

**U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
FISH FACILITIES WEEKLY REPORT
#02-2019**

Project: McNary

Biologist: Bobby Johnson and Denise Griffith

Dates: March 8 to 14, 2019

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	
5, 6, 7 & 8	3/13	0307	3/13	0342	McNary to John Day 500kV line tripped.
9*, 10, 11 & 12	3/13	0307	3/13	0344	McNary to John Day 500kV line tripped.

Comments: *During the outage above, unit 9 was available to provide station service (station service unit 2 also tripped.) from 0307 to 0338 hours. During this time, the unit ran outside the lower limit of the 1% constraint.

Adult Fish Passage Facilities

McNary fisheries biologists performed measured inspections of the adult fishways on March 8, 11 and 13.

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 very 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'	7.9' & 7.6' on March 11 & 13.
	X		NFEW3 Weir Depth	≥ 8.0'	7.9' & 7.6' on March 11 & 13.
X			South Oregon Entrance Head Differential	1.0' – 2.0'	
	X		SFEW1 Weir Depth	≥ 8.0'	7.8' to 7.9' all week.
	X		SFEW2 Weir Depth	≥ 8.0'	7.8' to 7.9' all week
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: The Oregon ladder was out of criteria due to several factors. Low 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.

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 degrees
X		X*	Oregon Ladder Fish Pump 2, Blade angle: 20 degrees
X		X*	Oregon Ladder Fish Pump 3, Blade angle: 22 degrees
		Yes	OR North Powerhouse Pool supply from juvenile fishway

Comments: *On March 13, at 0307 hours, fish pump 2 tripped off line due to the transmission line trips mentioned above. At 0337 hours, fish pumps 1 and 3 were removed from service for a bus switch. At 0423 hours, all three fish pumps returned to service. The juvenile facility will return to service in late March.

Juvenile Fish Passage Facility

The juvenile system remains out of service for winter maintenance.

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
X			Forebay debris load acceptable? (amount)	Light. New debris is minimal.
X			Trash rack differentials measured this week?	Twice.
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. There was no debris at the spillway. Forebay debris removal and trash rack cleaning are scheduled for the last week in March.

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 continues. ESBS installation is scheduled to begin on April 2, at which time, VBS differential monitoring will begin.

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

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

Comments: The juvenile channel is out of service for winter maintenance.

The drain valve pit down well contract was completed on March 11. The electrical staff began scheduled maintenance in the channel soon after. However, due to residue from sand blasting, the electricians found issues with the transition screen brush and some of the dewatering valves. The contractor returned on March 13 to remove the residue and resolve these issues. The electricians were also resolving an issue with the rectangular screen brush. Finally, the fisheries staff applied silicone to the screen seams in the transition area.

Once of the access doors to one of the full flow PIT tag detectors upstream of the separator was repaired this week.

Bypass Facility:

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

Comments: All systems are out of service for winter maintenance. This week, the fisheries staff completed rerouting the winterization drain on the A side flume add in water line.

TSW Operations: The TSWs will be installed in early April.

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
152.4	102.9	0.0	0.0	37	36	6.0	6.0

Comments: The above data is supplied by the control room.

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. Pelicans, gulls, cormorants, grebes, bald eagles and mergansers were observed in low numbers this week.

The laser ordered to be tested at the juvenile bypass outfall arrived this week. The mechanics will make a stand for the laser before it is deployed. Currently, the schedule is to set up, program and test the laser on March 25.

Invasive Species: The mussel stations will be examined in late March.

Fish Rescue/Salvage: None occurred.

Research: None is occurring.

Project: Ice Harbor

Biologist: Ken Fone

Dates: March 8 – March 14, 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)

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

Comments: None.

Adult Fish Passage Facility

Ice Harbor fish facility staff inspected the adult fishways on March 11, 13, and 14.

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-1) 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	7.7'
X			North Shore Channel/Tailwater Differential	1.0' – 2.0'	

Comments: The north shore entrance weir depth was below criteria on March 11. NEW-1 is in manual control, because of problems with the transducer for the north shore channel elevation (electricians are working on the transducer).

A new season of adult fish counting will begin on April 1. The north shore picketed leads were raised on March 13, after the hoist was fixed to raise the leads out of the water (see MFR 19 IHR 03 for more details).

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)	63 square yards
		X	Gatewell drawdown measured this week?	
		X	Gatewell drawdown acceptable	
X			Any debris seen in gatewells (% coverage)	STSs blocking view into slots
	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 removed for annual maintenance.

Orifices, Collection Channel, Dewatering Structure, and Flume:

Yes	No	NA	Item	Number open and in service
		X	Orifices operating satisfactory?	0
		X	Dewaterer and cleaning systems operating satisfactory?	

Comments: The juvenile fish channel is unwatered for annual maintenance.

Juvenile Fish Facility: The fish facility is unwatered for annual maintenance.

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
42.0	28.8	0	0	36	35	11.0	11.0

*Unit 1 scroll case temperature.

Other

Inline Cooling Water Strainers: Monthly turbine cooling water strainer inspections will take place later in March.

Avian Activity: There were very few piscivorous birds seen around the project.

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

Siberian Prawn: Siberian prawns collected in the sample at the Juvenile Fish Facility 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 8 - 14, 2019

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 4	3/1/2019	11:00	3/29/2019	ERTS	Dislodged Rotor Counterweight

Comments: None.

Adult Fish Passage Facility

The adult fishways were inspected by Corps and Anchor QEA biologists on March 8, 9, 10 and 13.

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	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 weir (NSE-1) was out of criteria during the March 8 and 13 inspections with readings of 7.2 and 7.6 respectively. The weir was placed at sill until powerhouse electricians could look at the system. While at sill on the March 9 inspection, the reading was 10.3 feet.

North Shore Entrance weir (NSE-2) was out of criteria during the March 8 and 13 inspections with readings of 7.1 and 7.7 respectively. The weir was placed at sill until powerhouse electricians could look at the system. While at sill on the March 9 inspection, the reading was 10.6 feet

South Powerhouse Entrance weir (SPE-1) was on sill during all inspections with readings of 6.4, 7.6, 7.1 and 7.5 feet respectively.

South Powerhouse Entrance weir (SPE-2) was on sill during all inspections with readings of 6.4, 7.6, 7.1 and 7.5 feet respectively.

South Shore Entrance weir (SSE-1) was on sill during the March 8, 9 and 10 inspections with readings of 7.6, 8.0 and 7.8 feet respectively. Readings were out of criteria during the March 13 ladder inspection with a reading of 7.2 feet.

Powerhouse electricians were calibrating NSE-1, NSE-2 and SSE-1 at the time Anchor QEA personal performed the March 13 ladder inspection. This accounted for the out of criteria readings.

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)	275 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: STS's are not yet deployed in Units 4, 5 and 6. STS's for top three priority units were installed prior to March 1. 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 64 fish were collected and 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
40.6	26.7	0.0	0.0	36.0	36.0	5.0	4.0

*Scrollcase temperatures.

Other

Inline Cooling Water Strainers: Cooling water strainers were inspected on February 5. No live fish were recovered. Mortalities included 1 juvenile lamprey and 2 American shad.

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 8-14	NA	4	0	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. Daily and total Siberian prawn counts at Lower Monumental Dam for this reporting period are reported below.

Date	Sample (euthanized)	Collection*
3/11	1	2
Totals	1	2

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

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 08-14, 2019

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	04/21/17	00:54	03/31/21	17:00	Spider and Upper Guide Bearing Repair

Comments: None.

Adult Fish Passage Facility

Little Goose fish facility staff inspected the adult fishway on March 11, 12 and 14.

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	\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	6.9
	X		North Powerhouse Entrance (NPE-2) Weir Depth	\geq 7.0' or on sill	6.8
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	5.3
	X		North Shore Entrance (NSE-2) Weir Depth	\geq 6.0' or on sill	5.6
	X		North Shore Channel/Tailwater Differential	1.0'–2.0'	0.7, 0.8
X			Collection Channel Surface Velocity	1.5 – 4.0 fps	

Comments: The adult fishway continues to operate in manual mode. Weir depth at NPE was found out of criteria on March 12. Weir depth at NSE was found out of criteria on March 11. Channel to tailwater differential at NSE was found out of criteria on March 12 and 14. Adjustments at all locations were made immediately and the fishway is currently in 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: Fish pump 2 tripped on March 12 due to high speed reducer temperature. The pump was down from approximately 13:45 to 13:50 and again from 16:25 to 16:35. The pump was taken out of service for troubleshooting on March 13 at 06:55. A faulty temperature sensor (RTD) was found and the pump was returned to service at 16:48 (MFR 19LGS01). The fishway is currently in criteria and all three fish pumps are in service.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comment
X			Forebay debris load acceptable? (amount)	21,625 ft ²
		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: There is approximately 21,625 square feet of floating woody debris inside the trash shear boom in the immediate forebay. ESBS screens are currently being stored in the gatewell slots for winter maintenance.

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: ESBS screens are currently being stored in the gatewell slots for winter maintenance.

Orifices, Collection Channel, Dewatering Structure, and Flume:

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

Comments: The juvenile bypass system is currently dewatered for winter maintenance.

Collection Facility: The juvenile fish facility is currently dewatered for winter maintenance.

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
39.5	26.1	0.0	0.0	39.0	38.2	5.5	4.9

*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: The lower portion of the navigation lock (culverts) were dewatered for winter maintenance during this report period. The fish salvage resulted in 1 clipped adult steelhead which was released unharmed. The fish rescue/salvage report was sent to the district office.

Research: N/A

Project: Lower Granite

Biologists: Elizabeth Holdren

Dates: March 8-14, 2019

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	
2	02/11	0830			Annual Maintenance/ Digital Governor Install
1	03/14	1424	03/14	1448	Correct wiring due to incorrect wiring diagram

Comments: None.

Adult Fish Passage Facility

Lower Granite biological staff inspected the adult fishways on March 11, 12, and 13.

Fish Ladder:

Yes	No	NA	Location	Criteria	Comments
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: None.

Fish Ladder Entrances and Collection Channel:

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

Comments: Collection channel velocity was out of criteria on one inspection with a readings of 1.4, 1.1, and 1.3 fps.

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	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: ESBSs installation is scheduled for March 18-21.

Orifices, Collection Channel, Dewatering Structure, Bypass Pipe:

Yes	No	NA	Item	Number open and in service
		X	Orifices operating satisfactory?	Variable due to commissioning
		X	Dewaterer and cleaning systems operating satisfactory?	

Comments: The collection channel orifice gallery was watered up in emergency bypass mode March 11 as part of JBS upgrade commissioning. Operations were changed to primary bypass mode at 1524 hours March 12. The collection channel is scheduled to be in normal operation with all 18 of the 14" orifices open when ESBSs are installed the week of March 18.

Collection Facility: Operation was changed from primary bypass to facility collection from 0920-1005 hours March 14 with all fish water diverted to the adult return flume to test porosity plate control modifications. Flows over the porosity unit were improved.

Transport Summary: No Transport

Spillway Weir: Standby

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
40.0	31.5	0	0	39.4	38.2	5.0+	4.0

*Cooling water intake temperature.

Other

Inline Cooling Water Strainers: N/A

Invasive Species: N/A

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: Remains dewatered to avoid freezing damage due to cold temperatures.

Fish Rescue/Salvage: N/A

Research: N/A