

**U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
FISH FACILITIES WEEKLY REPORT
#43-2018**

Project: McNary

Biologist: Bobby Johnson and Denise Griffith

Dates: December 21 to 31, 2018

Turbine Operation

Yes	No	Turbine Unit Status	Hard	Soft
X		All 14 turbine units available for service.		
	X	Available turbines operated within 1% peak efficiency? Constraint in effect.		X

Comments: Units were operated outside the soft one percent constraint at BPA's request as needed.

Adult Fish Passage Facilities

McNary fisheries biologists performed adult fishways measured inspections on December 21, 23, 26, 28 and 30. The Washington and Oregon ladders winter outages will occur in January and February, respectively.

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 minimal to light (woody material and aquatic vegetation) near the both ladder exits. Trash racks were cleaned by the general maintenance staff as needed.

On December 26, a Washington ladder exit came in and was reset.

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 to 7.9' all week.
	X		NFEW3 Weir Depth	≥ 8.0'	7.7 to 7.8' all week.
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 2.1 fps.
X			Washington Entrance Head Differential	1.0' – 2.0'	
X			WFE2 Weir Depth	≥ 8.0'	
X			WFE3 Weir Depth	≥ 8.0'	

Comments: All week, the Oregon north powerhouse entrances (NFEW2 and NFEW3) were out of criteria. There was no axillary water from the juvenile channel and the tailwater elevation was low at times.

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: 20 to 21.
X			Oregon Ladder Fish Pump 3, Blade angle: 22.
		X	OR North Powerhouse Pool supply from juvenile fishway.

Comments: The juvenile facility collection channel remained out of service for winter maintenance. The juvenile channel will resume supplying flow to the Oregon north powerhouse pool in late March, 2019.

Juvenile Fish Passage Facility

The juvenile fish passage facility remained out of service for winter maintenance.

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
X			Forebay debris load acceptable? (amount)	Very light to moderate near powerhouse.
X			Trash rack differentials measured this week?	Twice a week.
X			Trash rack differentials acceptable?	
	X		Any debris seen in gatewells? (% coverage)	
X			Any oil seen in gatewells?	

Comments: The forebay debris loads near the powerhouse were very light to moderate. The debris consisted of aquatic vegetation and woody material. New incoming debris loads were minimal. Debris accumulations along the spillway were minimal.

No trash racks were cleaned. Trash racks will be monitored throughout the winter maintenance season. Four test slots will be cleaned in January.

On December 23, a small amount of ESBS gear box oil was removed for 9A slot with an absorbent boom.

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 camera inspections will resume next spring.

VBS differential monitoring will also resume next spring when ESBSs are reinstalled.

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

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

Comments: All systems remained out of service for maintenance.

On December 26, the contractor who will rehabilitate and repaint the down well dewatering valve pit began their efforts. On December 28, they found the channel stop log hoist inoperable. A project electrician repaired the hoist on December 31.

Bypass Facility:

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

Comments: All systems remained out of service for winter maintenance. Rehabilitation of the separator upwell supply valves continued.

TSW Operations: The TSWs remained out of service.

River Conditions

Table 1. 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
145.6	89.2	0.0	0.0	45.0	44.0	6.0	6.0

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

Other

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

Avian Activity: Casual avian observations were made during other inspections. A few pelicans were noted on project. No terns were observed. Gull and cormorant numbers appeared to fluctuate with the juvenile shad outmigration and their numbers appear to be decreasing. Both species were roosting on structures around and on the tailwater. A few gulls were feeding in the powerhouse flow.

A gull flock, gull, blue heron, grebe, bald eagle, merganser or cormorant was occasionally noted in the forebay area.

The gulls and a few cormorants were noted roosting around the project outside the observation zones and in areas near both boat docks.

Invasive Species: The mussel station examinations on December 26 revealed no problems. Also, nothing was observed in the dewatered juvenile passage facility.

Fish Rescue/Salvage: None occurred.

Research: None occurred.

Project: Ice Harbor

Biologist: Ken Fone

Dates: December 21 – December 31, 2018

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 December 21, 26, and 27.

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	6.0', 6.1'
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	7.0'
X			North Shore Channel/Tailwater Differential	1.0' – 2.0'	

Comments: The NFE-2 weir gate depth was out of criteria on December 26 and 27. The powerhouse operator was informed. The gate was off of sill and should have been lowered down to meet the depth criteria. The NEW-1 weir gate depth was out of criteria on the December 26 inspection. The gate was lowered down to meet the depth criteria.

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: North shore AWS pump #1 has been out of service since November 28 at 1115 hours, due to a faulty relay for FSP-2 Bus #2. A new relay was ordered and will be installed.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
X			Forebay debris load acceptable? (amount)	50 square yards
	X		Gatewell drawdown measured this week?	
		X	Gatewell drawdown acceptable	
X			Any debris seen in gatewells (% coverage)	STSs stored in gatewell slots block full view
X			Any oil seen in gatewells?	3C gatewell and head gate slots

Comments: A light oil sheen was first observed in 3C gatewell and head gate slots on November 7. Project maintenance staff believe that the sheen is residual oil off of the intake gate hydraulic cylinder rod. The oil sheen was documented and reported to the proper authorities. Oil absorbing socks were deployed in the slot on November 19.

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: All STSs are removed for winter maintenance.

Orifices, Collection Channel, Dewatering Structure, and Flume:

Yes	No	NA	Item	Number open and in service
X			Orifices operating satisfactory?	20, then 0
X			Dewaterer and cleaning systems operating satisfactory?	

Comments: The juvenile fish bypass was unwatered on December 21 for winter maintenance.

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

Fish Sampling: Sampling is done for the year.

Removable Spillway Weir (RSW): Voluntary spill for fish passage is done for the year.

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
28.5	17.9	0	0	43	41	11.2	9.7

*Unit 1 scroll case temperature.

Other

Inline Cooling Water Strainers: Unit 1, 5, and 6 strainers were cleaned on December 23 and 27, because of juvenile shad plugging up the strainers. A total of approximately 717 dead juvenile shad were removed.

Avian Activity: The amount of gulls, pelicans, cormorants, mergansers, and grebes observed around the project dropped to low numbers during the reporting week.

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: During the unwatering of the juvenile fish channel on December 21, 1 unclipped adult chinook, 10 clipped adult steelhead, 4 unclipped adult steelhead, 1 clipped juvenile steelhead, and 2 channel catfish were recovered. The fish were released in good condition off of the boat ramp at Levey Park.

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

Project: Lower Monumental

Biologists: Chuck Barnes and Raymond Addis

Dates: December 21 - 31, 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		02/01/19	ERTS	Rehabilitation Overhaul
Unit 4	9/19/2018	1600	02/08/19	ERTS	Inspection of Oil Governor System/Blade Seal Replacement

Comments: None.

Adult Fish Passage Facility

The adult fishways were inspected by Corps biologists on December 26, 27 and 31.

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			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	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:

South Powerhouse Entrance (SPE-1) was at sill during all inspections with readings of 6.5, 7.0 and 7.5 feet respectively.

South Powerhouse Entrance (SPE-2) was at sill during all inspections with readings of 6.5, 7.0 and 7.5 feet respectively.

South Shore Entrance (SSE-1) was at sill during all inspections with readings of 7.5, 8.0 and 8.1 feet respectively.

South Shore Channel/Tailwater differential was out of criteria during the inspection with a reading of 0.5 feet.

Powerhouse operators were informed.

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. Current estimated RTS date is 7 February, 2019.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
X			Forebay debris load acceptable? (amount)	712 sq yd average
X			Gatewell drawdown measured this week?	
X			Gatewell drawdown acceptable	
		X	Any debris seen in gatewells (% coverage)	
	X		Any oil seen in gatewells?	

Comments: STS's were removed December 17-18 and screens are dogged off in gatewells, blocking view of gatewell debris. Orifices were closed December 17.

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 were removed for winter maintenance December 17-18. December 14-16, all STS's were deployed and in service.

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: All orifices were closed at 1000 on December 17 and juvenile channel, PDW and Primary Bypass Pipe were de-watered for winter maintenance. All fish were crowded with receding water and directed through Emergency Bypass pipe as stated in FPP, Appendix F.

Collection Facility: Collection for truck transport ended at 0700 on October 1 and the facility operation was changed to primary bypass. The facility was dewatered at 1230 on October 3 for cleaning and winter maintenance.

Transport Summary: Alternate day trucking ended at 0700 on October 1.

Spillway Weir: RSW went into service when Spring Spill began at 0001 on April 3. RSW was closed at 1245 on August 8 due to TMT decision. Summer Spill ended at 00:00:00 on September 1.

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
27.9	19.1	0	0	43	43	7.0	7.0

*Scroll case temperatures.

Other

Inline Cooling Water Strainers: Cooling water strainers are not inspected in December.

Avian Activity: N/A

Comments: Bird hazing efforts by USDA personnel ended at 2000 on June 2. Tailrace observations for bird hazing effectiveness ended with the June 30 observation. Observation of piscivorous birds during fish ladder inspections ended on October 1.

Invasive Species: No zebra or quagga mussels were observed during monitoring station inspections on November 1.

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. Juvenile fish collection ended at 0700 on October 1.

Fish Rescue/Salvage: No fish were rescued 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: December 21-31, 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.
1 & 2	12/18/18	06:30	N/A	N/A	Forced OOS due to bus ground fault

Comments: None.

Adult Fish Passage Facility

Little Goose fish facility and Anchor QEA staff inspected the adult fishway on December 26, 27, 31 and January 2.

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: Picketed leads were removed for winter maintenance on January 2 at 15:00.

Fishway Entrances and Collection Channel

Yes	No	Sill	Location	Criteria	Measurements
X			South Shore Entrance (SSE-1) Weir Depth	\geq 8.0'	
X			South Shore Entrance (SSE-2) Weir Depth	\geq 8.0'	
X			South Shore Channel/Tailwater Differential	1.0' – 2.0'	
		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. Adjustments were made and the 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: Auxiliary water supply pumps were shut off for winter maintenance on January 3 at 09:38.

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 800 sq. ft. of 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: All units have ESBS screens removed and inspected for the season.

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 bypass system was dewatered on December 19 for the winter maintenance period.

Collection Facility: Juvenile fish facility is dewatered for winter maintenance.

Transport Summary: Collection for transportation ended at 07:00 on November 01.

Spillway Weir: Adjustable spillway weir was closed for the season on August 03 at 15:30.

River Conditions

River conditions at Little Goose Dam.

Daily Average River Flow (kcfs)		Daily Average Spill (kcfs)		Water Temperature* (°F)		Water Clarity (Secchi disk - feet)	
High	Low	High	Low	High	Low	High	Low
26.4	17.6	0.0	0.0	41.3	40.6	6+	6+

*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 ended on October 31 per the Fish Passage Plan requirement at Little Goose Dam.

Invasive Species: No invasive species have been observed on the mussel station.

Siberian Prawn: Juvenile fish facility is dewatered for winter maintenance.

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

Fish Rescue/Salvage: The juvenile bypass system was dewatered for winter maintenance on December 19, 2019. Approximately 100 adult steelhead, 10 juvenile steelhead, 10 juvenile chinook and 18 juvenile lamprey were released to the tailrace. Two juvenile lamprey mortalities were also observed.

Research: None.

Project: Lower Granite

Biologists: Elizabeth Holdren and Stephen Hampton

Dates: December 21 – December 31, 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	
1	Dec 27	0700			Annual maintenance and digital governor upgrade

Comments: Unit are being operated in the soft constraint of 1% efficiency.

Adult Fish Passage Facility

Lower Granite staff inspected the adult fishway December 26 and 27.

Fish Ladder:

Yes	No	NA	Location	Criteria	Measurements
X			Fish Ladder Exit Differential	Head \leq 0.5'	
X			Fish Ladder Picketed Lead Differential	Head \leq 0.3'	
X			Fish Ladder Depth over Weirs	Head over weir 1.0' to 1.3'	
	X		Fish Ladder Cooling Water Pumps in Service		
		X	Fish Ladder Cooling Water Pumps Operating Satisfactorily		

Comments: None.

Fish Ladder Entrances and Collection Channel:

Yes	No	Sill	Location	Criteria	Measurements
X			South Shore Entrance (SSE-1) Weir Depth	\geq 8.0'	
X			South Shore Entrance (SSE-2) Weir Depth	\geq 8.0'	
X			South Shore Channel/Tailwater Differential	1.0' – 2.0'	
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	N/A
			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: Diffuser-14 was placed in manual control to maintain depth over weir criteria December 10 due to a failed elevation sensor wire.

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 2 taken offline at 0802 hours December 31 in preparation for adult ladder dewatering.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil:

Yes	No	NA	Item	Comments
X			Forebay debris load acceptable? (amount)	Average Coverage of 98 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: ESBSs are dogged off for winter maintenance.

Orifices, Collection Channel, Dewatering Structure, Bypass Pipe:

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

Comments: None.

Collection Facility: N/A.

Transport Summary: N/A

Spill/Spillway Weir: N/A.

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
25.6	20.3	0	0	39.8	39.5	5.0+	5.0+

*Cooling water intake temperature.

Other

Inline Cooling Water Strainers: Unit cooling water strainers were inspected December 31. Mortalities included 13 juvenile lamprey.

Invasive Species: No mussels were present on the December 6 inspection.

Siberian Prawn: N/A.

Avian Activity: N/A.

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

Adult Fish Trap Operations: N/A.

Fish Rescue/Salvage: N/A.

Research: N/A.