U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
FISH FACILITIES WEEKLY REPORT
#19-2013

Project: McNary
Biologists: Carl Dugger and Bobby Johnson
Dates: July 5 – July 11, 2013

Turbine Operation

McNary had 8 to 11 units available for power generation this week. The project completed RAS (Remedial Action Scheme) testing at units 4, 7, 8 and 11 while they were already out of service. This leaves units 3, 5, 10 and 13 for RAS testing next week. The project included RAS testing in the warm water operations plans for juvenile fish passage and monitored the juvenile system during testing with no ill effects noted. RAS tests ensure reliability and stability of the electrical grid should transmission lines, substations or other system components suddenly become unavailable for service. These tests are distinct from Doble Tests which ensure electrical generation reliability. On April 1, the hard constraint one percent criteria began and no units ran outside the criterion this week. Unit outages are recorded in Table 1.

Table 1. Unit Outages at McNary Dam.

Units	Outage Dates	Outage Length	Reason
14	Sep 18 – Jul 5	About ten months.	After testing, unit officially returned to service.
3	Jun 4 - Jul 31	About two months.	Turbine bearing issue.
4	Jun 24 – Jun 30, 2014	About one year.	Rewind contract.
11	Jun 28 – Jun 30, 2014	About one year.	Rewind contract.
2	Jul 8	Five hours.	RAS installation and testing.
7 & 8	Jul 8 - 12	About five days.	Transformer Doble testing.
6, 12 & 14	Jul 9	Total 8.6 hours.	RAS installation and testing.
1 & 9	Jul 11	Total 3.5 hours.	RAS installation and testing.
9	Jul 11 - 19	About eight days.	Turbine packing failure.
10	All week.	Total 67 minutes.	Four recorded trips due to turbine relay issues.

Adult Fish Passage Facilities

On July 5, 6 and 9, the McNary fisheries biologists performed measured inspections of the adult fishways. The fisheries staff continued to monitor the picketed leads when the juvenile facility is in primary bypass. Visual fish and video lamprey counting continues along with temperature monitoring. The nightly lowering the Oregon ladder entrance weirs, SFEW1, SFEW2, NFEW2

and NFEW3 for adult lamprey passage continued. Monitoring of the weirs has revealed no problems.

Fish Ladder Exits: Both ladder exits met all Fish Passage Plan criteria during inspections. The project continued to clean the picketed leads at the ladder exits regularly. Eurasian milfoil continues to be a problem. On July 11, facility staff delivered new chairs to the fish count stations. On July 10 at the Washington count station, project personnel repaired a window cleaning brush air leak. At the Oregon exit, our differential monitoring of the traveling screens revealed no problems.

Fishway Entrances and Collection Channel: All Washington ladder entrance inspection points were in criteria. Spill turbulence continues to cause calibration drifts which are very difficult to correct. Also, weir, W3, has a slight amount slack in its south cable.

On July 8, a gear box coupler and bearing failed, forcing W3 out of service. The operators switched the weir to manual mode. Parts are on order. The project will leave W3 at a depth that will keep it in criteria while W2 will regulate the pool differential automatically.

At the Oregon ladder entrances, all points were in criteria. At the north power house entrance, NFEW2 only had a slight amount of slack in its south cable at times. At the south power house entrance, we continue to note calibration drifts at SFEW1.

The project will continue to examine all weir issues.

The Oregon ladder collection channel velocities averaged 1.5 feet per second. We continue to use surface readings.

Auxiliary Water Supply System: For the report week, the Wasco county PUD in the Washington ladder had no interruptions in service. Oregon ladder, fish pumps 1 and 3 operated all week with blade angles of 30 degrees with no interruptions in service. Fish pump 2 remains out of service for major overhaul which will require a contract. The juvenile facility continues to supply the usual 450 cfs to the north powerhouse pool.

Juvenile Fish Passage Facility

The season continues with alternating days of primary and secondary bypass with the switch occurring every morning at 0700 hours, with no deviations from this schedule to report. After regional discussion, no transport is planned this year at McNary. We bypassed 443,016 smolts and 8,900 juvenile lampreys this week.

Forebay Debris/Gatewell Debris/Oil: For the week, forebay debris along the powerhouse was moderate with a mix of woody debris and Eurasian milfoil. Debris along the spillway remains very light. Incoming debris has decreased. Weather and project operations also affected the debris' dispersal. The fisheries staff found no problems when measuring trash rack differentials. The project did not clean any racks. We noted no problem in the gatewell slots.

ESBSs/VBSs: ESBSs are deployed in all units. The screens at 2A, 3A and 7B slots remain in timer mode.

On July 8, camera inspections at units 2, 7 and 8 which were already out of service revealed no problems except the brush bar on the screen at 2B slot was running 3 feet short of the top and required calibration. On July 9, this same screen (in slot 2B) was found again short cycling and was calibrated a second time.

VBS differential monitoring revealed 5 screens out of criteria. From July 7 to 11, the project cleaned these screens and 9 others. During VBS cleanings, we observed 55 juvenile lamprey mortalities and 289 smolt mortalities. Many of these mortalities were old and had accumulated on the screens over time.

Orifices, Collection Channel, Dewatering Structure, and Bypass Pipe: For the week, we had 42 orifices open with no problems observed. The fisheries mechanic adjusted some of the oil reservoirs on the orifice operators. We also replaced some bulbs for the attraction lights.

All systems operated well in automatic mode. The fisheries staff continued to monitor the channel during VBS cleaning operations and during primary bypass operations.

On July 8, we found no problem with the rectangular screen air burst back up compressor and turned it back on. The electrical staff has to make a limit adjustment on it. This week, the mechanics tightened the cover on the access hatch in the transport pipe where it passes through the powerhouse on the 6th floor. This should help protect the projects computer systems.

Transportation Facility: Currently, both primary and secondary bypass modes return all fish are to the river. PIT tag detection occurs in the full flow pipe during primary bypass and throughout the facility during secondary bypass. Smolt monitoring occurs on secondary bypass days.

Sample gates are being turned on and off every other day to be operational only during secondary bypass mode. The gates functioned well. However, on July 10, the fisheries mechanics adjusted the B side gate.

The primary PIT tag system remains off as the bypass lines provide a better route for the fish than the PIT tag return. Also, PSMFC preformed the weekly test of the PIT system. The secondary PIT/bypass gates remain off and open for bypass season.

On July 5, one of the B side counters inadvertently was reset. On July 10, the mechanics added more welds to the porosity unit's perforated screen just upstream of the separator. All week, the staff performed algae control.

The sample examined on July 10 was released on July 11. During the sample releases, the biologist noted fish were remaining in the return to river line just downstream of the barge line dewatering unit where a hydraulic jump tends to develop. The fish tend to leave this location as the temporary jump dissipates. Fish always remain in water as flush lines are left on continuously in this location.

Transport Summary: Transport will not occur at McNary this year.

River Conditions

River conditions during the week are outlined in Table 2 as provide the smolt monitoring staff, PSMFC. The data day runs from 0700 to 0700 hours. PSMFC continued their daily temperature reports. The summer spill season which requires 50 percent of flow being spilled continues. This week, due to flow in excess of powerhouse capacity, 50 to 57 percent of the total river flow was spilled.

Table 2. 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
267.4	214.8	152.4	107.5	67.0	65.3	6.0	6.0

*****Control room data.

Other

Inline Cooling Water Strainers: The next cooling water strainer examination will occur in early August.

Invasive Species: The next zebra mussel station examination will occur in late July.

Avian Activity: We continued bird counts with each zone being observed once a day usually in the morning. In the forebay area, we observed high counts of 26 juvenile gulls, 6 grebes and an occasional osprey. The gulls were roosting on the floating debris. Also, we noted pelicans, cormorants and gulls on the rocks by the Washington boat dock.
We observed no grebes elsewhere on project.

In the tailwater area, we had high counts of 32 gulls, 14 pelicans and 49 terns with an occasional cormorant noted. Most of the birds were in the spill basin with the pelicans also feeding along both shorelines.

We observed high counts of 12 pelicans, 10 gulls and 6 terns by the bypass outfall. Pelicans appeared to have figured out how to fish at the outfall.

Hazing personnel continue to work 7 days a week with 2 shifts covering the day light hours. The fisheries staff continues to work with the propane and water hazing cannons to keep them functioning well.

Research: The FGE study at units 6, 7, 12 and 13; GBT examinations and the Oregon exit traveling screen study continue. The adult lamprey passage study will begin soon.

Project: Ice Harbor
Biologist: Mark Plummer
Dates: July 5 – July 11, 2013

Turbine Operation

Turbine units 1- 4 and 6 are in service. Turbine unit 5 remained out of service due to blade cracks.

Adult Fish Passage Facilities

Fish facility personnel inspected the adult fish ways July 8, 9, and 10.

Fish Ladders: The north and south shore adult fish ladder inspection areas (picketed leads, head differentials, fish way exits, and depth over weirs) were within criteria.

Table 1. Adult Fishway Performance at Ice Harbor Dam:

	26-Jun	1-Jul	2-Jul	3-Jul	8-Jul	9-Jul	10-Jul
CHANNEL VELOCITIES IN SOUTH FISHWAY:	2.2	2.2	1.8	2.4	2.5	2.3	2.5
DIFFERENTIALS AND DEPTHS							
Ladder Exit	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Ladder Weirs	1.1	1.1	1.1	1.0	1.1	1.1	1.1
Counting Station	0.1	0.1	0.1	0.0	0.1	0.2	0.1
North Fish Ladder							
Ladder Exit	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ladder Weirs	1.2	1.2	1.1	1.2	1.2	1.2	1.2
Counting Station	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Collection Channels							
South Shore	1.8	1.8	2.0	1.3	1.8	1.6	2.0
North Powerhouse	1.3	1.1	1.0	1.0	1.3	1.7	1.2
North Shore	1.2	1.2	1.4	1.1	1.4	1.7	1.7
Weir Depths							
SFE 1	8.5	8.6	9.4	9.0	7.9	8.2	7.4
NFE 2	8.7	9.1	9.7	9.2	7.9	7.5	7.5
NSE 1	8.0	7.3	7.7	8.1	7.4	7.4	7.4
CRITERIA POINTS:							
Channel Velocities	YES	YES	YES	YES	YES	YES	YES
Differentials							
South Fish Ladder							
Ladder Exit	YES	YES	YES	YES	YES	YES	YES
Ladder Weirs	YES	YES	YES	YES	YES	YES	YES
Counting Station	YES	YES	YES	YES	YES	YES	YES
North Fish Ladder							
Ladder Exit	YES	YES	YES	YES	YES	YES	YES
Ladder Weirs	YES	YES	YES	YES	YES	YES	YES
Counting Station	YES	YES	YES	YES	YES	YES	YES

Table 1. Adult Fishway Performance at Ice Harbor Dam – continued:

	26-Jun	1-Jul	2-Jul	3-Jul	8-Jul	9-Jul	10-Jul
Collection Channels							
South Shore	YES	YES	YES	YES	YES	YES	YES
North Powerhouse	YES	YES	YES	YES	YES	YES	YES
North Shore	YES	YES	YES	YES	YES	YES	YES
Weir Depths							
SFE	YES	YES	YES	YES	SILL	YES	SILL
NFE	YES	YES	YES	YES	SILL	SILL	SILL
NSE	YES	SILL	SILL	YES	SILL	SILL	SILL

The center fish way weir 2 remains out of service. The south adult fish pumps will need to be shut down to remove the bulkhead in front of the weir. Currently, center fish way weir 1 is being operated. Fish way entrance criterion is 8 feet depth, greater than 8 feet depth, or on sill. All channel/tail water differentials were in criteria. Channel/tail water differential criteria are 1 – 2 feet.

Auxiliary Water Supply System: Two of the 3 north shore fish pumps were operated. North fish pump 2 tripped a breaker on July 6. It was restarted within 15 minutes. Six of 8 south fish pumps are in service, all are available for operation.

Juvenile Fish Passage Facility

Fore bay Debris/Gate well Debris/Oil: No problems to report. Fish ladder exits are clear of debris and the bubblers are operating satisfactorily.

STSs/VBSs: STSs are in operation. No problems were found on the June inspections. STS/VBS inspections are scheduled for July 23 and 25. Turbine unit strainer inspections will be done at the same time.

Orifices, Collection Channel, Dewatering Structure, and Bypass Pipe: The juvenile bypass is watered up with 20 open orifices. No problems with the incline screen cleaner brush.

Juvenile Bypass Facility: No problems to report.

Fish Sampling: The first sample took place April 8. Sampling days will alternate from Monday and Wednesday to Tuesday and Thursday each week.

Removable Spillway Weir: The RSW is in operation. Routine spill for fish began April 3, 2013.

Fish Sampling:

July 9:

Species	Sampled	#Descaled	Morts	Avian Marks
C-CH	---	---	---	---
UC-CH	---	---	---	---
C-CH-O	20	1	0	0
UC-CH-O	56	1	0	0
C-SH	1	0	0	0
UC-SH	---	---	---	---
C-COHO	---	---	---	---
UC-COHO	---	---	---	---
C-SOCK	---	---	---	---
UC-SOCK	---	---	---	---
TOTAL	77	2	0	0

July 11:

Species	Sampled	#De-scaled	Morts	Avian Marks
C-CH	---	---	---	---
UC-CH	---	---	---	---
C-CH-O	9	0	0	0
UC-CH-O	23	0	0	0
C-SH	1	0	0	1
UC-SH	---	---	---	---
C-COHO	---	---	---	---
UC-COHO	---	---	---	---
C-SOCK	----	---	---	---
UC-SOCK	---	---	---	---
TOTAL	33	0	0	1

River Conditions

River conditions during the week are outlined in Table 1.

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
43.1	34.5	32.8	11.1	66	65	5.5	5.0

*Unit 1 scrollcase temperature.

Other:

Inline Cooling Water Strainers: Main turbine unit cooling water strainer inspection results for June are outlined in Table 3.

Table 3. Cooling Water Inspection Results for June 2013, Ice Harbor Dam.

Date	Unit	Results
25-June	6	2 juv. lamprey mortalities.
	5	Not inspected – unwatered – blade repair.
	4	1 juv lamprey mortality.
26-June	1	None.
	2	None.
	3	2 juv. lamprey mortalities.

Invasive Species: No new invasive species were detected this week.

Avian Activity: Formal bird counts began April 8 and are in progress. Hazing activities by APHIS began April 1. The fish facility is conducting bird observations when possible.

Research: South fish ladder adult fish trap operations have concluded for the season.

Project: Lower Monumental
Biologists: Bill Spurgeon and Elizabeth Lindsey
Dates: July 5 – July 11, 2013

Turbine Operation

The units are being operated in hard constraint of the 1% operation criteria. Unit 1 was removed from service at 0715 hours on July 1 for annual maintenance. Units were rotated out of service on July 8, 9, and 10 for STS/VBS inspection. A deviation from unit priority was coordinated for July 10 from 1152 – 1504 hours allowing unit 5 to be operated instead of unit 2 so that transformer maintenance and protective relay installation could occur.

Adult Fish Passage Facility

The adult fishway was inspected by Corps and PSMFC/State biologists on July 5, 6, 7, and 10.

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 NSE 2 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.

SPE 1 and SPE 2 weir gates were in sill criteria (criteria: ≥ 8' or on sill) on all inspections. While on sill the gate depth readings were 6.1', 5.0', 5.5', and 5.6 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 the gate depth readings were 6.4', 5.5', 5.7', and 6.0 feet. SSE 2 was in criteria (6' above sill) on all inspections. South shore channel/tailwater head was in criteria (1'-2') on all inspections.

Auxiliary Water Supply System: AWS pumps 1 and 3 were operated throughout this period. Two pump operations will continue until bearing repair and shaft alignment work is completed on pump 2, approximately August 8.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil: There was an average of 0.0 square yards of forebay debris observed during this period. Gatewell debris ranged from 0-11% surface coverage. No oil was observed in gatewells.

STSs/VBSs: STS operation remains in continuous run mode as subyearling chinook lengths are averaging less than 120 mm. STS and VBS screens were inspected on July 8, 9, and 10. All screens passed inspection.

Orifices, Collection Channel, Dewatering Structure, Flume: The collection channel is operating with 20 orifices open.

Collection Facility: The facility is in collection for transport mode. Collection for Battelle research on subyearling chinook passage and survival concluded on July 6.

Transport Summary: Every-other-day barging is occurring with barges departing on odd numbered days this month.

River Conditions

River conditions during the week are outlined in Table 1.

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
43.2	34.6	17.2	16.6	68.0	65.0	5.0	4.5

*Scrollcase temperatures.

Other

Summer spill began on June 21.

Inline Cooling Water Strainers: Cooling water strainers were inspected on July 2. No live lamprey were recovered. Mortalities included 4 juvenile lamprey and 6 juvenile salmon.

Invasive Species: There were no zebra mussels were observed at the monitoring stations on July 7.

Avian Activity: Bird hazing ended for the season on June 2.

Research: PNNL biologists completed their onsite subyearling Chinook research activity on July 6.

Project: Little Goose
Biologist: Richard Weis
Dates: July 5 – July 11, 2013

Turbine Operation

Turbine units 1 through 6 were available for most of this report. Unit 2 was removed from service on July 8 at 0700 for a 6 year overhaul. Turbine units were operated within the 1% criteria.

Adult Fish Passage Facility

USACE and ODFW fisheries biologists performed measured inspections of the adult fishway July 6, 9 and 11.

Fish Ladder: The ladder exit head differentials ranged between 0.0 and 0.2 feet (criteria $\leq$ 0.5 ft.). Water depths over the weirs remained steady at 1.1 feet (criteria 1.0-1.3 ft.) and picketed lead head differentials remained steady at 0.0 feet (criteria $\leq$ 0.3 ft.). No debris was observed at the picketed leads or at the ladder exit. 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 1.5 and 2.2 feet (criteria 1.0 to 2.0 ft.). SSE weir depths ranged between 8.0 and 8.2 feet (criteria $\geq$8.0 ft). As a result of 2 pump operations and decreased channel to head differentials, NPE2 remained closed. NPE1 weir rested on sill and depths ranged between 5.0 and 5.3 feet (criteria $\geq$7.0 ft or on sill). NSE weirs are at fixed elevations of 532.0 feet and depths ranged between 4.6 and 5.5 feet (criteria $\geq$ 6.0 ft.). Collection channel surface water velocity measured near NPE ranged between 1.9 and 2.3 fps (criteria $\geq$1.5 fps). Collection channel subsurface water velocity was measured on July 8 using the Hydrologic Current Meter. Three measurements were conducted from near surface, mid depth and near bottom. The subsurface velocity averaged 3.0 fps with 2 pumps operating.

Auxiliary Water Supply System: Fish pumps 1 and 2 operated within criteria ranging between 74 and 75 rpm. Fish pump 3 remains out of service and is undergoing repairs.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil: Woody debris was minimal. Gatewells remained clear of debris.

Spillway Weir: The spillway weir is currently operating in the high crest position.

ESBS/VBS: All ESBS operated within criteria this report period. All brushes operated as designed. Drawdown measurements were not performed this report period.

Orifices, Collection Channel, Dewatering Structure, and Flume: The juvenile collection system was operated throughout this period with 23 open orifices.

Transportation Facility: The facility continued collection for transport. Daily fish collection for the week ranged between 2,240 and 4,470 and totaled 24,150. The descaling and mortality rate were 0.6% and less than 0.2%, respectively.

Transport Summary: Every-other-day barging operations continued and all loading operations were trouble free.

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
39.8	35.5	12.9	10.4	69.3	68.2	6.0	5.5

*Ladder temperature.

Other

Inline Cooling Water Strainers: Cooling water strainers were checked on July 11. Nothing unusual was seen in any of the units.

Invasive Species: The zebra mussel substrate monitor was last inspected on June 9. No mussels were observed.

Avian Activity: The maximum bird count from a single survey included 20 cormorants, 66 gulls and 3 pelicans. USDA-APHIS bird hazing ended on June 14.

Research: WDFW Gas Bubble Trauma research was conducted on July 8. No sign of GBT was seen. UC Davis is performing underwater video monitoring of the new lamprey orifices in the adult fish ladder. University of Idaho is performing Adult Salmon Passage Studies using radio-telemetry. Battelle PNNL is on-site for the second year of BiOp Performance Standard Tests.

Project: Lower Granite
Biologists: Mike Halter and Ches Brooks
Dates: July 5 – July 11, 2013

Turbine Operation

Lower Granite had turbine units #1, 2, 3 and 5 available for power generation for the duration of the report period. Turbine unit #6 was removed from service on June 24 for cavitation repair, followed by annual maintenance. The expected return to service date is December 7. Turbine unit #4 was taken out of service on July 1 for annual maintenance and is scheduled to return to service on July 25.

Adult Fish Passage Facility

On July 6 - 8 COE fish biologists conducted inspections of the adult fishway system.

Fish Ladder: All criteria were met.

Fishway Entrances and Collection Channel: Head differential readings remained within criteria at all fishway entrances during the period inspections.

Weir depths at the south shore fishway entrances also met criteria during all weekly inspections with depths ranging from 8.0 to 8.1 feet. The north powerhouse fishway entrances were on sill during all inspections this week with depths ranging from 5.0 to 5.5 feet due to tailwater elevations below 636.0 feet (these gates bottom out at elevations below 636.0 feet). Weir depths at the north shore entrances ranged from 2.4 to 5.0 feet (criterion $\geq$ 7.0 feet). Only north shore entrance 1 can adjust its' depth relative to the tailwater elevation. North shore entrance 2 is manually set at a compromise depth of 630.0 feet. Normally weir depth readings at the north shore entrances are sacrificed in order to maintain the requisite 1.0 foot of head differential.

Velocity readings in the adult fishway collection channel transition pool area ranged from 1.02 to 1.19 feet per second and averaged 1.09 feet per second.

Auxiliary Water Supply System: Fish pumps 1 and 3 were run during the week without any problems. Fish pump 2 is now in standby mode.

Juvenile Fish Passage Facility

The sample rate remained at 10% during the entire report week.

Forebay Debris/Gatewell Debris/Oil: The amount of forebay debris varied during the week due to wind strength and direction; none was removed.

ESBSs/VBSs: VBS/ESBS video inspections last took place on June 14 - 15. The next inspections are planned for August 19.

Gatewell dipping operations to test the descaling rates of modified John Day (JDA) fish screens in the B and C slots of turbine unit #3 versus the B and C slots of turbine unit #2 (ESBS control unit) were last conducted on July 2. Insufficient water was available to run turbine unit #3 prior to the scheduled gatewell dipping on July 11 and it would have been pointless to gatewell dip without running the unit. Gatewell dipping is tentatively scheduled for July 18 and will again depend on water availability.

Orifices, Collection Channel, Dewatering Structure, Bypass Pipe: Orifices are being backflushed every 3 hours around the clock in an attempt to keep them free of materials that might impact fish passage. Debris levels were very light during the report week.

Transportation Facility: The JFF operated smoothly during the week. There were no operational problems of any kind with fish collection, fish sampling, or fish transportation equipment. Fish collection numbers at Lower Granite remained relatively stable during the week with an average daily collection of 2,747 smolts (versus a daily average of 2,740 last week). Lamprey friendly tail screens (with larger mesh openings) were deployed in all operating raceways the week of May 13 and remained in place during the report week.

Transport Summary: Every other day fish barging operations took place on the odd numbered days of the report week. Fish are being barged from Lower Granite, Little Goose and Lower Monumental Dams. Barge transport operations are scheduled to continue through mid August at all 3 dams. The fish transport barges have been operating well without problems of any kind. On the trip that departed Lower Granite on July 7, the towboat Liberty developed problems with the starboard engine. The towboat's engine was successfully repaired at Pasco on the return back trip to Lower Granite (following fish release). The Liberty remains on line and departed Lower Granite as scheduled on July 11.

Removable Spillway Weir: Mandatory summer spill operations began at 0001 hours on June 21. The RSW was operated in support of general spill operations.

River Conditions

River conditions during the week are outlined in Table 1.

Table 1. River conditions at Lower Granite 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
40.1	35.6	19.0	18.4	67.3	66.6	5.0	3.7

*Scrollcase temperature.

Other

Video counts in the adult fish ladder counting room began on March 1 and concluded on March 31. Visual counting between the hours of 0400 and 2000 began on April 1.

Invasive Species: The zebra mussel substrate near the adult fishway exit was examined for zebra mussels on July 7. No evidence of zebra mussels was found. The next inspection will take place in early August.

Inline Cooling Water Strainers: Cooling water strainers were last inspected for lamprey entrainment on June 25. A total of 12 lamprey were found in the strainers over a combined run time of 1,729.6 unit hours. The next cooling water strainer inspections are scheduled for late July.

Avian Activity: Formal bird counts and hazing started on April 1. Avian hazing activities concluded for the season on June 30.

Adult Fish Trap: The adult fish trap was first shut down at 0845 hours on the morning of Wednesday July 3 due to high water temperatures. The trap water temperature at the time of shutdown was above 70 Degrees F. Water temperatures had increased at the trap by 9 degrees since June 28 until the shutdown date. On July 4 at 0730 hours the adult fish trap was again placed in operation, as water temperatures had decreased below 70 Degrees F. The trap was again taken out of service at 0745 hours on July 10 due to a water temperature of 70.2 degrees F. As of 0856 hours on July 10 the temperature was already up to 70.8 degrees F. If water temperatures moderate, the trap will resume sampling on the morning of July 15.

Previously, the adult fish trap was watered up and sampling began on March 4. The sample rate was set at 25%. Since in 2013 adult trapping will only be conducted Monday thru Friday the 25% sample rate represents an overall weekly sample rate of 21%. Genetic samples are being taken from 1 out of every 10 hatchery steelhead. All wild steelhead captured are being PIT-tagged and have scale and genetic samples taken. Any previously PIT-tagged steelhead (either hatchery or wild) will have both scale and genetic samples taken for verification purposes. Genetic samples will be obtained from all sockeye sampled.

Research

Idaho Fish and Game (IDFG) Genetic Stock Identification: The goal of this study is to develop fine-scale genetic profiles for natural origin salmon and steelhead; develop genetic stock identification (GSI) techniques to estimate stock-specific escapement over LGR, monitor abundance, productivity and distribution of naturally produced adult and juvenile steelhead and salmon; research and monitor stock-specific life history characteristics. At LGR the goal of the study will be to enumerate and characterize the natural production of spring/summer Chinook salmon and steelhead above LGR with regards to age composition and genetic stock profiles. IDFG will sample Monday through Friday until the first part of July with the goal to collect between 2,000-5,000 genetic samples each from yearling spring/summer chinook and steelhead and 500-3,000 genetic samples from subyearling fall chinook. *The sampling portion of this study concluded on July 5.*