

**U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
FISH FACILITIES WEEKLY REPORT
#01-2018**

Project: McNary

Biologist: Bobby Johnson and Denise Griffith

Dates: March 1 to 8, 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

McNary Unit Outages (OOS) and Estimated or Return to Service (ERTS/RTS)

Unit	OOS		ERTS/RTS		Outage Description
	Date	Time	Date	Time	
6	2/26	0650	3/1	1326	Cooling water strainer upgrade.
7	3/5	0702	3/8	1102	Cooling water strainer upgrade.

Comments: The hard constraint will begin April 1.

Adult Fish Passage Facilities

McNary fisheries biologists performed measured inspections of the adult fishways on March 1, 2, 5 and 7. Winter maintenance at the Washington and Oregon ladders occurred in January and February, respectively.

Fish Ladder Exits:

Yes	No	Location	Criteria	Out of criteria or on sill measurements
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 moderate near the Oregon exit and minimal to light near the Washington exit.

Fishway Entrances and Collection Channel:

Yes	No	Sill	Location	Criteria	Out of criteria or on sill measurements
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 2.6 fps.
X			Washington Entrance Head Differential	1.0' – 2.0'	

X		WFE2 Weir Depth	≥ 8.0'	
X		WFE3 Weir Depth	≥ 8.0'	

Comments: The entrance weirs elevation dial indicators required calibration, which was partially completed. (The digital readings were previously calibrated.)

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

Comments: *Fish pump 2 was out for service from February 27 to March 1 at 1320 hours due to exciter issues. The other fish pumps were operated with high blade angles during this outage. The juvenile facility will return to service in late March.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
X			Forebay debris load acceptable? (amount)	Moderate to heavy. 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: Forebay debris removal and trash rack cleaning are scheduled for the last two weeks 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 installation is scheduled to begin on April 5, 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 and systems rehabilitation. This week, the fisheries staff replaced the gaskets on three orifice covers. Testing of the brushes, the system programmable logic and alarms is scheduled for next week.

During inspection this winter, we found the three access hatches to the underground section of the full flow bypass pipe were not secured when installed in 2012. This issue was resolved 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. The fisheries staff is currently replacing the gaskets between the sample tanks and the anesthesia chambers.

TSW Operations: The TSWs will be installed in late March.

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
212.2	180.7	0.0	0.0	40	38	6.0	5.0

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

Other

Inline Cooling Water Strainers: On March 6 and 7, we removed 52 juvenile lamprey mortalities. No other fish were observed.

Avian Activity: Avian count begin April 1. On average, approximately 20 cormorants, six gulls and one blue heron were noted this week.

Invasive Species: None have been seen during the winter outages. 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 1 – March 8, 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 Estimated or Return to Service (ERTS/RTS)

Unit	OOS		ERTS/RTS		Outage Description
	Date	Time	Date	Time	
2	4/25/16	0606	4/27/18	---	Runner replacement
4	12/17/17	1342	6/1/18	---	Initially to investigate oil leak. Also fixing governor pump
3	3/6/18	0657	3/6/18	1114	GDAC maintenance
3	3/7/18	0720	3/7/18	1152	GDAC maintenance

Comments: None.

Adult Fish Passage Facility

Ice Harbor fish facility staff inspected the adult fishways on March 1, 5, 6, and 8.

Fish Ladders:

Yes	No	Location	Criteria	Out of criteria or on-sill 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	Out of criteria or on-sill 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 (SFE-1) Weir Depth (Criteria	\geq 8.0' or on sill	
X			North Shore Channel/Tailwater Differential	1.0' – 2.0'	

Comments: The picketed leads were installed on February 28. Adult fish counting began on March 1.

Auxiliary Water Supply (AWS) System:

Operating Satisfactory	Standby	Out of Service	Auxiliary Water Supply System (AWS)
6 pumps	2 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)	125 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 dewatered for annual maintenance.

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

Fish Sampling: Sampling begins on April 2.

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
54.0	44.9	0	0	40	39	6.9	3.8

*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. Sampling begins on April 2.

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 1 - 8, 2017

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 Estimated or Return to Service (ERTS/RTS)

Unit	OOS		ERTS/RTS		Outage Description
	Date	Time	Date	Time	
Unit 1	12/10/2014		07/2018		Rehabilitation Overhaul
Unit 3	3/5/2018	09:48	3/5/2018	17:41	Validation Testing
Unit 4	2/12/2018	12:18	5/9/2018		Online Trip Investigation
Unit 6	1/4/2018	11:18	3/5/2018	13:07	Oil Leak Investigation

Comments: None.

Adult Fish Passage Facility

Lower Monumental fish facility staff inspected the adult fishways on March 6, 7 and 8.

Fish Ladder:

Yes	No	Location	Criteria	Out of criteria or on sill 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'	

Fishway Entrances and Collection Channel:

Yes	No	Sill	Location	Criteria	Out of criteria or on sill measurements
X			North Shore Entrance (NSE-1) Weir Depth	\geq 8.0' or on sill	
X			North Shore Entrance (NSE-2) Weir Depth	\geq 8.0' or on sill	
X			North Shore Channel/Tailwater Differential	1.0'–2.0'	
	X	X	South Powerhouse Entrance (SPE-1) Weir Depth	\geq 8.0' or on sill	See comments
X		X	South Powerhouse Entrance (SPE-2) Weir Depth	\geq 8.0' or on sill	See comments
X			South Powerhouse Entrance Channel/Tailwater Differential	1.0'–2.0'	
		X	South Shore Entrance (SSE-1) Weir Depth	\geq 8.0'	See comments
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 weir (SPE-1) was out of criteria during the March 6 and 7 inspections with readings of 4.0 and 4.7 feet, respectively. Powerhouse electricians were informed and worked to correct an issue with the automation system. SPE-1 was on sill during the March 8 inspection with a reading of 6.6 feet.

South Powerhouse Entrance weir (SPE-2) was on sill during all inspections with readings of 6.5, 7.2 and 6.6 feet, respectively.

South Shore Entrance weir (SSE-1) was on sill during all inspections with readings of 8.9, 8.3 and 7.5 feet, respectively.

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: AWS Fish pump 1 is out of service for 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)	
		X	Gatewell drawdown measured this week?	
		X	Gatewell drawdown acceptable	
		X	Any debris seen in gatewells (% coverage)	
		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: Gatewells could not be observed during this reporting period due to STS's hanging over the slots. Approximate date for STS installation is March 26.

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 approximate date for the Collection Channel to be watered up is March 19.

Collection Facility: The collection facility is currently in winter maintenance and is scheduled to be watered up on March 26.

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
56.7	47.2	5.0	0.0	39	39	5.7	5.0

*Scrollcase temperatures.

Other

Inline Cooling Water Strainers: Cooling water strainers were inspected on March 5. No live fish were recovered. Mortalities included 99 juvenile lamprey.

Avian Activity: Tailrace counts of foraging piscivorous birds at Lower Monumental Dam are scheduled to begin in April.

Invasive Species: No zebra or quagga mussels were observed during monitoring station inspections on March 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. The collection facility is currently in winter maintenance and is scheduled to be watered up on March 26 thus Siberian prawns were counted at Lower Monumental Dam for this reporting period.

Fish Rescue/Salvage: No Fish Rescue/Salvage took place 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: March 1 – March 8, 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 Estimated or Return to Service (ERTS/RTS)

Unit	OOS		ERTS/RTS		Outage Description
	Date	Time	Date	Time	
5	04/14/17	14:11	07/31/2018		Spider and upper guide bearing repair.
3	03/01/18	17:22	03/02/18	16:45	Fish screen motor in gatewell 3C.

Comments: A generic (rolling) two unit at a time outage occurred on March 01 from 07:00 until 17:00 for installation of the trash/shear boom.

Adult Fish Passage Facility

Little Goose fish facility and Anchor QEA staff inspected the adult Fishway on March 01, 04 and 06.

Fish Ladder:

Yes	No	NA	Location	Criteria	Out of criteria or on sill 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' on March 6
	X		Fish Ladder Cooling Water Pumps in Service		
		X	Fish Ladder Exit Cooling Water Pumps Operating Satisfactorily		

Fishway Entrances and Collection Channel:

Yes	No	Sill	Location	Criteria	Out of criteria or on sill 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	6.7 on March 4 6.7 on March 6
		X	North Powerhouse Entrance (NPE-2) Weir Depth	\geq 7.0' or on sill	6.9 on March 1 6.5 on March 4 6.4 on March 6
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	5.9' on March 6
	X		North Shore Entrance (NSE-2) Weir Depth	\geq 6.0' or on sill	5.8' on March 6
X			North Shore Channel/Tailwater Differential	1.0'–2.0'	
X			Collection Channel Surface Velocity	1.5 – 4.0 fps	

Comments: North shore entrances were out of criteria on March 06. Weir height adjustments were immediately made and the adult fishway is currently operating 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: 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 approximately 15,000 square feet of floating woody debris currently 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?	19
	X		Dewaterer and cleaning systems operating satisfactory?	

Comments: Primary dewatering structure weir elevation is currently operating in manual mode. The limit torque motor that automatically adjusts weirs for water elevation failed upon watering up the juvenile fish collection system. A new limit torque motor has been ordered and is expected to be installed upon delivery.

Collection Facility: Little Goose juvenile fish facility began collection for fish condition at 07:00 on March 1.

Transport Summary: Fish transportation is scheduled to begin in April or May pending guidance from RIOG and TMT.

Spillway Weir: Spring spill operations will begin on April 03.

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
52.4	41.6	0.0	0.0	40.1	39.8	6.0	6.0

*Ladder temperature.

Other

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

Avian Activity: Daily piscivorous bird counts at Little Goose Dam.

Date	Zone	Gull	Cormorant	Tern	Pelican	Grebe
March 01	Forebay count	1	1	0	0	0
	Unmodified boat barrier	0	0	0	0	0
	Modified boat barrier*	0	0	0	0	0
	Boat barrier debris	0	0	0	0	0
	Trash/shear boom	0	0	0	0	0
March 02	Tailrace count	0	0	0	0	0
	Forebay count	0	0	0	0	0
	Unmodified boat barrier	0	0	0	0	0
	Modified boat barrier*	0	0	0	0	0
	Boat barrier debris	0	0	0	0	0
March 03	Trash/shear boom	0	0	0	0	0
	Tailrace count	0	0	0	0	0
	Forebay count	0	0	0	0	0
	Unmodified boat barrier	0	0	0	0	0
	Modified boat barrier*	0	0	0	0	0
March 04	Boat barrier debris	0	0	0	0	0
	Trash/shear boom	0	0	0	0	0
	Tailrace count	0	0	0	0	0
	Forebay count	0	1	0	0	0

	Unmodified boat barrier	0	0	0	0	0
	Modified boat barrier*	0	0	0	0	0
	Boat barrier debris	0	0	0	0	0
	Trash/shear boom	0	0	0	0	0
	Tailrace count	0	0	0	0	0
March 05	Forebay count	0	0	0	0	0
	Unmodified boat barrier	0	0	0	0	0
	Modified boat barrier*	0	0	0	0	0
	Boat barrier debris	0	0	0	0	0
	Trash/shear boom	0	0	0	0	0
	Tailrace count	0	0	0	0	0
March 06	Forebay count	0	0	0	0	0
	Unmodified boat barrier	0	0	0	0	0
	Modified boat barrier*	0	0	0	0	0
	Boat barrier debris	0	0	0	0	0
	Trash/shear boom	0	0	0	0	0
	Tailrace count	0	0	0	0	0
March 07	Forebay count	0	0	0	0	0
	Unmodified boat barrier	0	0	0	0	0
	Modified boat barrier*	0	0	0	0	0
	Boat barrier debris	0	0	0	0	0
	Trash/shear boom	0	0	0	0	0
	Tailrace count	0	0	0	0	0
March 07	Forebay count	0	0	0	0	2
	Unmodified boat barrier	0	0	0	0	0
	Modified boat barrier*	0	0	0	0	0
	Boat barrier debris	0	0	0	0	0
	Trash/shear boom	0	0	0	0	0
	Tailrace count	0	0	0	0	0

*modified boat barrier section has weights and bird spike removed.

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*
3-01	0	0
3-02	0	0
3-03	0	0

3-04	0	0
3-05	0	0
3-06	0	0
3-07	0	0
3-08	0	0

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

Gas Bubble Trauma (GBT): GBT monitoring is not being conducted at this time.

Fish Rescue/Salvage: Juvenile fish facility staff conducted a fish rescue in the navigation lock and associated culverts on March 06. One adult shad mortality was observed. There were no salmonid species seen.

Research: PNNL is currently installing temporary trolley pipes, hydrophones and associated equipment for an acoustic telemetry study.

Project: Lower Granite

Biologists: Elizabeth Holdren and Stephen Hampton

Dates: March 1-8, 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 Estimated or Return to Service (ERTS/RTS)

Unit	OOS		RTS		Outage Description
	Date	Time	Date	Time	
3-6	01-Mar	0658	02-Mar	1515	Rolling outage for trashrack raking.
1,3-6	03-Mar	1630	03-Mar	1646	Annual RAS testing.
1	05-Mar	1936	N/A	N/A	Servo oil supply leak waiting on contractor repair and oil procurement.

Comments: None.

Adult Fish Passage Facility

The adult fishway was watered up at about 0900 hours February 28. An expansion joint leak that had the potential to impact the structural integrity of the roadway bridge and substrate below the ladder was identified requiring the ladder to be dewatered. The ladder was dewatered and a fish rescue occurred from 1130-1230 hours February 28. The expansion joint was repaired over the weekend and the ladder was returned to service at 1045 hours March 5. Lower Granite biological staff inspected the adult fishway on March 06 and 08.

Fish Ladder:

Yes	No	NA	Location	Criteria	Out of criteria or on sill measurements
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	Out of criteria or on sill measurements
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	
X			North Shore Entrance (NSE-2) Weir Depth	≥ 7.0' or on sill	
X			North Shore Channel/Tailwater Differential	1.0'–2.0'	
X			Collection Channel Surface Velocity	1.5 – 4.0 fps	

Comments: None.

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: AWS pumps 1 and 3 were brought on line at 1530 hours March 5 with pump 1 in fast mode. AWS pump 2 is out of service for drive shaft bearing repair.

Juvenile Fish Passage Facility

Juvenile bypass system upgrade phase's 1a and 1b construction and government commissioning is ongoing. Watering up the juvenile bypass and collection facility is delayed due to an emergency bypass hatch operating cable failure. Repairs of the emergency bypass hoist system are expected to be completed by March 25 with the facility watered up in collection mode March 26 and the first condition sample occurring March 27.

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
X			Forebay debris load acceptable? (amount)	Average of about 25 square yards.
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: ESBSs are scheduled to be installed the week of March 26. This will be a deviation from Lower Granite FPP section 2.3.1.2.vii. requirement to have ESBS installed in at least four units by March 24th. It is anticipates ESBSs will be installed in all operating units prior to the April 1 deadline.

Orifices, Collection Channel, Dewatering Structure, Bypass Pipe:

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

Comments: None

Collection Facility: The facility is in bypass commissioning mode.

Transport Summary: No transport is currently occurring

Spillway Weir: Spill season scheduled to begin April 03.

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
51.5	43.4	0	0	40.7	40.6	5.0	4.0

*Cooling water intake temperature.

Other

Inline Cooling Water Strainers: N/A

Invasive Species: N/A

Siberian Prawn: N/A

Avian Activity: N/A

Gas Bubble Trauma (GBT) Monitoring: N/A

Adult Fish Trap Operations: Adult trap operation began at 0910 hours March 7 with the first sample occurring at 0915 hours.

Fish Rescue/Salvage: N/A

Research: N/A