U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
FISH FACILITIES WEEKLY REPORT
#01-2015

Project: McNary
Biologists: Carl Dugger and Bobby Johnson
Dates: March 1 - 5, 2015

Turbine Operation

McNary had 11 units available for power generation this week. On April 1, the hard constraint one percent criteria will begin. Currently, units are operating within the soft 1% efficiency restrictions, meaning the units may run outside the 1% peak efficiency constraint at BPA's request. Unit outages are recorded in Table 1.

Table 1. Unit Outages at McNary Dam.

Units	Outage Dates	Outage Length	Reason
9	Aug 11, 2014 – Mar 19, 2015	About 7 months.	Rewind contract.
11	Sep 18, 2013 – Apr 1, 2015	About 18.5 months.	Turbine bearing issues.
12	Feb 8 – Oct 9	About 8 months.	Rewind contract.
1	Mar 2	2.8 hours.	Trash rack cleaning.
8	Mar 3	10.3 hours.	Scheduled maintenance.
6	Mar 4	6.8 hours.	Tap the hub.
2 & 4	Mar 5	3.8 & 2.5 hours each.	Trash rack cleaning.

Adult Fish Passage Facilities

During January, the project conducted inspections and maintenance on Washington ladder. The ladder was dewatered to collection channel elevations. The diffuser gratings were camera inspected. Project staff continued to fill in some of the ladder's leaking joints and upgraded the electrical controls at the entrances.

During part of January and February, the project inspected and conducted maintenance on the Oregon ladder. We dewatered the ladder to the south junction pool. The fisheries staff performed camera inspections on the remaining diffuser grating. PSMFC replaced two PIT tag detectors. Project staff removed three floating orifices gates for rehabilitation.

On March 1, 3 and 5, the McNary fisheries staff performed measured inspections of the adult fishways. Visual adult fish counts will resume April 1.

Fish Ladder Exits: During measured inspections, both ladder exits met all Fish Passage Plan criteria.

At the Washington exit, over winter, all systems received maintenance. After re-watering the ladder, we noted a slight leak at the lower east corner of the count station window, which we are monitoring. For the report week, no issues occurred and only a slight amount of debris was in the area of the exit.

Over winter at the Oregon exit, the project did scheduled maintenance along with rehabilitation of the count station structure and the picketed leads' supports. We also installed a high water sensor to inform the control room when the picketed leads are obstructed with debris. For the week, on March 3, we noted multiple exit alarms, which we resolved. Also, the operators adjusted the set points. This week, all exit weirs received scheduled maintenance. Finally, some of the debris that was at the powerhouse had moved to the area of the exit.

Also, during the winter, on the Oregon exit, when operational, our differential monitoring of the traveling screens revealed no problems. When out of service, the project repositioned the traveling sensor sensors in order to eliminate false alarms. To start the season, the screens are set to cycle four times a day.

Fishway Entrances and Collection Channel: Over the winter, at the Washington ladder entrances, the electrical staff completed upgrades. A panel view has replaced the LED readouts. It is located by W2. For the week, all inspection points were in criteria. On March 3, both weirs were noted to be moving frequency and W3 was out of calibration. These issues were quickly resolved.

At the Oregon ladder, over winter, the project completed the electrical upgrades. Again, we installed a panel view for the weirs by SFEW1. The panel views at both ladders' entrances give the data for all entrances similar to what is observed in the control room.

For the report week, all inspection points were in criteria, except at the north powerhouse entrance. NFEW2 and NFEW3 measured 7.7 to 7.9 feet for the week. We noted that the entrances tailwater sensor was not calibrated. The project staff is addressing the issue. Also, the juvenile system not supplying the usual 450 cfs to the north powerhouse pool at this time is probably contributing to the problem. For the week, the control room also noted low limit alarms at SFEW1. The electrical staff has been asked to address this problem as well.

This week, all Oregon ladder entrance weirs were calibrated and received scheduled mechanical maintenance.

The collection channel velocity average 1.9 feet per second. We took these readings from surface observations. We did not install a new velocity meter this winter as we were not able to dewater the section of the Oregon ladder where the meter needs to be installed.

Auxiliary Water Supply System: In January, the Wasco County PUD unit received maintenance. During this time, the project cleaned the conduit intake trash racks. After restarting the ladder, the PUD remained in bypass mode due to a frequency module failure. While waiting for parts,

the PUD installed other new items along with brakes. The unit should return to service next week.

During the winter, the project performed maintenance on pumps 1 and 3 while working around the asbestos issue discovered last fall. The work included installing new brakes. For the week, both pumps operated satisfactorily with blade angles of 30 degrees and no interruptions in service. Pump 2 remains out of service for major overhaul, which will require a contract, with a completion date in September.

The juvenile facility remains out of service for maintenance and is not yet supplying the usual 450 cfs to the north powerhouse pool. We will return the system to service on March 30.

Juvenile Fish Passage Facility

The facility remains shut down for winter maintenance, which is nearing completion. On March 30, we will re-water the system.

Forebay Debris/Gatewell Debris/Oil: From mid-January to mid-February, the forebay debris loads increased from minimal to heavy. Rain storms in the region increased the amount of woody material in the river. Trash rack cleaning removed some of the debris. Also, northeast winds took some of the debris to the area around the Oregon ladder exit.

This winter, the project developed a debris management plan.

On March 5 and 6, after borrowing a tug (or "bronc") from the Lower Granite Project, we preformed a debris spill operation. Each day, the tug with a log boom moved about five loads of debris to the spillway where bay 18 had a split leaf, which allowed the debris to move downstream. This reduced the debris load from heavy to moderate. The debris was highly compacted, which made the procedure more difficult. Also, the tug had to be returned to Lower Granite on March 7.

During the winter, the fisheries staff monitored trash rack differentials, which we continue to do. Trash rack cleaning is reflected in Table 2. The truck carries ten yards of debris. We saw no ESA listed species or lamprey during the cleanings.

Table 2. Trash Rack Cleaning Results

Date	Slots/Units	Truck Loads	Highest Differential	Unit MW Load
Jan 13	1A, 3A, 10A & 12A	1.7	1.4 feet	78
Feb 17	1, 7, 13 & 14	5.2	2.3 feet	79
Feb 19	2	7.8	2.9 feet	78
Feb 23	3	7.1	2.8 feet	79
Mar 2	1	4.9	2.4 feet	79
Mar 5	2 & 4	6.0	3.2 feet	78
Mar 6	3, 5 & 6	3.2	2.4 feet	78

In February and March, about 50 percent of the debris was from the surface with the rest coming off the racks. On March 5 and 6, rack cleaning was coordinated with forebay debris removal. The floating debris complicated the trash rack cleaning operation as it had to be removed before trash racks could be cleaned.

This winter, the project removed very slight amounts of oil and hydraulic fluid with absorbent pads from three and four slots, respectively. For the week, we observed no problems.

ESBSs/VBSs: All ESBSs remain raised and the project staff has almost concluded maintenance which includes work on the motors and gearboxes. Riggers plan to install the screens from April 5 to 15 in similar fashion to the last six seasons in support of juvenile lamprey passage.

VBS rehabilitation also continued during the winter. When ESBS installation begins, we will resume VBS differential monitoring.

Orifices, Collection Channel, Dewatering Structure, Bypass Pipe: The orifices remain closed for winter maintenance which is near conclusion. The channel will be re-watered and bypass operations will begin on March 30.

During the winter, the project staff repaired the rectangular and transition screen cleaning devices, removed the liner from the side screen cleaning device electrical cord carrier, completed installation of the new electrical junction boxes, installed the proper orifice cover and walkway grating at 6B south orifice, adjusted the limits on the side dewatering valves and completed other scheduled maintenance. We also continued to bleed the channel air in order to remove moisture.

Bypass Facility: The facility remains dewatered for winter maintenance which is nearing completion. This winter, the fisheries staff continued the rehabilitation of the separator, which should be completed next week. Fisheries mechanics estimate the separator has three to five years left before it needs to be replaced. We also conducted maintenance on the PIT tag and sample systems along with other scheduled maintenance. PSMFC will service the facility's PIT tag control system next week.

River Conditions

River conditions during the week are outlined in Table 3 as provided by control room data, which runs from 0000 to 2400 hours each day. Water temperature is taken from the unit 1 scroll case.

Table 3. River conditions at McNary 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
200.7	174.3	30.4	10.4	41	41	3.5	3.5

Spill in excess of powerhouse capacity occurred most of the winter and all this week along with TSW operation in support of the spring half of the adult fallback study. From March 2 at 0001 hours to March 5 at 0001 hours, the TSW at bay 20 was open for the study, which will be occurring from March 1 to 31. The TSWs remained installed from last fall.

On March 5 and 6, when the debris was spilled, the TSWs were closed for safety reasons and as mentioned above, bay 18 operated with a spilt leaf. Most of the southern bays were open on each side of bay 18.

The cranes at bay 1 and 19 along with the hoist at bay 20, all received maintenance this week.

Other

Inline Cooling Water Strainers: Examinations are reflected in Table 4.

Table 4. Inline Cooling Water Strainer Results.

Month	Lost Lamprey	Live Lamprey	Lost Smolts	Live Smolts
January	0	0	0	0
February	27	2	0	0
March	97	18	0	0

The only other species noted were stickleback and juvenile shad along with crayfish and shrimp. The project will examine the main unit cooling water strainers in early April.

Invasive Species: During winter maintenance, the project staff observed no invasive species. The biologist will conduct a zebra mussel station examination later this month.

Avian Activity: In February, a contractor installed and tested a soft start system on the bird hazing water cannon pump, which should resolve many of the issues noted last season. Bird counts will resume later in April, when technicians are on shifts. Gulls, cormorants, grebes and bald eagles appeared to over winter in the general area in low numbers. This week, we observed an occasional gull, grebe or cormorant near the project and possibly a loon. The bypass system is not functional so there are no birds to observe at the outfall.

Research: As mentioned above, the spring section of the adult fallback study has begun. On February 7, the trash rack in slot 1C was not cleaned to avoid damaging the contractor's transducer cable.

Project: Ice Harbor
Biologist: Ken Fone
Dates: March 1 - 5, 2015

Turbine Operation

Unit 3 was taken out of service on July 7, 2014, at 1346 hours to investigate a generator electrical grounding problem and for annual maintenance, and remains out of service to finish its conversion into a fixed-blade unit to remedy an oil leak from the hub.

Adult Fish Passage Facilities

Fish facility personnel inspected the adult fishways on March 2, 3, 4, and 5.

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. 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 surface above the fish ladder exits were clear of debris and the bubblers were operating satisfactorily. The north and the south shore picketed leads were put in their raised positions on November 3, 2014. Adult fish counts ended for the season on October 31, 2014.

Fishway Entrances and Collection Channel: The south shore entrance (SFE) depth and channel/tailwater differential were in criteria on all inspections. The north powerhouse entrance (NFE) depth and channel/tailwater differential were in criteria, except for a depth of 6.2 feet caused by entrance gate control problems on March 2. The north shore entrance (NSE) depth and channel/tailwater differential were in criteria, except for a depth of 7.5 feet and differential of 0.6 feet on March 2. These readings were due to only one north shore auxiliary water supply pump being operational at the time. Fishway entrance criteria are 8 feet depth or greater, or on sill. Channel/tailwater differential criteria are 1 – 2 feet.

Auxiliary Water Supply (AWS) System: Two of the three north shore AWS pumps were operated, except only pump #3 was operated on March 1 and 2 due to a faulty pre-lube pump on pump #1 and a faulty temperature switch on the gearbox of pump #2. Pump #1 was started up on March 2 at 1355 hours. Six of eight south shore AWS pumps were operated throughout the week.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil: There was approximately 100 square yards of debris observed in the forebay. Oil socks were placed in gatewells 1A and 2C to soak up surface oil sheens.

STSs/VBSs: STSs are raised out of the water for annual maintenance.

Orifices, Collection Channel, Dewatering Structure, and Bypass Pipe: The juvenile fish bypass is unwatered for annual maintenance.

Juvenile Bypass Facility: The bypass facility is unwatered for annual maintenance.

Fish Sampling: Sampling operations are scheduled to begin the week of April 1.

Removable Spillway Weir: The modification of spill bay 2 ogee and flow deflector is complete and the contractor is in the process of removing associated structural framework.

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
38.9	31.6	0	0	42	42	3.1	2.9

*Unit 1 scrollcase temperature.

Other

Inline Cooling Water Strainers: Monthly turbine cooling water strainer inspections will take place later in March.

Invasive Species: No new exotic species have been found.

Avian Activity: Low numbers of piscivorous birds were seen around the project during the week.

Research: No on-site research is occurring at this time.

Project: Lower Monumental
Biologists: Bill Spurgeon and Raymond Addis
Dates: March 1 - 5, 2015

Turbine Operation

The units are being operated in soft constraint of the 1% operation criteria. Unit 1 was removed from service on December 10, 2014 for rehabilitation with an estimated return to service date of January 12, 2017.

Adult Fish Passage Facility

The adult fishway was inspected by Corps biologists on March 2, 4 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 except for the north shore fishway exit on March 5 where the reading was 0.7'. The operator was informed the trashracks needing cleaning. The north shore exit staff gauge lower frame was found detached from the wall on March 2. The operator was informed and the staff gauge was repaired. 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 with the exception of NSE2 on March 4 and 5 where readings were 7.94' on both occasions. The operator was notified. North shore channel/tailwater head differentials were 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 the gate depth readings were 7.7 feet. South powerhouse channel/tailwater head was in criteria (1'-2') on all inspections.

SSE1 weir gate was in depth criteria (criteria: ≥ 8' or on sill) on all inspections except on March 2 with a reading of 2.8'. The operator was informed and the setting was changed on the automated controls.

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 March 4 and 5 readings with readings of 0.7' and 0.9', respectively. The operator was informed. The electricians found equipment out of calibration and so made adjustments.

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 117 square yards of forebay debris observed during this period. No oil was observed in gatewells.

STSs/VBSs: STSs are raised for winter maintenance and are scheduled to be installed the week of March 23rd.

Orifices, Collection Channel, Dewatering Structure, Flume: The collection channel is dewatered for winter maintenance. The primary bypass outfall water cannons are dewatered. Both systems are scheduled to be watered up the week of March 23rd.

Collection Facility: The facility is in winter maintenance mode.

Transport Summary: Fish transport is not occurring at this time.

River Conditions

River conditions during the week are outlined in Table 1. Spill for fish passage has yet to begin.

Table 1. 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
40.4	31.6	0.0	0.0	42	41	3.7	3.0

*Scrollcase temperatures.

Other

Inline Cooling Water Strainers: Cooling water strainers were inspected on March 2. In all 261 live lamprey were recovered. Mortalities included about 1015 juvenile lamprey and 2 Siberian prawns.

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

Avian Activity: Gulls and cormorants were the dominant piscivorous bird species observed during fish ladder inspections this week.

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

Project: Little Goose
Biologist: Richard Weis
Dates: March 1 - 5, 2015

Turbine Operation

Turbine units 2, 3, 4 and 6 were available for service throughout this report period. Turbine unit 1 was forced out of service due to packing leaks on February 26. This unit was returned to service on March 3 at 1820 hours. Unit 1 was placed out of service again on March 4 with a burnt dash pot solenoid. Unit 5 was placed back into service on March 4. Soft constraints of 1% peak efficiency criteria are in effect.

Adult Fish Passage Facility

The adult fishway was placed back into service starting on February 19 beginning at 1330 hours. The new fishway control system does not control weir height as part of the criteria settings. System will be in manual mode until the juvenile system is watered up.

Adult fishway inspections were performed on March 2, 3 and 5.

Fish Ladder: The ladder exit head differentials ranged between measured 0.0 and 0.1 feet (criteria $\leq$ 0.5 ft.). Water depths over the weirs ranged between 1.1 and 1.2 feet (criteria 1.0-1.3 ft.) and picketed head differentials held steady a 0.0 feet (criteria $\leq$ 0.3 ft.). No debris was observed at the picketed leads or the ladder exit area. The air bubbler used to prevent debris from collecting near the ladder exit operated satisfactorily.

Fishway Entrances and Collection Channel: Channel to tailwater head differentials ranged between 1.0 and 1.5 feet (criteria 1.0 to 2.0 ft.). SSE weir depths ranged between 8.2 and 8.5 feet (criteria $\geq$ 8.0 ft). NPE weir depths ranged between 6.6 and 7.4 feet (criteria $\geq$7.0 ft. or on sill). NSE weir depths ranged between 6.4 and 6.7 feet (criteria $\geq$ 6.0 ft.). Collection channel surface water velocity measured at the North powerhouse ranged between 2.0 and 2.8 fps (criteria 1.5 to 4.0 fps).

Auxiliary Water Supply System: Fish pumps 2 and 3 were started on February 26 and operated within criteria. Fish pump #1 is waiting on parts. Water velocity measured at the north Powerhouse using the Rickly velocity measuring equipment. The average flow was 2.6 fps.

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 estimated between 30,000 to 40,000 square feet. Woody debris was observed in the gatewells but removal is not possible with the ESBSs in their raised positions.

Spillway Weir: The spillway weir is scheduled to be placed back in service April 2 at the start of spring spill for fish passage.

ESBS/VBS: ESBSs are raised and removed from service for maintenance.

Orifices, Collection Channel, Dewatering Structure, and Flume: The juvenile bypass system is scheduled to be placed back into service March 24.

Transportation Facility: The transportation facility is scheduled to be placed back into service March 26.

Transport Summary: Fish transport is presumed to start in late April or early May.

River Conditions

River conditions during the week are outlined in Table 1.

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
36.1	27.9	0	0	42.0	41.5	3.8	3.8

*Ladder temperature.

Other

Invasive Species: The zebra mussel substrate monitor is scheduled for inspection on April 2.

Inline Cooling Water Strainers: Cooling water strainers on all units were inspected on March 5. A total of 15 juvenile lamprey mortalities (Ammocoetes) were removed.

Avian Activity: Bird counting and hazing will resume in April.

Project: Lower Granite
Biologists: Elizabeth Holdren and Ches Brooks
Dates: March 1 - 5, 2015

Turbine Operation

Units are being operated in soft constraint of the 1% operation criteria. Unit 1 was taken out of service on October 21 for annual maintenance, fish screen slot closure work, and dive work associated with installation of the reinforcement bulkhead. Unit 1was "rolled" for testing at 1506 hours on March 5 and remains out of service due to loading and unloading issues. Unit 2 was taken out of service on January 5 for permanent fish screen slot closures work and has an expected return to service date of March 12. Turbine units 4, 5, and 6 were rotated out of service on March 2 and 3 for trashrack raking.

Adult Fish Passage Facility

The fish ladder was "watered up" on March 4. Extending the winter maintenance outage past March 1 was due to reinforcement bulkhead installation dive work in close proximity of diffuser 14 and the ladder exit. Construction and engineering staff determined there were no structural concerns due to leakage seen on March 4. Corps biologist inspected the ladder on March 5.

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

Fishway Entrances and Collection Channel: NSE1and NSE2 were out of criteria (criteria ≥7' or on sill) with depth readings of 4.7 feet. North shore channel/tailwater head differential was out of criteria (criteria 1'-2') with a differential reading of 0.9 feet. NSE2 has been out of service since 2011 and is suspended with a non-adjusting hoist system at an elevation of 631.2 feet. The gate requires a complete rehab and will remain out of service until funding is available. Entrance weir depths are being sacrificed in an attempt to maintain channel/tailwater head differential.

NPE1 and NPE2 weir gates were in sill criteria (criteria ≥8' or on sill). While on sill the weir gate depth reading was 7.9 feet. North powerhouse channel/tailwater head differential was in criteria (criteria 1'-2') on all inspections.

SSE1 and SSE2 weir gates were in depth criteria (criteria ≥8' or on sill). South shore channel/tailwater head was in criteria (criteria 1'-2').

Collection channel velocity was out of criteria (criteria 1.5-4.0 fps) with an average of 1.1 fps. Alternative methods of measuring collection channel velocity are being investigated and will be installed as part of the adult fish ladder control system upgrade.

Auxiliary Water Supply System: AWS pump 1 was placed in service at 1523 hours on March 4. Pump operation was delayed to minimize fish attraction while waiting for construction and

engineering personnel to confirm that the ladder would remain in operation. Pump 3 failed to start due to a faulty speed reducer motor that transfers oil through the pump cooling system. The powerhouse maintenance crew was able to locate parts and return pump 3 to service at 1035 hours on March 5. Pump 2 is out of service for lower guide bearing repairs.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil: Forebay debris and trash rack raking of units 4, 5, and 6 occurred on March 4.

ESBSs/VBSs: ESBSs are scheduled to be installed in mid March.

Orifices, Collection Channel, Dewatering Structure, Bypass Pipe: The collection channel is dewatered.

Collection Facility: The collection facility is in winter maintenance mode.

Transport Summary: No fish transport is occurring at this time.

River Conditions

River conditions during the week are outlined in Table 1. No spill is occurring at this time.

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
38.1	30.1	0.0	0.0	43.8	43.8	3.4	3.4

*Cooling water intake temperature.

Other

Inline Cooling Water Strainers: Unit cooling water strainers were last inspected on February 25. No live lamprey were recovered. There were 390 juvenile lamprey mortalities observed. The next inspections are scheduled for late March.

Invasive Species: The zebra/quagga mussel substrate near the adult fish ladder exit was deployed on March 4. The first inspection of this substrate will occur in early April.

Avian Activity: Daily piscivorous bird counts are scheduled to begin on April 1.

Adult Fish Trap Operations: The adult fish trap is dewatered. The trap was watered up to test the fish trap overflow drain water stops on March 4. No issues were detected.

Fish Salvage Operation: No fish salvages occurred during this report week.

Detection of an oil sheen in the tailwater: At 1545 hours on 5 March an oil sheen was observed in the Lower Granite tailrace extending along the south shoreline. The sheen was the result of oil discharging from unit 1 which was rolled for the first time after being taken out of service on 21 October for annual maintenance, fish screen slot closure work, and dive work installation of the reinforcement bulkhead. The discharge from unit 1 is in close proximity to the intake for AWS pumps that were in operation to supply supplemental water to the adult ladder collection channel. Traces of oil were also observed in the fish ladder junction pool near the south shore entrances. Oil absorbent pads in the ladder and an oil boom just downstream from the visitor's center observation deck were immediately deployed. The oil sheen was removed within 2 hrs.

Research

No onsite fish research is occurring at this time.