailrace piscivorous bird counts at Lower Granite Dam.

Date	Time (hours)	Gulls	Cormorants	Terns	Pelicans
July 31	0630	3	1	0	0
August 1	0630	1	1	0	0
August 2	0630	1	0	0	0
August 3	0630	2	0	0	0
August 4	0630	0	0	0	0
August 5	0630	3	3	0	0
August 6	0630	4	3	0	0

Adult Fish Trap Operations: Emergency trapping and transport of sockeye operation ended August 5. A combined total of 47 (42 from the adult trap and 5 from the JFF) adult sockeye were collected and transported to EFH from Lower Granite during this operation. Extending emergency trapping and transport of adult sockeye at Lower Granite to EFH operation was approved August 6 and will resume August 10. Sockeye will be collected during adult trap biological sampling and from the JFF separator Monday-Thursday. IDFG will be notified when sockeye are collected at Lower Granite and transported the next day at 1100 hour.
When IDFG is transporting sockeye collected Thursday collection from the adult trap and separator will continue until the truck departs at 1100 hours Friday.

Fish Rescue Operation: No fish rescues occurred this week.

Research

Onsite research has concluded for the season.