

The Dalles Dam Fishway Status Report

12/01/18

Inspection Period: Nov. 25th, - Dec. 1st, 2018

THE DALLES DAM



US Army Corps
of Engineers
Portland District

The Dalles Project-Fisheries
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The Dalles Dam	Inspections Out of Criteria	Criteria Limit	Total Number of Inspections:	21	Temperature:	48.2 °F
			Comments: FU's off 12/1 for dewatering		Secchi:	5+ feet
NORTH FISHWAY						
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'	1.4			
Entrance weir N1	0	depth (≥ 8')	10.0			
Entrance weir N2	0	Closed				
PUD Intake differential	0	≤ 0.5'				
EAST FISHWAY						
Exit differential	0	≤ 0.5'				
Removable weirs 154-157	0	Per forebay				
Weir 158-159 differential	0	1.0' ± 0.1'				
Count station differential	0	≤ 0.3'				
153 Weir crest depth	0	1.1' ± 0.1'				
Junction pool weir JP6	0	0.0				
East entrance differential	0	1.0' - 2.0'				
Entrance weir E1	0	No criteria				
Entrance weir E2	0	depth (≥ 8')				
Entrance weir E3	0	depth (≥ 8')				
Collection channel velocity	0	1.5 - 4 fps	2.55 fps	Range: MU3, 2.97 fps to MU21, 2.32 fps		
Transportation channel velocity	0	1.5 - 4 fps	2.61 fps			
North channel velocity	0	1.5 - 4 fps	2.74 fps			
South channel velocity	0	1.5 - 4 fps	3.7 fps			
West entrance differential	0	1.0' - 2.0'				
Entrance weir W1	0	depth (≥ 8')				
Entrance weir W2	0	depth (≥ 8')				
Entrance weir W3	0	No criteria				
South entrance differential	0	1.0' - 2.0'				
Entrance weir S1	0	depth (≥ 8')				
Entrance weir S2	0	depth (≥ 8')				
JUVENILE PASSAGE						
Sluiceway operation	0	Units 1, 8, 18	MU1 (1-1,1-2, 1-3) MU8 (8-1,8-3) & MU18 (18-2) and endgate open; Unit 8 OOS using MU9			
Turbine trashrack drawdown	0	<1.5', biweekly				
Spill volume/pattern	0	None				
Turbine Unit Priority	0	per FPP	Bus maintenance work			
Turbine 1% Efficiency	0	per FPP				

OTHER ISSUES:

Predators;

Eagle, Gull and Merganser numbers increasing as expected per seasonal trend
Awaiting NWD determination of using lethal removal to support gull hazing next season.
WDFW dam angler pikeminnow catch similar to 2017, but lower than 2018/19. Invasive bass and walleye catches ~20% of 2016/17.
Release of invasive bass/walleye bycatch by WDFW dam anglers continued. Lethal removal being discussed at Dec FPOM walleye gut sample results.

Operation:

East and north fishway in full operation.
Sluiceway open with 6 sluiceway operation (1, 9 & 18). Unit 8 moved to Unit 9 due to unit outage.

Current Outages;

MU5 forced OOS blade seals and transformer replace. RTS 3/21/2019
MU6 OOS annual and transformer replace. RTS 3/21/2019
MU7 and MU8 OOS bus work. RTS 12/6/2018
MU16 OOS transformer replacement. RTS 3/28/2019
MU19 and MU20 forced OOS transformer acetylene production. RTS 10/24/2019

Maintenance

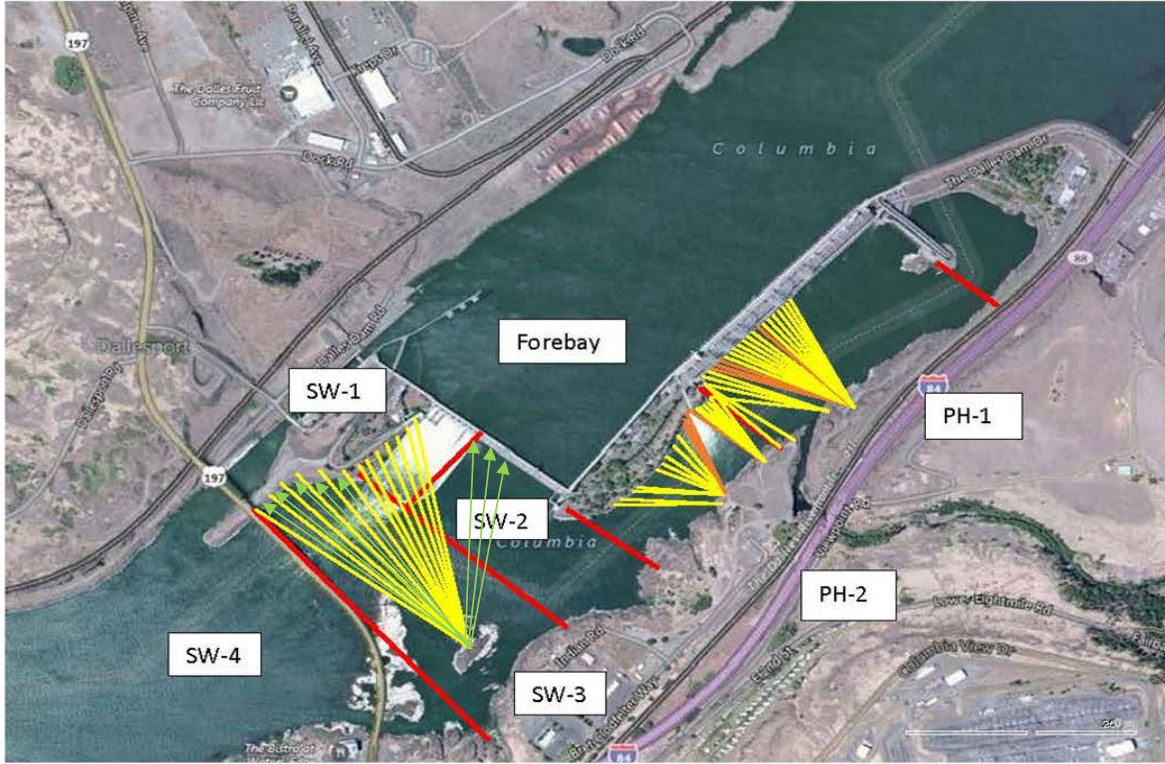
East ladder to be dewatered Dec3. North ladder dewater Jan 22.
East count station brush out of service, TDE awaiting parts.
Both count stations to be refloored and new electrical wiring this winter in prep for new contractor.
Collection channel dewatering pumps 3 and 4 out for rehab. Install early Dec. Sufficient pump capacity available with other pumps for Dec3 dewater.
Plans complete for fishway automation replacement. Purchase parts and start assembly this year. Start install winter of 2019/20
East ladder exit weirs 154 -157 rehab/weir wheel replace start first week of Dec.
Diffuser valve rehab planning underway. Repair of west entrance diffuser 2-1 this winter. Exploring options for unused diffusers. In FPOM review.
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 11/7, awaiting results
Zebra mussel velliger sampling resumes next spring.
Lower Columbia River Forebay Temperature Monitoring completed. Equipment removed. To resume next season.
AWS construction - Commissioning test complete. AWS operation with single fish unit test Nov28.
PSMFC weekly sampling completed for the North Wasco County PUD's. New sample collection tank design in review. Installation postponed to winter 2019/20.
PITAGS North and east fishladder data collection at count stations continues. Will maintain equipment during dewatering.
Fish Counters - Resumes 4/1/19.
Pikeminnow dam angling - Caught 1785 YTD. Resumes next spring.
ODFW monthly fishway inspections concluded 10/16
Lamprey minor mods - Rounded entrance weir caps installed south, west, north entrances. East weir to be completed mid Dec.
Univ of Idaho lamprey radiotelemetry track underway through November. Coordinating antenna maintenance this winter.
Lamprey trapping by tribes completed for season. Awaiting final numbers. Project to construct lift hoist mechanism for next trapping season.
Fish unit breaker replace. - Prep work in progress. Installation 12/1/18 - 1/14/19.
Fish unit rehab - Alternatives in review. Test of AWS backup with single fish unit 11/28 was successful achieving criteria without hydraulic concerns.
Transformer replacement - Install T8 underway (units 15 and 16). Sequence schedule modified from original

Approved by: 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

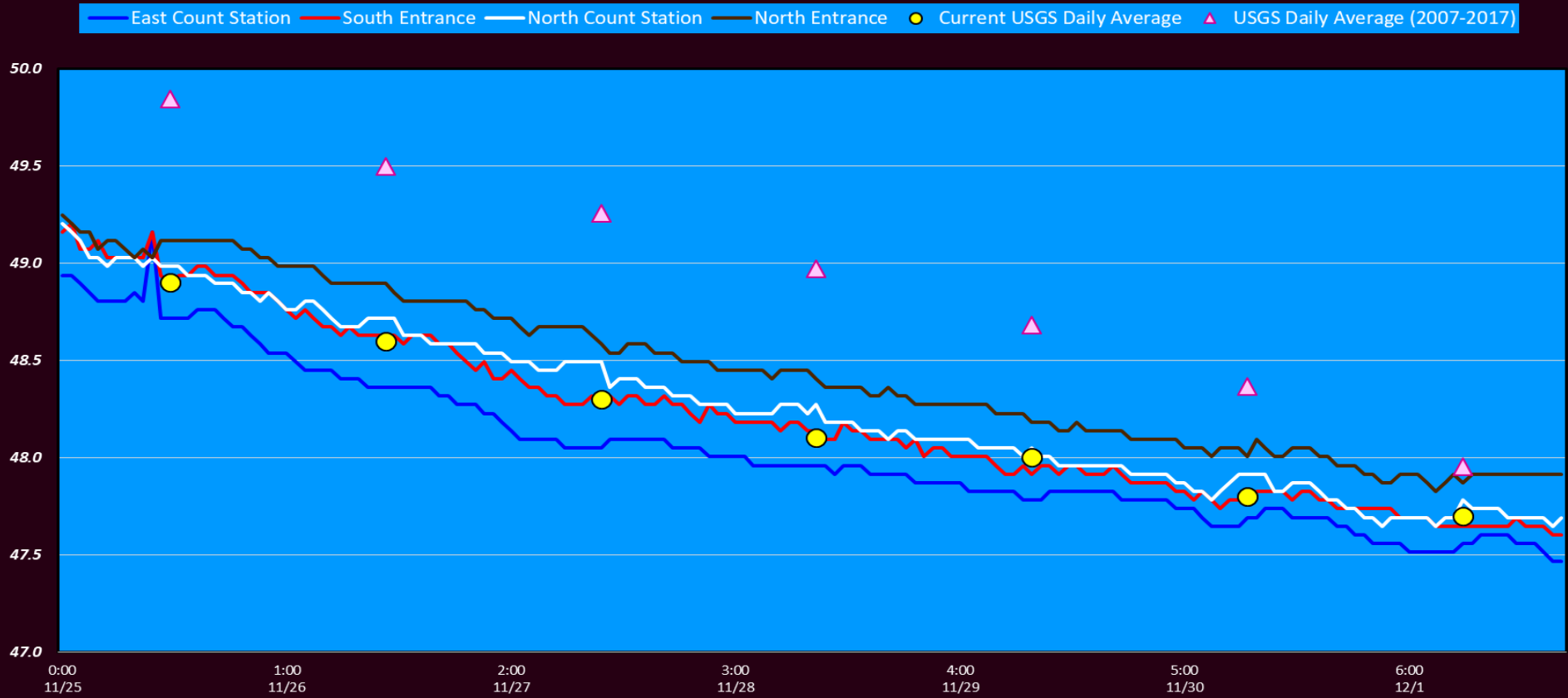
2018 Piscivorous Bird Counts

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				
11/25	JWR	PM	FB	0	474	3	0	0	0	0	0	0	0	0	0	0	477	COME	
			PH1	5	0	0	53	0	0	0	0	0	0	0	0	31	89		
			PH2	1	0	2	0	0	0	0	0	0	0	0	0	0	3		
			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		
			SW3	0	0	0	23	0	0	0	0	0	0	0	0	0	23		
11/26	JWR	AM	FB	0	13	1	0	0	0	0	0	0	0	0	0	0	14	COME	
			PH1	16	2	4	8	0	0	0	0	0	0	0	28	18	76		
			PH2	0	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	0		
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			SW3	0	0	1	42	0	0	0	0	0	0	0	0	0	43		
11/27	JWR	PM	FB	0	24	0	0	0	0	0	0	0	0	0	0	0	24	COME	
			PH1	2	0	0	16	0	0	0	0	0	0	0	11	9	38		
			PH2	0	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	0		
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			SW3	0	0	0	38	0	0	0	0	0	0	0	0	0	38		
11/28	JWR	AM	FB	0	10	2	0	0	0	0	0	0	0	0	0	0	12	COME	
			PH1	0	0	0	0	0	0	0	0	0	0	0	19	0	19		
			PH2	0	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	0		
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			SW3	0	0	0	36	0	0	0	0	0	0	0	0	0	36		
11/29	JWR	PM	FB	0	14	0	0	0	0	0	0	0	0	0	0	0	14	COME	
			PH1	0	14	0	29	0	0	0	0	0	0	0	0	20	63		
			PH2	0	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	0		
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			SW3	0	0	0	28	0	0	0	0	0	0	0	0	0	28		
11/30	CEA	AM	FB	0	0	2	0	0	0	0	0	0	0	0	0	0	2	COME	
			PH1	4	0	1	47	0	0	0	0	0	0	0	23	26	101		
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	COME
			SW1	0	0	2	0	0	0	0	0	0	0	0	0	4	0	6	
			SW2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
			SW3	0	1	0	28	0	0	0	0	0	0	0	0	0	0	29	
12/1	CEA	PM	FB	0	0	1	0	0	0	0	0	0	0	0	0	0	1	COME, 1 GBHE(NF)	
			PH1	0	1	4	40	0	0	0	0	0	0	0	47	11	103		
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	COME
			SW1	0	0	1	0	0	0	0	0	0	0	0	0	4	0	5	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	0	0	1	20	0	0	0	0	0	0	0	0	0	0	21	
SW4	0	270	0	17	0	0	0	0	0	0	0	0	0	0	287				

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

The Dalles Dam Adult Fish Ladder(s) River Temperatures



		USGS:	
Secchi:		Temperatures	
11/25	5+	Sun	48.9
11/26	5+	Mon	48.6
11/27	5+	Tue	48.3
11/28	5+	Wed	48.1
11/29	5+	Thurs	48.0
11/30	5+	Fri	47.8
12/1	5+	Sat	47.7
	5+	AVG	48.2

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

SCADA INSPECTION
= Out of criteria
Fish units off for dewatering

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	Differential	W1 Depth	W2 Depth	W3 Depth	Differential	S1 Depth	S2 Depth
11/25			1.7	2.0	12.5	12.5	11.0	1.6	8.6	8.6	C l o s e d	1.5	8.3	8.3
	1.4	10.0	1.5	4.4	12.4	12.4	10.9	1.5	8.5	8.5		1.5	8.5	8.5
	1.5	9.9	1.7	5.0	12.5	12.5	12.3	1.6	8.7	8.7		1.5	8.6	8.6
11/26			1.6	7.9	12.5	12.5	11.9	1.5	8.6	8.6		1.5	8.5	8.5
	1.4	9.9	1.4	6.4	12.5	12.5	11.3	1.5	8.5	8.5		1.4	8.5	8.5
	1.4	10.0	1.5	6.6	12.6	12.6	11.4	1.5	8.6	8.6		1.5	8.4	8.4
11/27			1.6	8.1	12.6	12.6	11.9	1.5	8.6	8.6		1.5	8.5	8.5
	1.5	9.9	1.4	6	12.5	12.5	10.5	1.5	8.5	8.5		1.4	8.3	8.3
	1.4	10.0	1.4	6.4	12.5	12.5	10.8	1.6	8.3	8.3		1.6	8.5	8.5
11/28			1.1	6.6	12.6	12.6	9.6	1.4	8.3	8.3		1.4	8.5	8.5
	1.4	9.9	1.5	1.0	12.4	12.4	9.8	1.4	8.2	8.2		1.6	8.5	8.5
	1.4	10.0	1.5	1.8	12.9	12.8	10.6	1.5	8.6	8.6		1.6	8.5	8.5
11/29			1.3	3.2	12.6	12.6	9.4	1.4	8.6	8.6		1.5	8.6	8.6
	1.4	10.0	1.4	1.4	12.5	12.5	9.9	1.5	8.4	8.4		1.6	8.6	8.6
	1.4	9.9	1.4	1.5	12.6	12.6	9.6	1.4	8.6	8.6		1.6	8.4	8.4
11/30			1.4	1.5	12.6	12.6	9.4	1.4	8.5	8.5	1.6	8.5	8.5	
	1.3	10.0	1.5	1.5	12.2	12.2	9.8	1.6	8.4	8.4	1.5	8.8	8.8	
	1.3	9.9	1.5	1.5	12.1	12.1	9.5	1.5	8.4	8.4	1.5	8.7	8.7	
12/1														
	1.1	10.0												
AVG:	1.4	10.0	1.5	no criteria	12.5	12.5	10.5	1.5	8.5	8.5		1.5	8.5	8.5

Fishways are inspected twice daily plus one SCADA inspection.