

**U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
FISH FACILITIES WEEKLY REPORT
#24-2018**

Project: McNary

Biologist: Bobby Johnson and Denise Griffith

Dates: August 10 to 16, 2018

Turbine Operation

Yes	No	Turbine Unit Status	Hard	Soft
	X	All 14 turbine units available for service. (See table & comments below for details).		
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	
1 & 2	8/13	0610	8/13	1653	Station service upgrades tied into units.
14	8/13	0956	8/17	1119	Strainer repair/maintenance.
8	8/13	0616	8/22	NA	Strainer repair/maintenance/lubricant replacement.

Comments: The saw tooth unit priority for warm water temperature abatement continued.

Adult Fish Passage Facilities

McNary fisheries biologists performed adult fishways measured inspections on August 10, 12 and 14. Temperature probe data was downloaded on August 14. 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'	0.9' on August 14
X		Oregon Count Station Differential	0.0' to 0.5'	
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 exit and minimal near the Washington exit. Picketed leads were cleaned by the general maintenance staff as needed, including Saturday.

On August 14, adjusting the exit set points at the Oregon ladder resolved the out of criterion issue. On August 15, scheduled maintenance was performed on the both exit traveling screens. The traveling screens debris trough was cleaned as required. On August 16, at 0220 hours, the fisheries technician on duty found the tilting weirs laying down out of sequence. By 0400 hours, the operators resolved the issue.

On August 10 and 14, at the Washington ladder exit, a total of three regulating weir alarms were tripped and reset. Also, on August 15, area lighting was repaired.

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'	7.8' on August 14
	X		NFEW3 Weir Depth	≥ 8.0'	7.8' on August 14
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 1.7 fps.
X			Washington Entrance Head Differential	1.0' – 2.0'	
X			WFE2 Weir Depth	≥ 8.0'	
X			WFE3 Weir Depth	≥ 8.0'	

Comments: On August 14, NFEW2 and NFEW3 were out of criteria due to fish pump outages described below. On that day, from 0651 to 0725 hours and from 1450 to 1504 hours, the Oregon ladder entrances were in manual mode.

Auxiliary Water Supply System:

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

Comments: On August 14, due to two bus switches for station service upgrades, fish pump 1 was out of service from 0700 to 1504 hours. Fish pump 3 was out of service from 0700 to 0725 hours and from 1454 to 1504 hours. During these outages, the blade angles were increased on the operational fish pumps. On August 16, fish pump 2's oil pump was inspected.

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 very light to light. New incoming debris loads were minimal. Winds move woody material and aquatic vegetation for the Oregon shore to the powerhouse and back.

No trash racks were cleaned this week. No problems were noted in the gatewell 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 cycle for the ESBS in 14C slot remained in timer mode. On August 14, ESBS camera inspections in units 2, 8 and 14 revealed no issues. The units were in standby or out of service during the inspections.

VBS differential monitoring occurred daily. No high differentials were measured and no VBSs were cleaned.

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: There were no problems to report.

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, 36 juvenile lamprey and 676 smolts were bypassed. Juvenile shad continue to be the predominate species sampled.

TSW Operations: The TSWs remain out of service. The spill pattern remained as outlined in the Fish Passage Plan, Table MCN-9, without TSWs.

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
167.9	124.5	84.0	62.5	71.5	70.9	6.0	6.0

Comments: The above data is supplied by Anchor, QEA except water clarity, which is provided by the control room. The summer spill program continued with fifty percent of river flow being spilled.

Daily temperature monitoring by Anchor, QEA throughout the juvenile system continued. Temperature data along with weather station and probe issues are described in a separate weekly report.

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.

Table 3. McNary Project's Daily Avian Count.

Date	Zone	Gull	Cormorant	Tern	Pelican
Aug 10	Spill	4	0	3	0
	Powerhouse	0	0	0	0
	Outfall	0	0	0	2
Aug 11	Spill	30	0	2	8
	Powerhouse	0	0	0	0
	Outfall	0	0	0	4
Aug 12	Spill	40	0	10	14
	Powerhouse	0	0	0	0
	Outfall	11	0	0	0
Aug 13	Spill	10	0	1	10
	Powerhouse	0	0	0	0
	Outfall	5	0	0	1
Aug 14	Spill	0	0	16	26
	Powerhouse	0	0	0	0
	Outfall	3	0	0	3
Aug 15	Spill	61	0	1	19
	Powerhouse	0	0	0	0
	Outfall	8	0	0	9
Aug 16	Spill	61	0	2	16
	Powerhouse	0	0	0	0
	Outfall	2	0	0	4

Pelicans continued to be observed either feeding or roosting in the spillway and at the bypass outfall. Pelican numbers appeared to fluctuate. Gull numbers appeared to increase with juvenile shad outmigration. They were observed in the spillway feeding or roosting and at the outfall roosting. Tern numbers also appeared to fluctuate. The gulls and terns are difficult to distinguish at long distances even with binoculars, especially with the haze created by regional fires. The terns appeared to be feeding in the spillway. Cormorants remained difficult to observe and none were counted. Osprey were noted roosting along the Washington shoreline.

An occasional osprey, cormorant, tern, pelican, or gull was observed in the forebay. Grebe numbered from two to eight birds. No grebes were noted in the gatewell slots or juvenile fish channel. Cormorants and pelicans were roosting on the rocks by the Washington shore boat dock in low numbers. Obviously, cormorants are feeding somewhere.

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.

PSMFC staff continued recording observations of pelicans feeding at the bypass outfall. They are using a spotting scope for these observations. They intend to continue counting to see how pelicans respond when juvenile shad are the size of subyearling Chinook.

Invasive Species: The next mussel station examinations will occur in late August. No Siberian prawn was removed for the sample this week.

Fish Rescue/Salvage: None occurred.

Research: GBT monitoring concluded last week as there are not enough fish to warrant the effort with the current high water temperatures. The University of Idaho adult lamprey passage telemetry study continued.

**U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
FISH FACILITIES WEEKLY REPORT
#24-2018**

Project: Ice Harbor

Biologist: Ken Fone

Dates: August 10 – August 16, 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
5	8/8/18	0630	8/16/18	1400	Investigate for possible oil leak

Comments: Units 4, 3, and 1 were out of service one at a time for STS inspections on August 14 and 15. The investigation into the possible loss of oil from unit 5 found the proper quantity of oil contained within the unit.

Adult Fish Passage Facility

Ice Harbor fish facility staff inspected the adult fishways on August 14, 15, and 16.

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	
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	
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'	2.1'

Comments: The north shore channel/tailwater differential was slightly above criteria on the August 14 inspection. This reading may have resulted from a visual reading error of the tailwater elevation, which fluctuates with the turbulence from spill.

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)	1 square yard
x			Gatewell drawdown measured this week?	
x			Gatewell drawdown acceptable	
x			Any debris seen in gatewells (% coverage)	0 to 7%
x			Any oil seen in gatewells?	Residual oil

Comments: An oil sheen was first observed in gatewell slot 5A on August 9. Project maintenance staff believe that the sheen is residual oil off of the intake gate hydraulic cylinder rod. Oil absorbing socks were deployed in the slot. The oil sheen was documented and reported to the proper authorities.

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 6, 5, 4, 3, and 1 STSs, and unit 3 VBSs, were inspected on August 14 and 15. There were no problems found.

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, including spill through the RSW, is occurring.

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
31.9	27.0	21.9	17.0	71	70	11.0	11.0

*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 to moderate amounts of pelicans, gulls, and cormorants observed around the project. Most of the pelicans and gulls were observed foraging downstream of the spillway and roosting on Eagle Island.

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.

**U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
FISH FACILITIES WEEKLY REPORT
#24-2018**

Project: Lower Monumental

Biologists: Chuck Barnes and Raymond Addis

Dates: August 10 - 16, 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		09/25/2018	ERTS	Rehabilitation Overhaul
Unit 3	06/25/2018	0700	08/31/2018	ERTS	6 Year Overhaul

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 August 10, 11, 12, 13 and 15.

Fish Ladder Exits:

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:

Fishway Entrances and Collection Channel:

Yes	No	Sill	Location	Criteria	Measurements
X		X	North Shore Entrance (NSE-1) Weir Depth	\geq 8.0' or on sill	
X		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	South Powerhouse Entrance (SPE-1) Weir Depth	\geq 8.0' or on sill	
		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 all inspections with readings of 6.4, 6.3, 6.1, 6.6 and 6.2 feet respectively.

South Powerhouse Entrance (SPE-2) was at sill during all inspections with readings of 6.4, 6.3, 6.1, 6.6 and 6.2 feet respectively.

South Shore Entrance (SSE-1) was at sill during all inspections with readings of 6.0, 7.3, 6.8, 7.2 and 6.7 feet respectively.

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)	0 sq yd average
X			Gatewell drawdown measured this week?	
X			Gatewell drawdown acceptable	
X			Any debris seen in gatewells (% coverage)	0 – 5 %
	X		Any oil seen in gatewells?	

Comments.

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?	19
X			Dewaterer and cleaning systems operating satisfactory?	

Comments

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

GBT monitoring sampling began on April 10.

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. A total of 304 fish were collected and 356 were transported during this reporting period. 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.

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 began at 00:00:00 on June 21.

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
30.0	25.2	16.7	11.0	70.7	69.9	6.8	5.3.

*Scroll case temperatures.

Other

Inline Cooling Water Strainers: Cooling water strainers were inspected on July 2. No live fish were recovered. Mortalities included 1 juvenile lamprey.

Avian Activity: Tailrace counts of foraging piscivorous birds at Lower Monumental Dam.

Gulls and pelicans were the piscivorous bird species observed during fish ladder inspections this week.

Date	Time	Gulls	Cormorants	Terns	Grebes	Pelicans

Comments: Bird hazing efforts by USDA personnel ended at 2000 on June 2.

Tailrace observations 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 August 5.

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*
8/10/2018	5	20
8/11/2018	0	0
8/12/2018	8	32
8/13/2018	0	0
8/14/2018	0	0
8/15/2018	7	27
8/16/2018	2	4
Totals	22	88

*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.

**U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
FISH FACILITIES WEEKLY REPORT
#24-2018**

Project: Little Goose

Biologists: Scott St. John and Richard Weis

Dates: August 10-16, 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.

Comments:

Adult Fish Passage Facility

Little Goose fish facility and Anchor QEA staff inspected the adult Fishway on August 10 and August 12.

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: Adult fish ladder cooling pump was returned to service on August 09 at 20:00. The adult ladder cooling pump failed on August 10 at 07:45 and remains out of service (MFR 18 LGS 16).

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 no floating woody debris inside the trash shear boom in the forebay.

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:

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. The facility was changed to every other day barging on May 24.

Transport Summary: Every other day trucking commenced on August 16. The collection and transportation facility operated within criteria this report period. A total of 1,690 fish were collected, and 1,370 were transported via barge and 471 transported via truck. The descaling and mortality rates were 0.4% and 1.3% respectively. A total of 13 adult lamprey were removed from the separator, raceways, 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
31.9	26.5	10.5	8.6	70.3	69.6	6.0	5.3

*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	1	0	0	0
Trash/shear boom	0	0	0	0	0
Forebay count	8	1	0	0	0
Tailrace count	4	0	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*
8-10	46	92
8-11	50	100
8-12	78	156
8-13	60	134
8-14	50	100
8-15	101	101
8-16	127	127
Total	512	810

*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 monitoring hydrophones and associated equipment for an acoustic telemetry study.

**U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
FISH FACILITIES WEEKLY REPORT
#24-2018**

Project: Lower Granite

Biologists: Elizabeth Holdren and Stephen Hampton

Dates: August 10- August 16, 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	
6	July 9	0700	Aug 24	ERTS	Annual Maintenance and Digital Governor Upgrade

Comments: Lower Granite Doble testing occurred August 13-16 for T2 units 5 and 6 as described in the 2018 Fish Passage Plan (Section 4.3.5 page LWG-28). Units 1-4 (T1 Transformer) was returned to service at 1800 hours nightly. Units 5 and 6 (T2-Transformer) remained OOS for the duration of Doble testing. Doble testing was complete at 1718 hours August 16 with unit 5 returned to service and unit 6 remaining out of service for annual maintenance and digital governor upgrade.

Adult Fish Passage Facility

Lower Granite and Anchor QEA staff inspected the adult fishway on August 10, 11, 13, 14, and 15.

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:

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'	0.9
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	6.9, 6.9
			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	1.4

Comments: The inability to operate AWS pump 1 in fast mode with current tailwater elevations may be influencing collection channel velocities. NSE-1 weir depth is being sacrificed for channel/tailwater differential. NPE 2 gate set point for the sill position is 628.2 feet to prevent cable spooling though the actual gate elevation is on sill at 628.0 feet. North shore and South Shore out of criteria readings are likely related to fish ladder control system calibration issues. The issues are being investigated.

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:

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
x			Forebay debris load acceptable? (amount)	0 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:

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:

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 is ongoing.

Collection Facility: Operational modifications continue as needed. Collection for transport was changed from barge to collection for truck transport at 0700 hours August 14.

Transport Summary: Truck transport began with the first trip departing Lower Granite August 16.

Spill/Spillway Weir: Summer spill began June 21 at 0000 hours. Spill is distributed according to Table LWG-8 with the RSW closed.

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
34.5	27.5	20.0	14.6	67.9	65.1	5.0 ⁺	5.0 ⁺

*Cooling water intake temperature.

Other

Inline Cooling Water Strainers: The last inspection was on 31 July. No juvenile lamprey were seen so sampling will be halted until December.

Invasive Species: No mussels were present during the August 12 inspection. During the reporting period 3,382 Siberian prawns were euthanized and 563 Siberian prawn mortalities were collected in the condition sample.

Siberian Prawn:

Date	8/10/2018	8/11/2018	8/12/2018	8/13/2018	8/14/2018	8/15/2018	8/16/2018
Euthanized	552	398	413	436	438	495	650
Dead	79	104	31	58	63	140	88

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

Date	Time	Gulls	Cormorants	Caspian Terns	Pelicans
8/10/2018	1534	0	18	0	0
8/11/2018	1200	0	0	0	0
8/12/2018	1427	0	18	0	0
8/13/2018	1620	2	16	0	0
8/14/2018	1615	3	12	0	0
8/15/2018	1430	5	24	0	0
8/16/2018	1300	3	17	0	0

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

Adult Fish Trap Operations: Adult trap is operating Monday through Friday with a 28% sample rate.

Fish Rescue/Salvage: N/A

Research: N/A