

**U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
FISH FACILITIES WEEKLY REPORT
#22-2018**

Project: McNary

Biologist: Bobby Johnson and Denise Griffith

Dates: July 27 to August 2, 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	
6	7/30	0729	8/9	NA	Annual maintenance/strainer repair.
10	7/30	0630	8/2	1818	Annual maintenance.

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 July 27, 29 and August 1. NOAA fisheries personnel did their monthly inspection on July 30. Temperature probe data was downloaded on August 1. The 24 hours of data lost due to a faulty shuttle reported in Weekly Report #19 could not be retrieved by the manufacture. 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'	
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 heavy near the Oregon exit and minimal near the Washington exit. Picketed leads were cleaned by the general maintenance staff as needed, including Saturday. On July 29, the general maintenance staff was called in to clean the Oregon ladder exit trash rack as debris on the rack was impeding adult shad passage.

On July 29, at the Washington ladder exit, two alarms came in, which were reset. On August 2, the exit weirs were examined by the electrical staff.

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'	
X			NFEW3 Weir Depth	≥ 8.0'	
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 1.9 fps.
X			Washington Entrance Head Differential	1.0' – 2.0'	
X			WFE2 Weir Depth	≥ 8.0'	
X			WFE3 Weir Depth	≥ 8.0'	

Comments: There were no problems to report.

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			Oregon Ladder Fish Pump 1, Blade angle: 22.
X			Oregon Ladder Fish Pump 2, Blade angle: 22.
X			Oregon Ladder Fish Pump 3, Blade angle: 22.
X			OR North Powerhouse Pool supply from juvenile fishway

Comments: There were no problems to report.

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 very 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 very light. Debris accumulation along the spillway was very light to light. New incoming debris loads were minimal. However, on July 27, a fairly large mat of aquatic vegetation was observed. Some of the material was passed downstream at the navigation lock. A small amount accumulated at the powerhouse. Most of the aquatic vegetation collected along the Oregon shoreline where the debris load would be described as light to heavy.

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? See note below.

Comments: The brush cycle for the ESBS in 14C slot remained in timer mode. On July 31, ESBS camera inspections in units 10 and 12 revealed no issues. The units were out of service or in standby during the inspections.

VBS differential monitoring occurred daily. One high differential was measured in 11A slot on July 31. This screen and six others were cleaned. Also, that day, the VBSs in 3A and 5A slots were inspected, which includes cleaning. During the cleaning and inspections, no smolt or juvenile lamprey 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 VBS cleaning and inspection as needed. There were no problems to report.

On August 1, district engineers returned to the outfall pipe to complete their boat inspection of the damage, which had occurred earlier this year.

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, 20 juvenile lamprey and 13,300 smolts were bypassed.

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
183.0	156.9	91.4	78.5	71.3	70.4	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 spreadsheet 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
July 27	Spill	0	0	0	22
	Powerhouse	0	0	0	0
	Outfall	0	0	0	8
July 28	Spill	0	0	0	8
	Powerhouse	0	0	0	5
	Outfall	0	0	0	0
July 29	Spill	0	1	1	9
	Powerhouse	0	0	0	0
	Outfall	5	1	0	11
July 30	Spill	0	0	3	8
	Powerhouse	0	0	0	0
	Outfall	10	0	0	6
July 31	Spill	9	0	9	20
	Powerhouse	0	0	1	1
	Outfall	12	2	0	10
August 1	Spill	0	1	4	18
	Powerhouse	0	0	0	0
	Outfall	11	1	0	6
August 2	Spill	4	0	0	8
	Powerhouse	0	0	1	0
	Outfall	6	0	0	3

Pelicans continued to be observed in all zones, feeding or roosting along the shorelines and at the bypass outfall. Pelican numbers appear to be decreasing. Gull numbers remained low. They were observed in the spillway and at the outfall roosting. Tern numbers also remained low. The gulls and terns are difficult to distinguish at long distances even with binoculars. The terns appeared to be feeding in the spillway with birds occasionally feeding in the powerhouse flow. Cormorants remained difficult to observe. However, we did observe them feeding in the spillway and at the bypass outfall.

An occasional osprey, blue heron or tern was observed in the forebay. The gulls observed were mainly juveniles with as many as 14 being noted scavenging. Pelicans were feeding in the forebay with one to seven birds present. Grebe numbered from 30 to 50 birds. No grebes were noted in the gatewell slots or juvenile fish channel. Cormorants and gulls were roosting on the rocks by the Washington shore boat dock in low numbers.

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 appear to be less effective than earlier in the year as gulls were observed in low numbers roosting on the out fall pipe and the navigation lock wing wall. These calls have been adjusted weekly.

The last day of USDA Wildlife Services hazing was July 28.

PSMFC staff continued recording observations of pelicans feeding at the bypass outfall. They are using a spotting scope for these observations.

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

Fish Rescue/Salvage: None occurred.

Research: GBT monitoring occurred once this week due to high water temperatures. No smolt exhibited signs of GBT. The University of Idaho adult lamprey passage telemetry study continued.

Project: Ice Harbor

Biologist: Ken Fone

Dates: July 27 – August 2, 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

Comments: None.

Adult Fish Passage Facility

Ice Harbor fish facility staff inspected the adult fishways on July 30, 31, and August 1.

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	7.4'
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 NFE-2 weir depth was below criteria on July 30. The powerhouse operator was informed, and he lowered the weir gate to sill. The weir gate is being operated in manual mode to reduce the wear and tear of the weir operating machinery trying to adjust to fluctuating tailwater levels from spill.

For the last several weeks, personnel noticed that the north fish ladder upper diffuser #10 has been operating further open than usual in automatic mode to meet the depth over the weirs criteria. On July 30, a video camera inspection of the diffuser #10 intake trash rack showed that there are lots of sticks on the trash rack that are reducing flow to the

diffuser. Maintenance staff will be formulating a plan to remove the debris. Diffuser #10 was shut off from 1520 hours to 1550 hours on July 30, to facilitate the inspection, during which time the depth over the weirs was below criteria. See Memorandum of Coordination #18 IHR 05 for more information.

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)	0 square yards
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?	

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.

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
39.9	30.3	29.9	20.4	70	70	11.0	8.8

*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: Pelican and gull numbers were moderate this week (see the table below). Bird observation counts ended for the season on July 31. Most of the pelicans were observed foraging downstream of the spillway and roosting on Eagle Island. Most of the gulls were observed roosting on the buoys in the forebay and on Eagle Island.

Daily maximum piscivorous bird counts at Ice Harbor Dam.

Date	Gulls	Cormorants	Caspian Terns	Grebes	Pelicans
July 27	---	---	---	---	---
July 28	---	---	---	---	---
July 29	---	---	---	---	---
July 30	42	8	1	0	20
July 31	32	3	2	0	17

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: July 27 – August 2, 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
Unit 2	08/02/2018	1737	08/02/2018	1857	Doble Testing
Unit 4	08/02/2018	1737	08/02/2018	1857	Doble Testing
Unit 5	07/26/2018	0533	08/02/2018	1857	Doble Testing
Unit 6	07/26/2018	0533	08/05/2018	ERTS	Doble Testing of T-2

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 July 27, 28, 29, 30 and August 1.

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		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:

North Shore Entrance (NSE-1) was at sill during the July 27, 28 and 30 inspections with readings of 9.4, 8.5 and 8.3 feet respectively.

North Shore Entrance (NSE-2) was at sill during the July 27, 28 and 30 inspections with readings of 9.4, 8.5 and 8.3 feet respectively.

South Powerhouse Entrance (SPE-1) was at sill during all inspections with readings of 6.4, 5.5, 5.9, 5.7 and 5.4 feet respectively.

South Powerhouse Entrance (SPE-2) was at sill during all inspections with readings of 6.4, 5.5, 5.9, 5.7 and 5.4 feet respectively.

South Shore Entrance (SSE-1) was at sill during all inspections with readings of 7.0, 6.7, 6.7, 5.9 and 5.9 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: 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?	19
X			Dewaterer and cleaning systems operating satisfactory?	

Comments: None.

Collection Facility: Collection into raceways for transport began at 0700 on April 23.

Gas Bubble Trauma (GBT): GBT monitoring sampling began on April 10.

Transport Summary: Every-day barging changed to alternate day barging on May 22. A total of 1,664 fish were collected and 2,677 were transported during this reporting period.

Spillway Weir: RSW went into service when Spring Spill began at 0001 on April 3. 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
37.0	29.6	17.0	16.3	70.3	69.8	7.0	5.7

*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 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 July 6.

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*
7/27/2018	13	52
7/28/2018	9	36
7/29/2018	9	36
7/30/2018	6	24
7/31/2018	1	4
8/1/2018	3	12
8/2/2018	9	36
Totals	50	200

*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: July 27 - August 02, 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.
6	07/09/18	07:00	08/02/18	10:41	Unit Annual

Comments: None.

Adult Fish Passage Facility

Little Goose fish facility and Anchor QEA staff inspected the adult Fishway on July 29, 30, and August 02.

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: None.

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: None.

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: The limitorque motor that automatically adjusts weirs for water elevation in the primary dewatering structure is currently running in auto mode and appears to be working well.

Collection Facility: Juvenile fish facility is currently operating. The facility was changed to every other day barging on May 24.

Transport Summary: Daily barging commenced on April 24 and every other day barging commenced on May 24. The collection and transportation facility operated within criteria this report period. A total of 4,389 fish were collected, and 5,837 were transported via barge. The descaling and mortality rates were 1.3% and 1.3% respectively. This weekly report period, 8 adult lamprey were removed from the separator, raceways, and sample; subsequently released one mile above the Dam at Little Goose Landing.

Spillway Weir: Spring spill operations began on April 03 in accordance to the Fish Passage Plan. Adjustable spillway weir crest height was changed to the high crest position on June 11 at 1410. Little Goose operators were instructed by TMT to close the ASW from the hours of 04:00 through 16:00 daily, July 26 through August 01 to assist adult fish passage. The ASW failed to open at 16:00 on July 28 due to a failed encoder. The weir remained closed until July 31 at 16:20 when warranty work had been completed to remedy the problem (see 18LGS15 MFR).

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
36.1	30.1	10.6	9.0	69.6	69.4	6.0+	5.0

*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	6	0	0	0	0
Forebay count	9	0	0	0	0
Tailrace count	6	0	0	1	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*
7-27	27	135
7-28	17	90
7-29	37	370
7-30	40	200
7-31	41	164
7-01	54	216
7-02	155	310
Total	371	1,485

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

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

Fish Rescue/Salvage: None.

Research: PNNL is currently monitoring hydrophones and associated equipment for an acoustic telemetry study.

Project: Lower Granite

Biologists: Elizabeth Holdren and Stephen Hampton

Dates: July 27- August 2, 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			Annual Maintenance and Digital Governor Upgrade

Comments: None.

Adult Fish Passage Facility

Lower Granite and Anchor QEA staff inspected the adult fishway on July 27, 28, 29, and August 1.

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'	1.4
X			Fish Ladder Cooling Water Pumps in Service		
X			Fish Ladder Cooling Water Pumps Operating Satisfactorily		

Comments: None.

Fish Ladder Entrances and Collection Channel:

Yes	No	Sill	Location	Criteria	Measurements
	X		South Shore Entrance (SSE-1) Weir Depth	\geq 8.0'	7.4, 7.8
	X		South Shore Entrance (SSE-2) Weir Depth	\geq 8.0'	7.4, 7.9
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	6.8, 6.7, 6.6
X			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	1.3

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: None.

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: 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 is ongoing.

Collection Facility: Operational modifications continue as needed. Collection for transport continues.

Transport Summary: Every other day barging continues.

Spill/Spillway Weir: Summer spill began June 21 at 0000 hours.

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
35.8	31.7	17.8	17.3	67.1	65.9	5.0+	5.0+

*Cooling water intake temperature.

Other

Inline Cooling Water Strainers: Unit cooling water strainers were inspected July 31. Mortalities included 1 peamouth and 2 crawdads.

Invasive Species: No mussels were present during the July 1 inspection. During the reporting period 1,028 Siberian prawns were euthanized and 242 Siberian prawn mortalities were collected in the condition sample.

Siberian Prawn:

Date	7/27/2018	7/28/2018	7/29/2018	7/30/2018	7/31/2018	8/01/2018	8/02/2018
Euthanized	153	102	143	129	192	159	150
Dead	11	49	63	11	46	41	21

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

Date	Time	Gulls	Cormorants	Caspian Terns	Pelicans
7/27/2018	1415	0	7	0	0
7/28/2018	1030	0	9	0	0
7/29/2018	1406	0	16	0	0
7/30/2018	1145	0	15	0	0
7/31/2018	1200	2	19	0	0
8/01/2018	1057	0	10	0	0
8/02/2018	1515	0	0	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. NOAA is not repositioning the turnpool gate to the ladder passage position on the weekends.

Fish Rescue/Salvage: N/A

Research: N/A