

The Dalles Dam Fishway Status Report

February 2nd, 2019

Inspection Period: Jan. 27 - Feb. 2, 2019

THE DALLES DAM



US Army Corps
of Engineers
Portland District

The Dalles Project-Fisheries
P.O. Box 564
The Dalles, OR 97058-9998
Phone: 541-506-3800

The Dalles Dam	Inspections Out of Criteria	Criteria Limit	Total Number of Inspections: Comments: FU's off 12/1	15	Temperature: 40.9 °F	Secchi: 5+ feet
NORTH FISHWAY PUD TURBINE OFF 01/22 RTS-02/07						
Exit differential	0	≤ 0.5'				
Count station differential	0	≤ 0.3'				
Weir crest depth	0	1.0' ± 0.1'				
Entrance differential	0	1.0' - 2.0'				
Entrance weir N1	0	depth (≥ 8')				
Entrance weir N2	0	Closed				
PUD Intake differential	0	≤ 0.5'				
EAST FISHWAY - NO FISH TURBINES AVAILABLE						
Exit differential	0	≤ 0.5'				
Removable weirs 154-157	9	Per forebay	Weir 157 cable failure.		When forbay < 159.5 east exit in criteria	
Weir 158-159 differential	0	1.0' ± 0.1'	RUNNING DEEP			
Count station differential	0	≤ 0.3'				
153 Weir crest depth	1	1.1' ± 0.1'	1x too low			
Junction pool weir JP6	0	0.0				
East entrance differential	0	1.0' - 2.0'				
Entrance weir E1	closed	No criteria				
Entrance weir E2	0	depth (≥ 8')				
Entrance weir E3	0	depth (≥ 8')				
Collection channel velocity		1.5 - 4 fps				
Transportation channel velocity		1.5 - 4 fps				
North channel velocity		1.5 - 4 fps				
South channel velocity		1.5 - 4 fps				
West entrance differential	14	1.0' - 2.0'				AWS + FISHLADDER FLOW ONLY
Entrance weir W1	14	depth (≥ 8')				
Entrance weir W2	14	depth (≥ 8')				
Entrance weir W3	closed	No criteria				
South entrance differential	14	1.0' - 2.0'				
Entrance weir S1	14	depth (≥ 8')				
Entrance weir S2	14	depth (≥ 8')				
JUVENILE PASSAGE						
Sluicelgate operation	0	Units 1, 18	MU1 (1-1) & MU18 (18-3) endgate closed			
Turbine trashrack drawdown	0	<1.5', biwkly				
Spill volume/pattern	0	None				
Turbine Unit Priority	0	per FPP	Bus maintenance work			
Turbine 1% Efficiency	0	per FPP				

OTHER ISSUES:

Predators;

Eagle numbers increasing in westrick park.

No Sea Lion observations

Green laser bird deterrant tested with promising results on roosting gulls. Another tool for USDA to use next season, but not a complete solution.

Operation:

North fish ladder dewatered 1/22. Return to service 2/7.

AWS opened 1/17 in lieu of fish units. Will remain in operation until fish units return to service from fish unit breaker contract work.

Current Outages;

FU1 and FU2 OOS for annual/overhaul maintenance and breaker replace. RTS 2/28/19. Schedule slipped from 1/9/19

MU1 and MU2 (T1 transformer) OOS for FU breaker replace. RTS 2/26/19 - Schedule slipped from 1/9/19

MU5 forced OOS blade seals and T3 transformer replace. RTS 7/12/2019. Expect 16 week T3 schedule slip.

MU6 OOS annual and T3 transformer replace. RTS 7/12/2019. Expect 16 week T3 schedule slip.

MU9, 10 and 11, OOS arc flash mitigation. RTS 2/5/2019

MU12 FOOS through 1700 2/14/2019 for Blade Seals

MU16 OOS exciter replacement. RTS 3/28/2019

MU19 and MU20 forced OOS transformer acetylene production. RTS 10/24/2019

Maintenance

Weir 157 cable failure causing some ladder flow criteria problems. Repair in coming weeks, requiring partial ladder dewatering.

East and north count station electrical upgrade ongoing.

Collection channel dewatering pumps 5 and 6 removed for rehab.

Fishway automation equipment assembly starting. Install winter of 2019/20

Diffuser valve status evaluation ongoing. Planning underway for rehab. In FPOM review.

Vegetation removal from south channel rock walls complete. Goats to remove vegetation on top side. North ladder vegetation removal 75% complete.

Fish related /non-fish funded items; Spillway assessment underway. Spillway crane replace and spillgate 9 repair included.

All spillway items on Critical Infrastructure. Spillgate 9 on large cap list, projected for 2022. Comprehensive spillway assessment review underway.

Research/Construction/Contractors:

Bathymetry of spillwall and spill basin completed. District dive/ROV personnel inspected spill basin w/ ROV unit (12/11), awaiting results

Video monitoring in progress at east count station since AWS startup. Thirteen days reviewed = 28 steelhead and 10 chinook passed.

AWS *construction* - All commission testing complete. Follow on construction items identified. Some vent leakage in 7' valve room being addressed.

PSMFC weekly sampling for North Wasco County PUD resumes next spring. New sample collection tank installation postponed to winter 2019/20.

PITAGS North and east fishladder data collection at count stations continues.

Fish Counters - Likely start with video 4/1/19 until contractor issues resolved. Fish Field Unit to provide support.

Pikeminnow dam angling - Caught 1785 YTD. Fishing resumes next spring. Debate over bass and walleye catch and release continues.

ODFW monthly fishway inspections concluded 10/16. Awaiting annual report.

Lamprey minor mods - Rounded weir caps completed on all entrance weirs. No further plans.

Univ of Idaho lamprey radiotelemetry - Second season of lamprey passage night flow reduction test to resume in May.

Lamprey trapping by tribes - Project to construct single lift hoist mechanism for next trapping season.

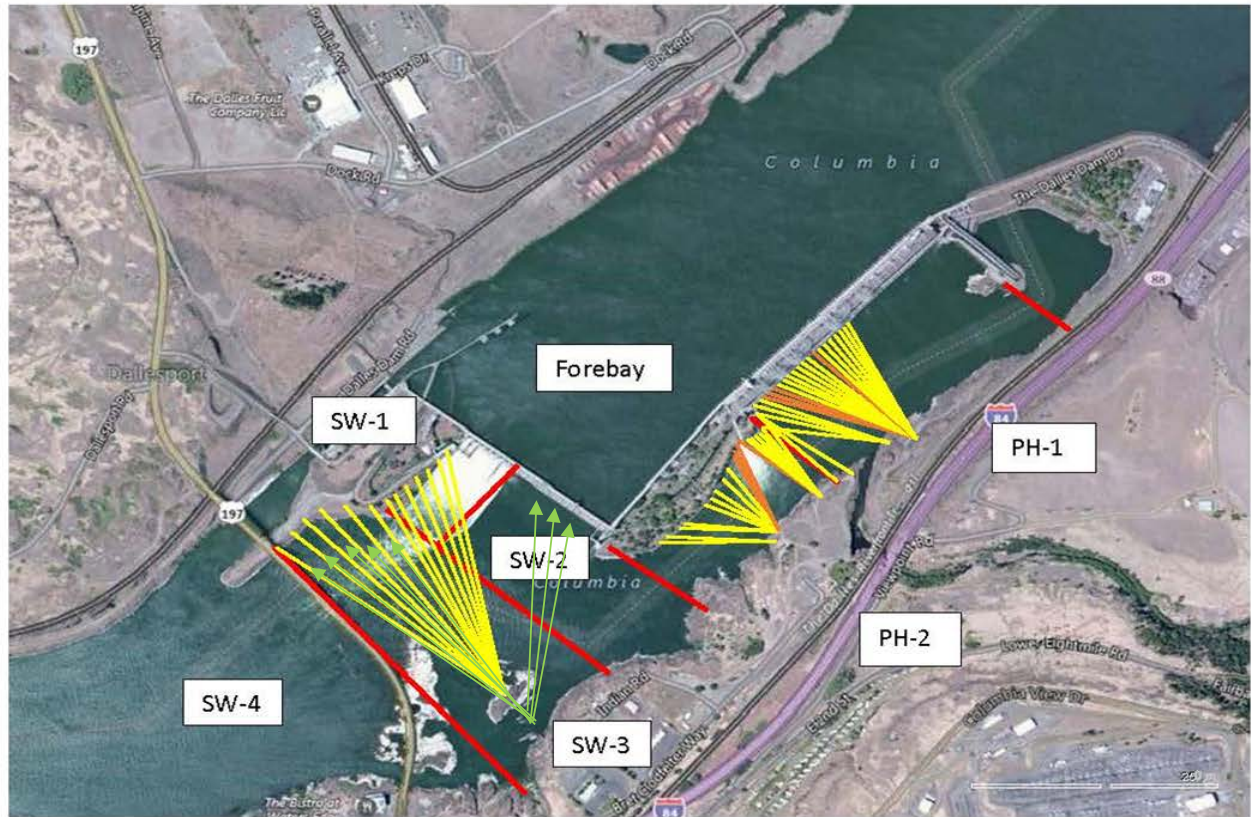
Fish unit breaker replace.- Prep work in progress. Potential delay through Feb.

Fish unit rehab - Test of AWS backup with single fish unit complete. Will affect rehab alternative selection.

Transformer replacement - Install T3 underway (units 5 and 6). Sequence schedule modified from original

Approved by: Bryan Hert acting for Ron Twiner

Operation Project Manager The Dalles Dam



Red lines = avian zones

Yellow lines = current wires

Orange lines = down or missing wires

→ Additional avian lines installed 9/2018

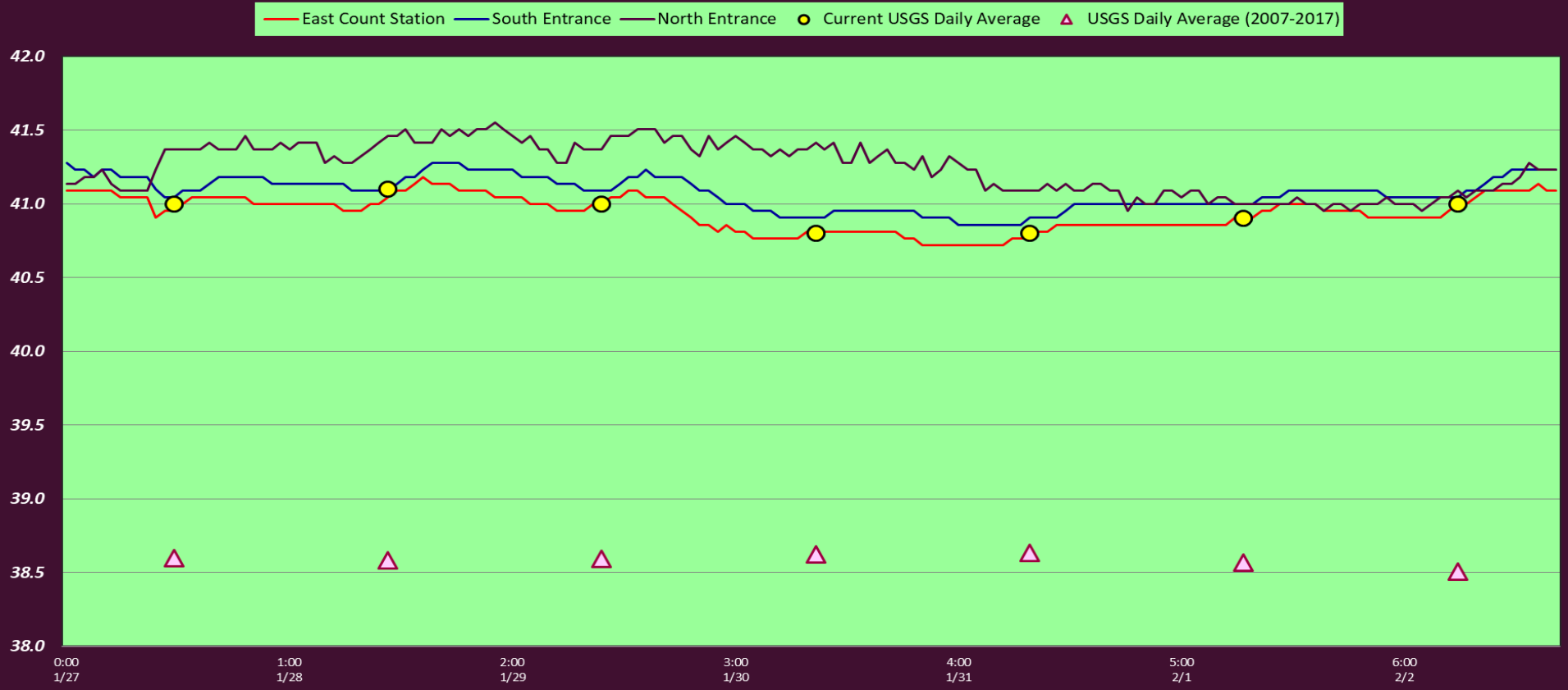
2019 Piscivorous Bird Counts

F=foraging, NF=non-foraging

Date	Observer	AM/PM	Zone	Gull		Cormorant		Caspian tern		Grebe		Pelican		Other		Total birds in zone	Notes	
				F	NF	F	NF	F	NF	F	NF	F	NF	F	NF			
1/27/19	JWR	AM	FB	0	5	6	0	0	0	0	1	0	0	2	5	19	BAEA	
			PH1	0	0	0	0	0	0	0	0	0	0	0	2	2	BAEA	
			PH2	0	0	0	0	0	0	0	0	0	0	0	3	28	BAEA	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	2	0	0	0	0	0	0	0	0	0	0	0	3	5	BAEA
			SW3	0	0	0	58	0	0	0	0	0	0	0	0	0	58	
1/28/19		PM	FB	0	0	0	0	0	0	0	0	0	0	0	0	0		
			PH1	0	0	0	0	0	0	0	0	0	0	0	0	0		
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0		
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0		
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0		
			SW3	0	0	0	0	0	0	0	0	0	0	0	0	0		
1/29/19	JED	PM	FB	6	0	3	0	0	0	0	0	0	0	6	15	BAEA		
			PH1	0	0	0	0	0	0	0	0	0	0	1	1	BAEA		
			PH2	0	0	0	0	0	0	0	0	0	0	1	40	BAEA, 1 GBHE NF		
			SW1	0	0	0	0	0	0	0	0	0	0	0	1	1	BAEA	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	Calm, overcast, 40F	
			SW3	0	0	0	75	0	0	0	0	0	0	0	1	76	GBHE	
1/30/19	JED	PM	FB	0	0	1	0	0	0	0	0	0	0	0	1			
			PH1	0	6	0	0	0	0	0	0	0	0	0	0	6		
			PH2	0	0	0	0	0	0	0	0	0	0	2	35	37	1 BAEA, 35 BAEA NF, 1GBHE	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	overcast, calm 40F
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	0	0	0	85	0	0	0	0	0	0	0	0	0	85	
1/31/19	JED	PM	FB	0	0	0	0	0	0	0	0	0	0	0	0	0		
			PH1	0	55	0	0	0	0	0	0	0	0	0	0	55		
			PH2	0	0	0	0	0	0	0	0	0	0	2	47	49	2 GBHE F, 47 BAEA	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	overcast, calm, 40F
			SW3	0	0	0	70	0	0	0	0	0	0	0	0	0	70	
2/1/19	JED	PM	FB	0	0	7	0	0	0	0	0	0	2	4	13	2 COME F, 4 BAEA NF		
			PH1	1	13	1	0	0	0	0	0	0	0	1	16	BAEA		
			PH2	0	0	0	0	0	0	0	0	0	0	1	49	50	BAEA	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Rain, calm, 37 F
			SW2	0	0	2	0	0	0	0	0	0	0	2	0	4	BAEA	
			SW3	0	0	0	56	0	0	0	0	0	0	0	0	56		
2/2/19	CEA	AM	FB	0	0	2	0	0	0	1	0	0	0	5	8	BAEA		
			PH1	0	0	0	0	0	0	0	0	0	0	1	1	1	BAEA, east	
			PH2	0	0	0	0	0	0	0	0	0	0	1	44	45	Other= 1GBHE F, 44 BAEA NF	
			SW1	0	0	0	0	0	0	0	0	0	0	0	6	6	BAEA, in trees	
			SW2	0	0	1	0	0	0	0	0	0	0	0	0	1	1	
			SW3	0	0	0	50	0	0	0	0	0	0	0	1	51	BAEA	
SW4	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

Key: BAEA = Bald Eagle; GBHE = Great Blue Heron; COME = Common Merganser

The Dalles Dam Fish Ladder/River Temperatures



	Secchi:		USGS: Temperatures
1/27	5+	Sun	41.0
1/28	5+	Mon	41.1
1/29	5+	Tue	41.0
1/30	5+	Wed	40.8
1/31	5+	Thurs	40.8
2/1	5+	Fri	40.9
2/2	5+	Sat	41.0
	5+	AVG	40.9

The Dalles Dam Daily Readings and Averages for
Temperatures, Secchi, Entrances, and Spill

SCADA INSPECTION
= Out of criteria

Date:	North Ladder		East Ladder						
	North Entrance		East Entrance				West Entrance		South Entrance
	Differential	N1 Depth	Differential	E1 Depth	E2 Depth	E3 Depth	JP 6		
1/27	Dewatered, RTS~02/28		1.6		9.2	9.2	11.0	AWS OPERATION ONLY	
			1.7		9.5	9.5	11.2		
1/28			1.7		9.4	9.4	11.0		
1/29			1.4		9.9	9.9	10.2		
			1.6		9.5	9.5	11.0		
1/30			1.4		9.9	9.9	11.4		
			1.5		9.8	9.8	11.7		
1/31			1.4		9.9	9.9	11.4		
			1.5		9.7	9.7	11.5		
2/1			1.5		9.7	9.7	10.3		
			1.4		9.8	9.8	10.4		
2/2			1.5		9.7	9.8	11.2		
			1.4		9.8	9.8	11.0		
		1.5	9.8	9.7	11.9				
		1.3	9.9	9.9	12.5				
AVG:	#DIV/0!	#DIV/0!	1.5		9.7	9.7	11.2		

Fishways are inspected twice daily plus one SCADA inspection.



Non-conductive section added to powerhouse avian line array to eliminate shock hazard.