U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
FISH FACILITIES WEEKLY REPORT
#04-2019

Project: McNary
Biologist: Bobby Johnson and Denise Griffith
Dates: March 22 to 28, 2019

Turbine Operation

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

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

	OOS		RTS		
Unit(s)	**Date**	**Time**	**Date**	**Time**	**Outage Description**
6 thru 14	03/25	0713	03/25	1623	Rotated through units to clean trash racks.
1 thru 5	03/26	0712	03/26	1427	Rotated through units to clean trash racks.

Comments: The hard one percent constraint begins April 1.

Adult Fish Passage Facilities

McNary fisheries biologists performed measured inspections of the adult fishways on March 22, 24 and 26. Picketed leads will be installed on March 29. Adult fish counting will begin with video review on April 1.

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 very light to light near the Oregon exit and minimal near the Washington exit.

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' & 7.9' on March 22 & 24.
	X		NFEW3 Weir Depth	≥ 8.0'	7.9' on March 22 & 24.
X			South Oregon Entrance Head Differential	1.0' – 2.0'	
	X		SFEW1 Weir Depth	≥ 8.0'	7.8' om March 22.
	X		SFEW2 Weir Depth	≥ 8.0'	7.7' om March 22.
X			Oregon Collection Channel Velocities	1.5 to 4.0 fps	Averaged 2.4 fps.
X			Washington Entrance Head Differential	1.0' – 2.0'	
X			WFE2 Weir Depth	≥ 8.0'	
X			WFE3 Weir Depth	≥ 8.0'	

Comments: The Oregon ladder was out of criteria points listed above could be due to several factors. Tailwater elevations, set point changes, calibration drifts, the absence of water from the juvenile system to the north powerhouse pool and/or the gradual degradation of the ladder system over time. The control system panel view by the south powerhouse entrances remained out of service.

Auxiliary Water Supply System:

Operating Satisfactory	Standby	Out of Service	Auxiliary Water Supply System (AWS)
Yes			WA shore Wasco County PUD Turbine Unit
	Yes		WA shore Wasco PUD Bypass
		Yes	Oregon shore Fish Pump 1, OOS.
Yes			Oregon shore Fish Pump 2, Blade angle: 27°
Yes			Oregon shore Fish Pump 3, Blade angle: 29°
Yes		Yes	OR North Powerhouse Pool supply from juvenile fishway

Comments: Fish pump 1 removed from service for bearing inspection and system overhaul. With fish pump 1 out of service, the other two pumps are being operated near maximum blade angles. The juvenile facility returned to service on March 28.

Juvenile Fish Passage Facility

The juvenile system remained out of service for winter maintenance until March 28 at 1130 hours, at which time primary bypass began.

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
X			Forebay debris load acceptable? (amount)	Moderate.
X			Trash rack differentials measured this week?	Three time.
X			Trash rack differentials acceptable	
	X		Any debris seen in gatewells (% coverage)	
	X		Any oil seen in gatewells?	

Comments: Changes in wind direction moved the debris back and forth between the powerhouse and Oregon shoreline. New incoming debris was minimal but has been accumulating at the powerhouse. There was minimal debris at the spillway. Trash rack cleaning occurred on Mach 25 and 26. Thirty five yards of debris was removed. No fish were observed in the debris.

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: ESBS maintenance continued. ESBS installation is scheduled to begin on April 2, at which time, VBS differential monitoring will begin. ESBSs will be installed by unit priority.

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

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

Comments: The juvenile channel was out of service for winter maintenance until March 28. From 0830 to 1130 hours, the channel was watered up and the systems were switched to automatic mode resulting in the facility being in primary bypass. No issues with the channel systems were observed.

This week, the drain valve pit down well contractor completed improvements to some of the remaining support brackets. Also, a new pendant was install on one of two channel hoist.

Bypass Facility:

Yes	No	NA	Item
		X	Sample gates on?
		X	PIT-tag sampling system on?

Comments: All systems are ready for operation. The earliest start date for sampling is April 2. However, leaking from the separator frost drain(s), a water supply connection leak and two flume leaks above the separator are of concern. These issues will be further examined next week.

This week, the fisheries staff installed temperature probes in the B side sample holding tank and in the sample recovery raceway. Flume covers upstream of the separator were rehabilitated. All air leaks were repaired.

TSW Operations: The TSWs installation will begin April 1.

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
162.3	136.7	0.0	0.0	44	39	6.0	5.0

Comments: The above data is supplied by the control room. The spring spill program will begin April 10.

Other

Inline Cooling Water Strainers: The next cooling water strainer examinations will occur on April 2.

Avian Activity: Avian counts will begin on April 1. Gulls, pelicans, osprey, cormorants, and grebes were observed in low numbers this week.

The stand for the laser has been completed. The laser will be deployed across from the juvenile bypass outfall on April 3.

Invasive Species: The mussel stations will be examined on March 31.

Fish Rescue/Salvage**:** None occurred.

Research: None is occurring.

Project: Ice Harbor
Biologist: Ken Fone
Dates: March 22 – March 28, 2019

Turbine Operation

Yes	No	Turbine Unit Status		
	X	All 6 turbine units available for service (see table & comments below for details).	**Hard**	**Soft**
	X	Available turbines operated within 1% peak efficiency? Constraint in effect.		X

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

	OOS		RTS		
Unit	**Date**	**Time**	**Date**	**Time**	**Outage Description**
2	4/25/16	0606	---	---	Runner replacement
4	9/20/18	1619	---	---	Investigate for possible oil leak

Comments: Unit 6, 5, 3, and 1 were taken out of service one at a time to install STSs on March 25, 26, and 27. Unit 3 was noted to be operating slightly above the 1% peak operating efficiency range on the March 25 and 27 fishway inspections. This was due to the GDACS program needing to be updated with the narrower operating efficiency range of unit 3 since it became a fixed-blade unit.

Adult Fish Passage Facility

Ice Harbor fish facility staff inspected the adult fishways on March 25, 27, and 28.

Fish Ladders:

Yes	No	Location	Criteria	Measurements
X		North Ladder Exit Differential	Head ≤ 0.3’	
X		North Ladder Picketed Lead Differential	Head ≤ 0.3’	
X		North Ladder Depth over Weirs	Head over weir 1.0’ to 1.3’	
X		South Ladder Exit Differential	Head ≤ 0.3’	
X		South Ladder Picketed Lead Differential	Head ≤ 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	≥ 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-1) Weir Depth	≥ 8.0’ or on sill	
X			North Powerhouse Entrance Channel/Tailwater Differential	1.0’ – 2.0’	
X			North Shore Entrance (NEW-1) Weir Depth	≥ 8.0’ or on sill	
	X		North Shore Channel/Tailwater Differential	1.0’ – 2.0’	0.9’

Comments: The north shore entrance channel/tailwater differential was below criteria on the March 28 inspection. Turbulent tailwater conditions from spill make it difficult to obtain accurate tailwater elevation readings, especially at the north shore.

The picketed leads at the count stations were installed on March 28, in preparation for the start of adult fish counting on April 1.

Auxiliary Water Supply (AWS) System:

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

Comments: South shore AWS pump #8 has been out of service since March 1, due to the pump needing an oil change and heater installation.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
X			Forebay debris load acceptable? (amount)	145 square yards
X			Gatewell drawdown measured this week?	Initial baseline readings
		X	Gatewell drawdown acceptable	
X			Any debris seen in gatewells (% coverage)	0-10%
	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)? 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: Unit 6, 5, 3, 1, and 2 STSs were installed on March 25, 26, and 27.

Orifices, Collection Channel, Dewatering Structure, and Flume:

Yes	No	NA	Item	Number open and in service
X			Orifices operating satisfactory?	20-21
		X	Dewaterer and cleaning systems operating satisfactory?	

Comments: The juvenile fish channel was partially filled on March 20, and filled to flow out the flume on March 21, using the make-up water valve, to hasten the melting of large sheets of ice on the floor of the channel. Orifices were opened on March 25. Orifice 5CN and 6AN were found to be partially obstructed on March 27 and were cycled and backflushed to clear them out. Orifices were backflushed twice per day from March 28 to March 31.

Juvenile Fish Facility: The fish facility was watered up on March 28.

Fish Sampling: Sampling begins on April 1.

Removable Spillway Weir (RSW): Voluntary spill for fish passage begins on April 3.

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
86.0	61.0	34.7	8.6	43	40	6.1	3.0

*Unit 1 scroll case temperature.

Other

Inline Cooling Water Strainers: Monthly turbine cooling water strainer inspections for lamprey occurred on March 28. A total of 2 clipped juvenile steelhead, 1 unclipped juvenile steelhead, 10 juvenile lamprey, and 20 Siberian prawns were found (all dead except for two of the lamprey).

Avian Activity: There were very few piscivorous birds seen around the project during this reporting period.

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 will be humanely euthanized by PSMFC and Anchor, frozen and properly disposed of in a landfill.

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

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

Project: Lower Monumental
Biologists: Chuck Barnes and Raymond Addis
Dates: March 22 - 28, 2019

Turbine Operation

Yes	No	Turbine Unit Status		
	X	All 6 turbine units available for service (see table & comments below for details).	Hard	Soft
X		Available turbines operated within 1% peak efficiency? Constraint in effect.		X

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

	OOS		RTS		
Unit	Date	Time	Date	Time	Outage Description
Unit 1	3/27/2019	06:57	3/27/2019	08:25	PSS Set Points and Operations Check
Unit 4	3/1/2019	11:00	3/29/2019	ERTS	Dislodged Rotor Counterweight
Unit 5	3/27/2019	09:47	3/27/2019	13:05	STS Installation
Unit 6	3/27/2019	13:14	3/27/2019	16:47	STS Installation

Comments: None.

Adult Fish Passage Facility

The adult fishways were inspected by Corps and Anchor QEA biologists on March 22, 23, 24, 25 and 27.

Fish Ladder:

Yes	No	Location	Criteria	Measurements
X		North Ladder Exit Differential	Head ≤ 0.5’	
X		North Ladder Picketed Lead Differential	Head ≤ 0.4’	
X		North Ladder Depth over Weirs	Head over weir 1.0’ to 1.3’	
X		South Ladder Exit Differential	Head ≤ 0.5’	
X		South Ladder Picketed Lead Differential	Head ≤ 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			North Shore Entrance (NSE-1) Weir Depth	≥ 8.0’ or on sill	
X			North Shore Entrance (NSE-2) Weir Depth	≥ 8.0’ or on sill	
X			North Shore Channel/Tailwater Differential	1.0’–2.0’	
	X	X	South Powerhouse Entrance (SPE-1) Weir Depth	≥ 8.0’ or on sill	
	X	X	South Powerhouse Entrance (SPE-2) Weir Depth	≥ 8.0’ or on sill	
X			South Powerhouse Entrance Channel/Tailwater Differential	1.0’–2.0’	
X		X	South Shore Entrance (SSE-1) Weir Depth	≥ 8.0’	
	X		South Shore Entrance (SSE-2) Weir Depth	≥ 6.0’	
X			South Shore Channel/Tailwater Differential	1.0’ – 2.0’	

Comments: South Powerhouse Entrance weirs (SPE-1 and SPE-2) were out of criteria on the March 23 inspection with reads of 7.8 and 7.7 feet respectively. Powerhouse operator was informed and found the weirs were in the manual operations position.
South Powerhouse Entrance weir (SPE-1) was on sill during the March 24, 25 and 27 inspections with readings of 8.0, 9.1 and 8.7 feet respectively.
South Powerhouse Entrance weir (SPE-2) was on sill during the March 24, 25 and 27 inspections with readings of 8.0, 9.1 and 8.7 feet respectively.
South Shore Entrance weir (SSE-1) was on sill during the March 24 inspections with readings of 9.0 feet.
South Shore Entrance weir (SSE-2) was out criteria during the March 23, 24, 25 and 27 inspections with readings of 5.5, 5.8, 5.1 and 5.0 feet respectively. The weir appeared not to be staying at its set position of 437 feet elevation. Powerhouse electricians trouble-shot the problem during the week.

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 a Seized Wicket Gate Bushings. There is no current return to service estimate date.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
X			Forebay debris load acceptable? (amount)	1790 yd^2
X			Gatewell drawdown measured this week?	
X			Gatewell drawdown acceptable	
X			Any debris seen in gatewells (% coverage)	0 – 30%
	X		Any oil seen in gatewells?	

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: Remaining STS were installed in every gatewell and operational by the end of this reporting period. STS's were in cycle-run to start the season.

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: Every other day fish condition sampling began at 0700 on March 8. A total of 74,900 fish were collected with 74,898 fish bypassed back to the river during this reporting period.

Transport Summary: No transport at this time.

Spillway Weir: RSW scheduled to go into service at 0001 on April 3.

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
84.5	65.0	0.0	0.0	45.1	40.5	4.9	1.2

*Scrollcase temperatures.

Other

Inline Cooling Water Strainers: Cooling water strainers were inspected on March 19. No live fish were recovered. Mortalities included 33 juvenile lamprey and 11 juvenile salmon.

Avian Activity: Highest counts of foraging piscivorous birds in tailrace (SW+PH1+PH2) at Lower Monumental Dam.

Date	Time	Gulls	Cormorants	Terns	Grebes	Pelicans
March 22 - 28	NA	21	2	0	0	0

Invasive Species: No zebra or quagga mussels were observed during monitoring station inspections on March 3.

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. No Siberian prawn were collected in the sample at Lower Monumental Dam for this reporting period.

Fish Rescue/Salvage: No Fish Rescue/Salvage took place during this reporting period.

Research: PNNL is installing equipment needed for the Fish Guidance Efficiency Study, which is scheduled to begin approximately April 20, 2019.

Project: Little Goose
Biologists: Scott St. John and Richard Weis
Dates: March 22-28, 2019

Turbine Operation

Yes	No	Turbine Unit Status		
	X	All 6 turbine units available for service (see table & comments below for details).	**Hard**	**Soft**
X		Available turbines operated within 1% peak efficiency? Constraint in effect.		X

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

	OOS		RTS		
Unit	**Date**	**Time**	**Date**	**Time**	**Outage Description**
5	04/21/17	00:54	03/31/21	17:00	Spider and Upper Guide Bearing Repair
3	03/25/19	16:21	03/25/19	16:56	Thyristor high temp
1	03/25/19	07:26	03/25/19	12:30	ESBS Install
2	03/25/19	12:54	03/25/19	16:35	ESBS Install
3	03/26/19	07:10	03/26/19	11:40	ESBS Install
4	03/26/19	10:15	03/26/19	14:20	ESBS Install
6	03/27/19	07:20	03/27/19	13:00	ESBS Install
4	03/28/19	08:25	03/28/19	14:10	ESBS 4B brush fault

Comments: Little Goose conducted two unit at a time outages during the week of March 18 to install ESBS's. The ESBS installed in 4B malfunctioned and was replaced with a spare screen on March 28.

Adult Fish Passage Facility

Little Goose fish facility and Anchor QEA staff inspected the adult fishway on March 25, 26 and 28.

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:

Yes	No	Sill	Location	Criteria	Measurement
X			South Shore Entrance (SSE-1) Weir Depth	≥ 8.0’	
X			South Shore Entrance (SSE-2) Weir Depth	≥ 8.0’	
X			South Shore Channel/Tailwater Differential	1.0’ – 2.0’	
		X	North Powerhouse Entrance (NPE-1) Weir Depth	≥ 7.0’ or on sill	
		X	North Powerhouse Entrance (NPE-2) Weir Depth	≥ 7.0’ or on sill	
X			North Powerhouse Entrance Channel/Tailwater Differential	1.0’–2.0’	
X			North Shore Entrance (NSE-1) Weir Depth	≥ 6.0’ or on sill	
X			North Shore Entrance (NSE-2) Weir Depth	≥ 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: The adult fishway continues to operate in manual mode. The fishway is currently in criteria. Rickly water velocity was measured at 2.8 feet per second average for the adult channel on March 19.

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)	11,000
X			Trash rack differentials measured this week?	
X			Trash rack differentials acceptable	
		X	Any debris seen in gatewells (% coverage)	
		X	Any oil seen in gatewells?	

Comments: Initial trash rack differentials were measured on March 28. Trash racks were cleaned during the week of March 18. There is approximately 11,000 square feet of floating woody debris inside the trash shear boom in the immediate 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?

Comments: Initial VBS differentials were measured on March 28.

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: The juvenile bypass system is currently running in primary bypass.

Collection Facility: The juvenile fish facility is currently operating in primary bypass. First collection day is April 01 with the first sample on April 02. The juvenile fish facility will collect fish on odd days through April 23.

Transport Summary: N/A

Spillway Weir: N/A

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
80.4	59.0	0.0	0.0	45.7	43.8	4.9	3.2

*Ladder temperature.

Other

Inline Cooling Water Strainers: Cooling water strainers are currently being inspected every other week and results are sent to district for FPOM distribution.

Avian Activity: Daily piscivorous bird counts at Little Goose Dam will commence on April 01.

Invasive Species: No zebra or Quagga mussels were observed.

Siberian Prawn: N/A

Gas Bubble Trauma (GBT): Gas bubble monitoring will begin on April 07.

Fish Rescue/Salvage: N/A

Research: N/A

Project: Lower Granite
Biologists: Elizabeth Holdren
Dates: March 22-28, 2019

Turbine Operation

Yes	No	Turbine Unit Status		
	X	All 6 turbine units available for service (see table & comments below for details).	**Hard**	**Soft**
X		Available turbines operated within 1% peak efficiency? Constraint in effect.		X

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

	OOS		RTS		
Unit	**Date**	**Time**	**Date**	**Time**	**Outage Description**
2	02/11	0830			Annual Maintenance/Digital Governor Install/OPTO

Comments: None.

Adult Fish Passage Facility

Lower Granite biological staff inspected the adult fishways on March 22, 23, 25, 27, and 28. High water was observed in the fish ladder March 27. The problem was thought to be a debris blockage in the orifices upstream of the picketed leads. An eight foot section of a debris removal pole broke when inspecting the orifices for debris. The ladder was partially dewatered March 28 to retrieve the pole and inspect the ladder orifices (see 19LWG02 MFR). The problem was determined to be diffuser 14 automatic control over adjusting. The ladder was returned to criteria at 1400 hours March 28.

Fish Ladder:

Yes	No	NA	Location	Criteria	Comments
X			Fish Ladder Exit Differential	Head ≤ 0.5’	
X			Fish Ladder Picketed Lead Differential	Head ≤ 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: None.

Fish Ladder Entrances and Collection Channel:

Yes	No	Sill	Location	Criteria	Comments
X			South Shore Entrance (SSE-1) Weir Depth	≥ 8.0’	
X			South Shore Entrance (SSE-2) Weir Depth	≥ 8.0’	
X			South Shore Channel/Tailwater Differential	1.0’ – 2.0’	
X			North Powerhouse Entrance (NPE-1) Weir Depth	≥ 8.0’ or on sill	
X			North Powerhouse Entrance (NPE-2) Weir Depth	≥ 8.0’ or on sill	
X			North Powerhouse Entrance Channel/Tailwater Differential	1.0’–2.0’	
	X		North Shore Entrance (NSE-1) Weir Depth	≥ 7.0’ or on sill	
			North Shore Entrance (NSE-2) Weir Depth	≥ 7.0’ or on sill	Closed
X			North Shore Channel/Tailwater Differential	1.0’–2.0’	
	X		Collection Channel Surface Velocity	1.5 – 4.0 fps	1.3

Comments: NSE-1 out of criteria reading were due to the fish ladder automatic control system water surface elevation sensor failing to communicate to the gate control. NSE-1 is being operated in manual until the control system issues are resolved. The reason for the collection channel out of criteria reading of 1.3 fps is undetermined.

Auxiliary Water Supply System:

Operating Satisfactorily	Standby	Out of Service	Auxiliary Water Supply (AWS)
No		Lower guide repair	AWS Fish Pump 1
Yes			AWS Fish Pump 2
Yes			AWS Fish Pump 3

Comments: AWS pump 1 remains out of service for lower guide bearing repair.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
X			Forebay debris load acceptable? (amount)	
	X	X	Trash rack differentials measured this week?	
		X	Trash rack differentials 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: Baseline gatewell drawdowns and VBS differentials for units 1, 3, 4, 5, were measured March 25.

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: The collection channel is operating with 18 orifices open.

Collection Facility: The collection facility was watered up at 0716 hours March 25 in secondary bypass mode with the first condition sample occurring March 26.
Transport Summary: The first research barge is scheduled for April 4.

Spillway Weir: A debris spill occurred from 0655-0727 hours March 25. Spring flex spill is scheduled to begin April 3.

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
82.3	61.7	0.1	0	44.1	42.0	3.9	1.5

*Cooling water intake temperature.

The Removable Spillway Weir (RSW) was used to spill debris on March 26.

Other

Inline Cooling Water Strainers: N/A

Invasive Species: Zebra/Quagga mussel traps were inspected March 20. No mussels were found.

Avian Activity: Biologist daily piscivorous bird counts at Lower Granite Dam will begin April 1.

Gas Bubble Trauma (GBT) Monitoring: N/A

Adult Fish Trap Operations: The adult trap is anticipated to begin trapping the 1st week of April.

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

Research:

Idaho Fish and Game (IDFG) Genetic Stock Identification

IDFG began collection for genetic stock identification March 26. Fish collected as part of the Lower Granite condition sample are used to enumerate and characterize age composition and genetic stock profiles of naturally producing yearling Chinook and juvenile steelhead. IDFG will sample Monday through Friday through mid-June with a goal of collecting 2,000-5,000 yearling Chinook and juvenile steelhead genetic samples.

Nez Perce Tribe (NPT)/U. of Idaho (UI)/Columbia River Intertribal Fisheries Commission (CRITFC) – Kelt Study

Collection of adult steelhead kelt from Lower Granite juvenile separator for NPT rehabilitation program began March 25 with the first collection being worked up by NPT March 26. This research investigates steelhead kelt physiology and endocrinology to evaluate the feasibility and success of rehabilitating strategies. Selected kelts collected at Granite are transported by NPT to Dworshak National Fish Hatchery for reconditioning and later release as part of this study.