

**U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
FISH FACILITIES WEEKLY REPORT
#29-2018**

Project: McNary

Biologist: Bobby Johnson and Denise Griffith

Dates: September 14 to 20, 2018

Turbine Operation

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

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

Unit	OOS		RTS		Outage Description
	Date	Time	Date	Time	
13	9/17	0629	9/21	1143	Transformer maintenance.
14	9/17	0629	9/21	1143	Transformer maintenance.
7	9/19	0612	9/19	1215	Oil head packing.

Comments: There are no problems to report.

Adult Fish Passage Facilities

McNary fisheries biologists performed adult fishways measured inspections on September 14, 17 and 18. Temperature probe data was downloaded on September 18. District limnologists continued installation of permanent water temperature monitoring equipment at both ladders. Adult fish counting and video review of night time lamprey passage continued.

Fish Ladder Exits:

Yes	No	Location	Criteria	Comments
X		Oregon Exit	Head over weir 1.0' to 1.3'	
	X	Oregon Count Station Differential	0.0' to 0.5'	0.7' on Sep 18.
X		Washington Exit	Head over weir 1.0' to 1.3'	
X		Washington Count Station Differential	0.0' to 0.5'	

Comments: Debris loads were light to moderate near the Oregon ladder exit and minimal near the Washington ladder exit. Picketed leads and trash racks were cleaned by the general maintenance staff as needed, including Saturday.

At the Oregon exit, higher than normal flows were observed intermittently during the week. From September 16 to 18, the general maintenance staff cleaned the picketed leads but found no debris. We suspect there may be an issue with the regulating or tilting weirs set points or exit programming. The electrical staff will examine the issue on September 24.

At the Washington exit, one regulating weir and one high picketed lead differential alarm was reset on September 17 and 18, respectively.

Fishway Entrances and Collection Channel:

Yes	No	Sill	Location	Criteria	Comments
X			North Oregon Entrance Head Differential	1.0' – 2.0'	
	X		NFEW2 Weir Depth	≥ 8.0'	7.1 to 7.8' all week.
	X		NFEW3 Weir Depth	≥ 8.0'	7.0 to 7.7' all week.
X			South Oregon Entrance Head Differential	1.0' – 2.0'	
X			SFEW1 Weir Depth	≥ 8.0'	
X			SFEW2 Weir Depth	≥ 8.0'	
X			Oregon Collection Channel Velocities	1.5 to 4.0 fps	Averaged 1.5 fps.
X			Washington Entrance Head Differential	1.0' – 2.0'	
X			WFE2 Weir Depth	≥ 8.0'	
X			WFE3 Weir Depth	≥ 8.0'	

Comments: On September 14, the Oregon ladder north powerhouse entrances were out of criteria due to only two fish pumps being operational as described below. On September 17, after finding the same entrances out of criteria, the operator adjusted the entrances level set points. With the entrances still out of criteria on September 18, the electrical staff was asked to examine the tailwater elevation sensor, which was done on September 20.

Auxiliary Water Supply System:

Operating Satisfactory	Standby	Out of Service	Auxiliary Water Supply System (AWS)
X		X	WA shore Wasco County PUD Turbine Unit.
X	X		WA shore Wasco PUD Bypass.
X			Oregon Ladder Fish Pump 1, Blade angle: 21 to 22, 26.
X		X	Oregon Ladder Fish Pump 2, Blade angle: OOS, 23 to 24.
X		X	Oregon Ladder Fish Pump 3, Blade angle: 22 to 23, 24.
X			OR North Powerhouse Pool supply from juvenile fishway.

Comments: As mentioned last week, after the bus system was repaired, fish pump 2 returned to service on September 15 at 2352 hours. On September 20, due to a potable cooling water issues, fish pump 3 was out of service from 0902 to 1000 hours. When one fish pump was out of service, the blade angles on the other two pumps was increased. On September 17, from 0555 to 0955 hours, the Wasco County PUD unit was out of service for switching related to the transformer maintenance cited above. The bypass system functioned well during the outage.

Juvenile Fish Passage Facility

The sampling season continued.

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
X			Forebay debris load acceptable? (amount)	Minimal to light near powerhouse.
X			Trash rack differentials measured this week?	Daily.
X			Trash rack differentials acceptable?	
	X		Any debris seen in gatewells? (% coverage)	
	X		Any oil seen in gatewells?	

Comments: The forebay debris load near the powerhouse was minimal to light. Debris accumulation along the spillway was minimal. New incoming debris loads were minimal. Changes in wind direction continued to woody material from the Oregon shore to the powerhouse and back repeatedly.

No trash racks were cleaned this week.

No problems were noted in the gateway slots.

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: The brush cycles for the screens in 3A, 3C and 4A slots remained in timer mode. ESBSs were inspected in units 13 and 14 with no problems found while the units were out of service. During the last inspection, the camera cable drum brake pin failed and was replaced that day.

VBS differential monitoring occurred daily. No high differentials were measured. On September 14 and 20, a total of 21 screens were cleaned as a preventative measure. No fish mortalities were observed.

Orifices, Collection Channel, Dewatering Structure, and Bypass Pipe:

Yes	No	NA	Item	Number of orifices in service
X			Orifices operating satisfactory?	42
X			Dewatering and cleaning systems operating satisfactory?	

Comments: Orifices were adjusted for the VBS cleaning as required. On September 14, an extra orifice was inadvertently left open. VBS cleaning protocols were reviewed with the technician on duty. Area lighting was replaced or repaired as needed.

On September 18, at 0700 hours, a brief power outage for switching related to the station service upgrades occurred. Two alarms came in, which the biologist reset. Also, the program reset the brushes cycle sequence. On September 19, at 1005 hours, the second brief power outage related to the station service upgrades occurred. During this outage, the side screen brush was operating. When power was restored, the side brush did not continue its cleaning cycle. The biologist used the position switches to park the brush. However, the other two brushes did complete the cycle sequence, which did not reset this time and no alarms occurred either. These outages raise questions about the channel system program.

Bypass Facility:

Yes	No	NA	Item
X			Sample gates on?
		X	PIT-tag sampling system on? (Remain off unless a study is occurring.)

Comments: The sample gates were on during secondary bypass for sample collection. This week, 46 juvenile lamprey and 214 smolts were bypassed. Juvenile shad continue to be the predominate species sampled.

TSW Operations: The TSWs remained out of service.

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
100.8	79.2	0.0	0.0	67.4	65.8	6.0	6.0

Comments: The above data is supplied by Anchor, QEA except water clarity, which is provided by the control room.

Other

Inline Cooling Water Strainers: The next cooling water strainer examinations will occur in December.

Avian Activity: Avian tailwater counts continued and are recorded in Table 3 below.

Pelicans and terns were not observed on project this week. Gull numbers appear to be fluctuating with the juvenile shad outmigration. Gulls were feeding in the powerhouse and outfall flows. They were roosting on structures around the tailwater area, including the outfall pipe and navigation lock wing wall. Cormorant numbers remained high. Most were noted roosting on the navigation lock wing wall.

An occasional cormorant, gull or small flock of grebes was observed in the forebay. No grebes observed elsewhere. Cormorants and gulls were roosting on the rocks by the Washington shore boat dock in fairly low numbers. Large gull flocks were noted roosting around the project outside the counting zones and a second gull species was also observed.

The outfall hazing water sprinklers remain out of service due to system damage, which will require a contract to repair/replace. The bird distress calls have been adjusted weekly.

Table 3. McNary Project’s Daily Avian Count.

Date	Zone	Gull	Cormorant	Tern	Pelican
Sep 14	Spill	0	1	0	0
	Powerhouse	30	0	0	0
	Outfall	18	0	0	0
Sep 15	Spill	19	14	0	0
	Powerhouse	15	3	0	0
	Outfall	15	8	0	0
Sep 16	Spill	70	20	0	0
	Powerhouse	0	0	0	0
	Outfall	0	0	0	0
Sep 17	Spill	14	30	0	0
	Powerhouse	3	0	0	0
	Outfall	17	0	0	0
Sep 18	Spill	78	26	0	0
	Powerhouse	65	0	0	0
	Outfall	30	3	0	0
Sep 19	Spill	79	1	0	0
	Powerhouse	101	0	0	0
	Outfall	20	4	0	0
Sep 20	Spill	90	50	0	0
	Powerhouse	105	0	0	0
	Outfall	57	0	0	0

Invasive Species: The next mussel station examinations will occur on September 26. No Siberian prawn were removed for the sample this week.

Fish Rescue/Salvage: None occurred.

Research: The University of Idaho adult lamprey passage telemetry study continued. On September 18, PNNL collected an estimated 3,637 juvenile shad from the sample for off sight barometric trauma testing.

Project: Ice Harbor

Biologist: Ken Fone

Dates: September 14-20, 2018

Turbine Operation

Yes	No	Turbine Unit Status	Hard	Soft
	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.	X	

Ice Harbor Unit Outages (OOS) and Return to Service (RTS).

Unit	OOS		RTS		Outage Description
	Date	Time	Date	Time	
2	4/25/16	0606	---	---	Runner replacement
6	7/23/18	1013	---	---	Annual maintenance, doble testing
4	9/20/18	1619	---	---	Investigate possible oil leak

Comments: Units 5, 4, 3, and 1 were removed from service one at a time for STS inspections on September 17 and 18.

Adult Fish Passage Facility

Ice Harbor fish facility staff inspected the adult fishways on September 17, 19, and 20.

Fish Ladders:

Yes	No	Location	Criteria	Measurements
X		North Ladder Exit Differential	Head \leq 0.3'	
X		North Ladder Picketed Lead Differential	Head \leq 0.3'	
X		North Ladder Depth over Weirs	Head over weir 1.0' to 1.3'	
X		South Ladder Exit Differential	Head \leq 0.3'	
X		South Ladder Picketed Lead Differential	Head \leq 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 Shore Entrance (SFE-1) Weir Depth	\geq 8.0' or on sill	7.9'
X			South Shore Channel/Tailwater Differential	1.0' – 2.0'	
X			South Shore Channel Velocity	1.5 – 4.0 fps	
	X		North Powerhouse Entrance (NFE-2) Weir Depth	\geq 8.0' or on sill	7.6'
X			North Powerhouse Entrance Channel/Tailwater Differential	1.0' – 2.0'	
X			North Shore Entrance (NEW-1) Weir Depth	\geq 8.0' or on sill	
X			North Shore Channel/Tailwater Differential	1.0' – 2.0'	

Comments: The north powerhouse and south shore entrance weir gate depths were out of criteria on September 17 and 20, respectively, probably due to calibration issues with the automated control system readings of the north powerhouse and south shore tailwater elevations. A calibration check was performed on September 20, and locations that were out of calibration will be reported to electricians.

Auxiliary Water Supply (AWS) System:

Operating Satisfactory	Standby	Out of Service	Auxiliary Water Supply System (AWS)
5 pumps	3 pumps		Status of the 8 South Shore AWS Pumps
2 pumps	1 pump		Status of the 3 North Shore AWS Pumps

Comments: None.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
X			Forebay debris load acceptable? (amount)	30 square yard
X			Gatewell drawdown measured this week?	
X			Gatewell drawdown acceptable	
X			Any debris seen in gatewells (% coverage)	0 to 6%
	X		Any oil seen in gatewells?	

Comments: None.

STSS/VBSs:

Yes	No	NA	Item
	X		STSS deployed in all slots and in service?
	X		STSS in continuous-run mode (Note: if not, then STSS are in cycle-run mode)?
X			STSS inspected this week?
X			STSS inspection results acceptable?
		X	VBSs differentials checked this week?
		X	VBSs differentials acceptable?

Comments: The STSS are in cycle-run mode, as the average fork length of subyearling chinook is greater than 120 mm in the Lower Monumental juvenile fish sample. Unit 5, 4, 3, and 1 STSS and unit 4 VBSs were inspected on September 17 and 18.

Orifices, Collection Channel, Dewatering Structure, and Flume:

Yes	No	NA	Item	Number open and in service
X			Orifices operating satisfactory?	20
X			Dewaterer and cleaning systems operating satisfactory?	

Comments: None.

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

Fish Sampling: Sampling is done for the year.

Removable Spillway Weir (RSW): Voluntary 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
27.5	17.5	0	0	68	66	8.4	6.9

*Unit 1 scroll case temperature.

Other

Inline Cooling Water Strainers: Monthly inspections for lamprey ended in June and will start up again in December.

Avian Activity: There were low amounts of pelicans, gulls, and cormorants observed around the project.

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

Siberian Prawn: Siberian prawns collected in the sample at the Juvenile Fish Facility are humanely euthanized by Anchor, frozen and properly disposed of in a landfill. Sampling is done for the year.

Fish Rescue/Salvage: Unwatering activities that could involve fish rescue did not occur.

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

Project: Lower Monumental

Biologists: Chuck Barnes and Raymond Addis

Dates: September 14 - 20, 2018

Turbine Operation

Yes	No	Turbine Unit Status	Hard	Soft
	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.	X	

Lower Monumental Unit Outages (OOS) and Return to Service (RTS)

Unit	OOS		RTS		Outage Description
	Date	Time	Date	Time	
Unit 1	12/10/2014		10/26/2018	ERTS	Rehabilitation Overhaul
Unit 3	6/25/2018	0700	10/19/2018	ERTS	6 Year Overhaul
Unit 4	9/19/2018	1600	12/28/18	ERTS	Inspection of Oil Governor System/Blade Seal Replacement

Comments: Units went into Hard Constraint at 0001 on April 1.

Adult Fish Passage Facility

The adult fishways were inspected by Corps and Anchor QEA biologists on September 14, 15, 17 and 19.

Fish Ladder:

Yes	No	Location	Criteria	Measurements
X		North Ladder Exit Differential	Head \leq 0.5'	
X		North Ladder Picketed Lead Differential	Head \leq 0.4'	
X		North Ladder Depth over Weirs	Head over weir 1.0' to 1.3'	
X		South Ladder Exit Differential	Head \leq 0.5'	
X		South Ladder Picketed Lead Differential	Head \leq 0.3'	
X		South Ladder Depth over Weirs	Head over weir 1.0' to 1.3'	

Comments: None.

Fishway Entrances and Collection Channel:

Yes	No	Sill	Location	Criteria	Measurements
X			North Shore Entrance (NSE-1) Weir Depth	\geq 8.0' or on sill	
X			North Shore Entrance (NSE-2) Weir Depth	\geq 8.0' or on sill	
X			North Shore Channel/Tailwater Differential	1.0'–2.0'	
X		X	South Powerhouse Entrance (SPE-1) Weir Depth	\geq 8.0' or on sill	
X		X	South Powerhouse Entrance (SPE-2) Weir Depth	\geq 8.0' or on sill	
	X		South Powerhouse Entrance Channel/Tailwater Differential	1.0'–2.0'	
X			South Shore Entrance (SSE-1) Weir Depth	\geq 8.0'	
X			South Shore Entrance (SSE-2) Weir Depth	\geq 6.0'	
X			South Shore Channel/Tailwater Differential	1.0' – 2.0'	

Comments:

South Powerhouse Entrance (SPE-1) was at sill during the September 14, 15 and 19 inspections with readings of 7.4, 8.1 and 7.9 feet respectively.

South Powerhouse Entrance (SPE-2) was at sill during the September 14, 15 and 19 inspections with readings of 7.4, 8.1 and 7.9 feet respectively.

South Powerhouse Entrance Channel/Tailwater Differential was out of criteria during the September 15 and 17 inspections with readings of 0.9 and 0.8 feet. Powerhouse operator was informed and adjusted on September 15.

On September 17, the powerhouse operator was notified the South Shore tailwater gauge seemed out of range when compared to NSE and SPE tailwater readings. Powerhouse electricians were informed and calibration of the automated system was checked and adjusted as needed.

Auxiliary Water Supply System:

Operating Satisfactory	Standby	Out of Service	Auxiliary Water Supply System (AWS)
No		X	AWS Fish Pump 1
Yes			AWS Fish Pump 2
Yes			AWS Fish Pump 3

Comments: AWS Fish pump 1 is out of service for seized Wicket Gate Bushings. There is no current estimated return to service date.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
X			Forebay debris load acceptable? (amount)	3 sq yd average
X			Gatewell drawdown measured this week?	
X			Gatewell drawdown acceptable	
X			Any debris seen in gatewells (% coverage)	0 %
	X		Any oil seen in gatewells?	

Comments: None.

STSs/VBSs:

Yes	No	NA	Item
X			STSs deployed in all slots and in service?
	X		STSs in continuous-run mode (Note: if not, then STSs are in cycle-run mode)?
	X		STSs inspected this week?
		X	STSs inspection results acceptable?
		X	VBSs differentials checked this week?
		X	VBSs differentials acceptable?

Comments: STS's operating on cycle mode due to average sub-yearling Chinook and sockeye lengths being greater than 120 mm.

Orifices, Collection Channel, Dewatering Structure, and Flume:

Yes	No	NA	Item	Number open and in service
X			Orifices operating satisfactory?	18
X			Dewaterer and cleaning systems operating satisfactory?	

Comments: None.

Collection Facility: Collection into raceways for barge transport ended at 1500 on August 14. The sample gates were opened for continuous (100%) sample at that time and the facility set up for truck transport.

Transport Summary: Barging ended with the last barge departing on August 14. Alternate day trucking began on August 14 with the first truck departing on August 16. Per 2018 Fish Passage Plan, the Lower Monumental trucking schedule is contingent upon fish numbers. Saturday, 18 August, was the third consecutive day with less than 50 smolts collected, therefore trucking was ceased after the second trip. A total of 39 fish were collected, 26 were bypassed back into the river and no fish were transported during this reporting period.

Spillway Weir: RSW went into service when Spring Spill began at 0001 on April 3. RSW was closed at 1245 on August 8 due to TMT decision. Summer Spill ended at 00:00:00 on September 1.

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
26.1	19.5	0	0	66.8	65.7	5.6	4.8

*Scroll case temperatures.

Other

Inline Cooling Water Strainers: Cooling water strainers are not inspected in September.

Avian Activity: Tailrace counts of foraging piscivorous birds in the tailrace of Lower Monumental Dam for bird hazing effectiveness ended with the June 30 observation.

Outfall pipe bird water cannons were turned off on June 11, due to a damaged water cannon at pipe exit. The standby set of cannons had a missing water cannon and were already out of service.

Invasive Species: No zebra or quagga mussels were observed during monitoring station inspections on September 1.

Siberian Prawn: Siberian prawns collected in the sample at the Juvenile Fish Facility are humanely euthanized by PSMFC and Anchor, frozen and properly disposed of in a landfill. Daily and total Siberian prawn counts at Lower Monumental Dam for this reporting period are reported below.

Date	Sample (euthanized)	Collection*
9/14/2018	0	0
9/15/2018	6	6
9/16/2018	2	2
9/17/2018	2	2
9/18/2018	15	15
9/19/2018	0	0
9/20/2018	12	12
Totals	37	37

*Collection and sample numbers are the same as the facility when sampling at 100%

Fish Rescue/Salvage: No fish rescue during this reporting period.

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

Project: Little Goose

Biologists: Scott St. John and Richard Weis

Dates: September 14-20, 2018

Turbine Operation

Yes	No	Turbine Unit Status	Hard	Soft
	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.	X	

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

Unit	OOS		RTS		Outage Description
	Date	Time	Date	Time	
5	04/14/17	14:11	11/16/18	17:00	Spider and upper guide bearing repair.
4	09/10/18	07:00	09/28/18	17:00	Unit Annual
4, 5 & 6	09/18/18	07:00	09/18/18	19:00	Stilling Basin Survey

Comments: VBS screen in 4c was replaced during outage.

Adult Fish Passage Facility

Little Goose fish facility and Anchor QEA staff inspected the adult Fishway on September 16, 17 and 20.

Fish Ladder:

Yes	No	NA	Location	Criteria	Measurements
X			Fish Ladder Exit Differential	Head \leq 0.5'	
X			Fish Ladder Picketed Lead Differential	Head \leq 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		

Comments: The adult ladder cooling pump was shut down for the season on September 13 at 1030.

Fishway Entrances and Collection Channel: None.

Yes	No	Sill	Location	Criteria	Measurements
X			South Shore Entrance (SSE-1) Weir Depth	\geq 8.0'	
X			South Shore Entrance (SSE-2) Weir Depth	\geq 8.0'	
X			South Shore Channel/Tailwater Differential	1.0' – 2.0'	
		X	North Powerhouse Entrance (NPE-1) Weir Depth	\geq 7.0' or on sill	
		X	North Powerhouse Entrance (NPE-2) Weir Depth	\geq 7.0' or on sill	
X			North Powerhouse Entrance Channel/Tailwater Differential	1.0'–2.0'	
X			North Shore Entrance (NSE-1) Weir Depth	\geq 6.0' or on sill	
X			North Shore Entrance (NSE-2) Weir Depth	\geq 6.0' or on sill	
X			North Shore Channel/Tailwater Differential	1.0'–2.0'	
X			Collection Channel Surface Velocity	1.5 – 4.0 fps	

Comments: Adult fishway control system is currently operating in manual mode. Fishway is currently operating within criteria.

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	Comment
X			Forebay debris load acceptable? (amount)	
X			Gatewell drawdown measured this week?	
X			Gatewell drawdown acceptable	
	X		Any debris seen in gatewells (% coverage)	
	X		Any oil seen in gatewells?	

Comments: There is currently 300 sq. ft. of floating woody debris inside the trash shear boom in the forebay. Drawdown measurements were conducted September 15 on units 1 and 2 and were in criteria.

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: VBS differentials were measured September 15 on units 1 and 2 and were in criteria. ESBS's were checked during unit 4 annual maintenance and were in good condition.

Orifices, Collection Channel, Dewatering Structure, and Flume:

Yes	No	NA	Item	Number open and in service
X			Orifices operating satisfactory?	20
X			Dewaterer and cleaning systems operating satisfactory?	

Comments: None.

Collection Facility: Juvenile fish facility is currently operating. Every other day transport has ended with the last truck leaving on September 15. Little Goose is now operating in primary bypass with condition sampling every third day (MFR 18 LGS 19).

Transport Summary: The collection and transportation facility operated within criteria this report period. A total of 90 fish were collected, and 70 were transported via truck. The descaling and mortality rates were 0.9% and 5.8% respectively. A total of 1 adult lamprey were removed from the separator and sample and released one mile above the Dam at Little Goose Landing.

Spillway Weir: Adjustable spillway weir was closed for the season on August 03 at 15:30.

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	21.0	0	0	66.6	65.7	6.0	4.4

*Ladder temperature.

Other

Inline Cooling Water Strainers: Inline cooling strainers are being inspected and results submitted every other week.

Avian Activity: Average daily piscivorous bird counts by zone for the report period at Little Goose Dam.

Zone	Gull	Cormorant	Tern	Pelican	Grebe
Unmodified boat barrier	0	0	0	0	0
Modified boat barrier*	0	0	0	0	0
Forebay debris	0	0	0	0	0
Trash/shear boom	0	0	0	0	0
Forebay count	3	9	0	0	0
Tailrace count	5	1	0	0	0

*modified and unmodified boat barrier section was removed on 7 buoys directly upstream of the ASW.

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

Siberian Prawn: Siberian prawns collected in the sample at the Juvenile Fish Facility are humanely euthanized by Oregon Department of Fish and Wildlife and Anchor, frozen and properly disposed of in a landfill. Daily and total Siberian prawn counts at Little Goose Dam for this reporting period are reported below.

Date	Sample (euthanized)	Collection*
9-14	88	88
9-15	131	131
9-16	0	0
9-17	0	0
9-18	102	102
9-19	0	0
9-20	0	0
Total	321	321

*Collection and sample numbers are the same as the facility when sampling at 100%

Gas Bubble Trauma (GBT): GBT monitoring ended for the year.

Fish Rescue/Salvage: None.

Research: PNNL is currently removing hydrophones and associated equipment for the acoustic telemetry study.

Project: Lower Granite

Biologists: Elizabeth Holdren and Stephen Hampton

Dates: September 14 - September 20, 2018

Turbine Operation

Yes	No	Turbine Unit Status	Hard	Soft
	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.	X	

Lower Granite Unit Outages (OOS) and Return to Service (RTS)

Unit	OOS		RTS		Outage Description
	Date	Time	Date	Time	
4	Sep 20	0830	Sep 20	1326	Stilling Basin Survey
5	Aug 20	0715			Annual Maintenance and Digital Governor Upgrade
6	Sep 10	0731			OPTO – PLC Module Upgrade

Comments: None.

Adult Fish Passage Facility

Lower Granite and Anchor QEA staff inspected the adult fishway on September 14, 15, 17, 19 and 20.

Fish Ladder:

Yes	No	NA	Location	Criteria	Measurements
X			Fish Ladder Exit Differential	Head \leq 0.5'	
X			Fish Ladder Picketed Lead Differential	Head \leq 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: The LWG fish ladder temperature control pumps were turned off for the season at 1710 hours September 18 following 3 consecutive days with forebay temperatures below 68°F.

Fish Ladder Entrances and Collection Channel:

Yes	No	Sill	Location	Criteria	Measurements
X			South Shore Entrance (SSE-1) Weir Depth	\geq 8.0'	
X			South Shore Entrance (SSE-2) Weir Depth	\geq 8.0'	
X			South Shore Channel/Tailwater Differential	1.0' – 2.0'	
X		X	North Powerhouse Entrance (NPE-1) Weir Depth	\geq 8.0' or on sill	
X		X	North Powerhouse Entrance (NPE-2) Weir Depth	\geq 8.0' or on sill	
X			North Powerhouse Entrance Channel/Tailwater Differential	1.0'–2.0'	
X			North Shore Entrance (NSE-1) Weir Depth	\geq 7.0' or on sill	
			North Shore Entrance (NSE-2) Weir Depth	\geq 7.0' or on sill	OOS
X			North Shore Channel/Tailwater Differential	1.0'–2.0'	
X			Collection Channel Surface Velocity	1.5 – 4.0 fps	

Comments: NPE 2 gate set point for sill position is 628.2 feet to prevent cable spooling though the actual gate elevation is on sill at 628.0 feet.

Auxiliary Water Supply System:

Operating Satisfactorily	Standby	Out of Service	Auxiliary Water Supply (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)	2.8 yd ²
X			Gatewell drawdown measured this week?	
X			Gatewell drawdown acceptable	
	X		Any debris seen in gatewells (% coverage)	
	X		Any oil seen in gatewells?	

Comments: None.

ESBSs/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: None.

Orifices, Collection Channel, Dewatering Structure, Bypass Pipe:

Yes	No	NA	Item	Number open and in service
X			Orifices operating satisfactory?	18
	X		Dewaterer and cleaning systems operating satisfactory?	

Comments: Primary dewaterer floor screen brushes, side screen brushes, and the pneumatic screen cleaners are being operated in manual mode by powerhouse operators due to mechanical and programming issues with the new system. Overflow weirs in groups A, B, and C remain in auto; weir group D continues to be operated in manual to achieve optimal flow from the PDW to the transport flume. Problems are being investigated and troubleshooting the system for needed repairs during the winter outage is ongoing.

Collection Facility: Operational modifications continue as needed. The facility is operating at 50% to 100% sample rate.

Transport Summary: Every other day truck transport to below Bonneville Dam continues.

Spill/Spillway Weir: No Spill is occurring.

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
24.0	21.9	0	0	67.4	64.3	5.0+	5.0+

*Cooling water intake temperature.

Other

Inline Cooling Water Strainers: N/A

Invasive Species: No mussels were present on the September 1 inspection. During the reporting period 1,754 Siberian prawns were euthanized and 422 Siberian prawn mortalities were collected in the condition sample.

Siberian Prawn:

Date	9/14/2018	9/15/2018	9/16/2018	9/17/2018	9/18/2018	9/19/2018	9/20/2018
Euthanized	344	116	453	169	243	75	354
Dead	104	12	107	20	53	5	121

Avian Activity: Biologist daily piscivorous bird counts at Lower Granite Dam.

Date	Time	Gulls	Cormorants	Caspian Terns	Pelicans
9/14/2018	1523	1	27	0	0
9/15/2018	1400	8	16	0	0
9/16/2018	1600	18	30	0	0
9/17/2018	0830	15	21	0	0
9/18/2018	1430	10	35	0	0
9/19/2018	1040	13	41	0	0
9/20/2018	0810	23	17	0	0

Gas Bubble Trauma (GBT) Monitoring: N/A.

Adult Fish Trap Operations: The adult trap is operating seven days a week with a 20% sample rate for WDFW (Lyons Ferry) and Nez Perce hatcheries broodstock collection.

Fish Rescue/Salvage: N/A

Research: N/A