

# The Dalles Dam Fishway Status Report

11/18/18

Inspection Period: Nov. 11th, - Nov. 17th, 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: Comments	21	Temperature: 53.6 °F	Secchi: 5+ feet
<b>NORTH FISHWAY</b>						
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'				
<b>EAST FISHWAY</b>						
Exit differential	0	≤ 0.5'				
Removable weirs 154-157	1	Per forebay	156 malfunctioning; set to manual temporarily			
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'	1.5			
Entrance weir E1	0	No criteria				
Entrance weir E2	0	depth (≥ 8')	12.5			
Entrance weir E3	0	depth (≥ 8')	12.5			
Collection channel velocity	0	1.5 - 4 fps	2.23 fps	Range: MU1, 3.09 fps to MU5, 1.46 fps		
Transportation channel velocity	0	1.5 - 4 fps	2.41 fps			
North channel velocity	0	1.5 - 4 fps	3.0 fps			
South channel velocity	0	1.5 - 4 fps	3.71 fps			
West entrance differential	0	1.0' - 2.0'	1.5			
Entrance weir W1	0	depth (≥ 8')	8.6			
Entrance weir W2	0	depth (≥ 8')	8.6			
Entrance weir W3	0	No criteria				
South entrance differential	0	1.0' - 2.0'	1.5			
Entrance weir S1	0	depth (≥ 8')	8.6			
Entrance weir S2	0	depth (≥ 8')	8.6			
<b>JUVENILE PASSAGE</b>						
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			
Turbine trashrack drawdown	0	<1.5', biweekly				
Spill volume/pattern	0	None				
Turbine Unit Priority	0	per FPP				
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 means 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

MU15 OOS transformer replacement. RTS 11/19/2018

MU16 OOS transformer replacement. RTS 3/28/2019

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

### **Maintenance**

Dewatering schedule; East ladder dewater Dec3 (previously Dec4). North ladder dewater moved to Jan 22 due to east ladder workload.

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 by 12/4/18 for fishway dewatering.

Plans near 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 this winter. Parts on hand.

Weir 156 lost automation. Manual operation through remainder of season.

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.

*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.

*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 complete this winter.

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.

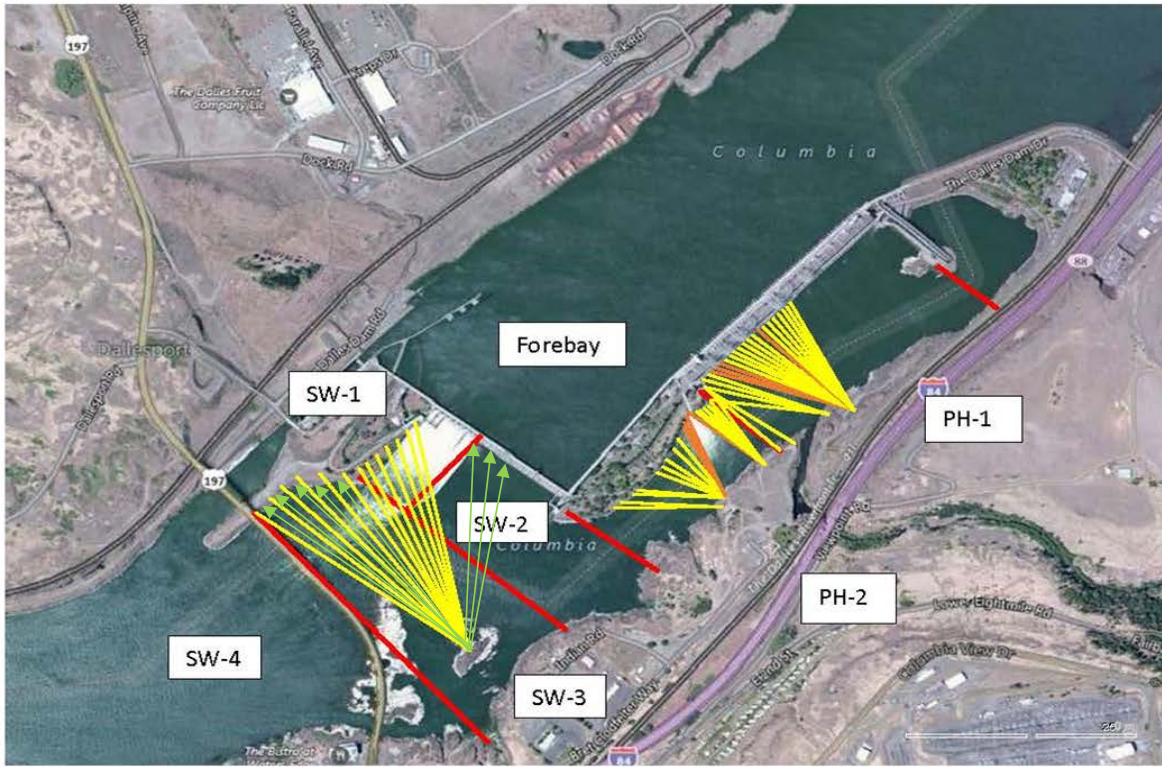
*Fish unit breaker replace* - Prep work in progress. Installation 12/1/18 - 1/14/19.

*Fish unit rehab* - Development plan continues. Alternatives in review. Test of AWS backup with single fish unit 11/28. FPOM approved.

*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

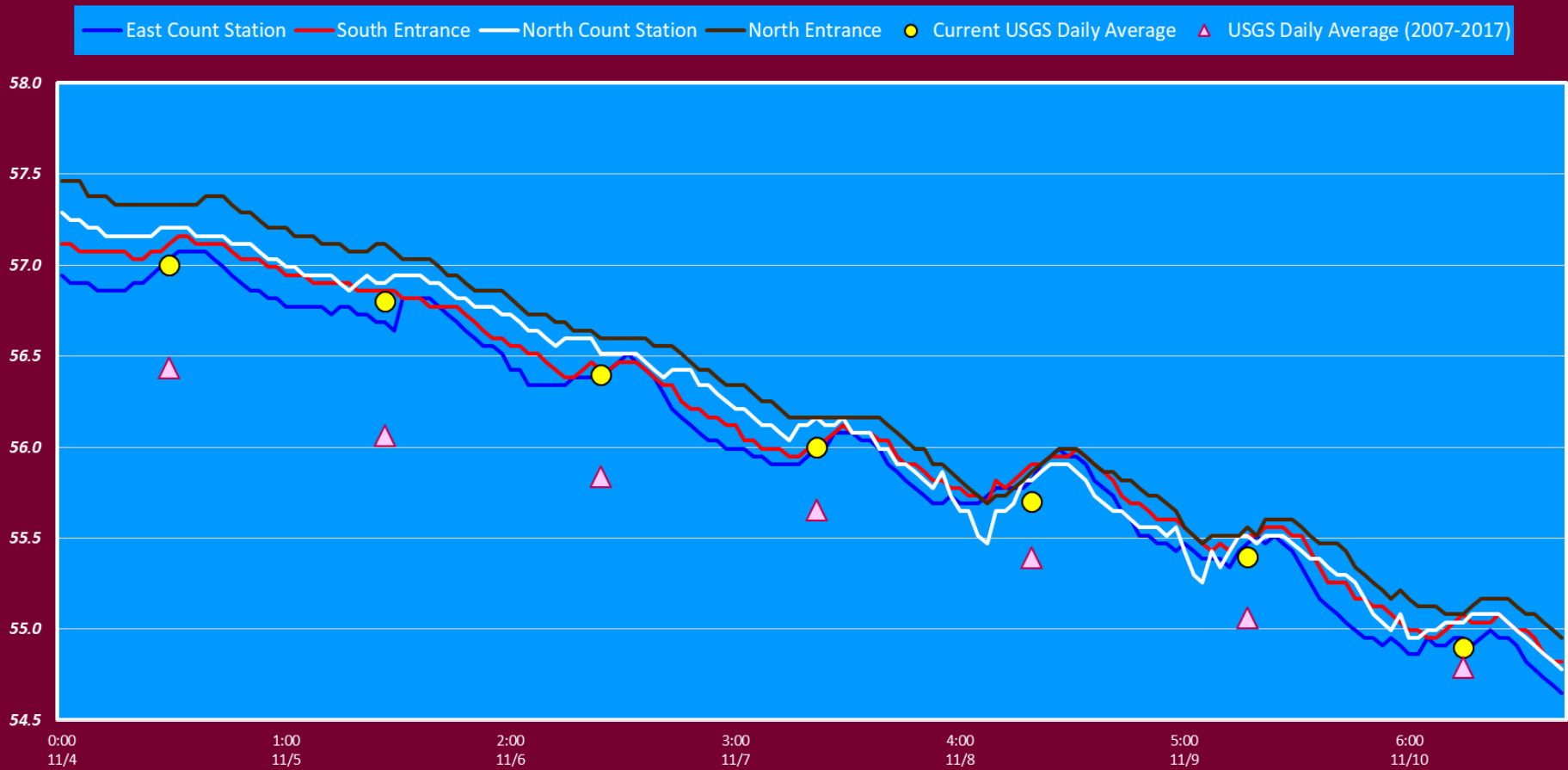
→ Additional avian lines installed 9/2018

## 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		
11/11	CEA	PM	FB	0	86	1	0	0	0	2	0	0	0	0	0	89	
			PH1	0	1	24	5	0	0	0	0	0	0	12	37	79	
			PH2	11	0	0	0	0	0	0	0	0	0	0	0	11	
			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	10	0	17	0	0	0	0	0	0	0	0	0	27
11/12	JED	AM	FB	25	35	1	1	0	0	4	11	0	0	13	1	91	3BAEA, 10COME, 1GBHE
			PH1	2	0	0	22	0	0	0	0	0	0	2	33	59	1COME F, 33COME, 1GBHE F
			PH2	0	0	1	0	0	0	0	0	0	0	4	0	5	4COME
			SW1	0	0	1	0	0	0	0	0	0	0	0	1	2	GBHE
			SW2	2	0	0	0	0	0	0	0	0	0	0	0	2	Overcast, calm, cool
			SW3	2	0	1	19	0	0	0	0	0	0	0	1	0	23
11/13	JED	PM	FB	6	40	0	0	0	0	0	0	0	0	0	0	46	COME
			PH1	0	0	1	4	0	0	0	0	0	0	5	0	10	
			PH2	6	0	0	0	0	0	0	0	0	0	0	0	6	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	0	0	2	0	0	0	0	0	0	0	0	0	2	
			SW3	10	35	0	65	0	0	0	0	0	0	0	0	0	110
11/14	JWR	AM	FB	1	34	0	0	0	0	0	12	0	0	0	0	47	
			PH1	0	0	0	9	0	0	0	0	0	0	0	13	22	COME
			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	2	0	0	0	0	0	0	0	0	0	0	2
11/15	JWR	PM	FB	0	24	0	0	0	0	0	8	0	0	0	0	32	
			PH1	0	0	3	6	0	0	0	0	0	0	0	23	32	COME
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW1	0	0	1	0	0	0	0	0	0	0	0	0	1	
			SW2	0	0	1	0	0	0	0	0	0	0	0	0	1	
			SW3	0	19	4	1	0	0	0	0	0	0	0	0	24	
11/16	JWR	AM	FB	0	13	3	0	0	0	10	0	0	0	0	26		
			PH1	0	0	7	11	0	0	0	0	0	0	0	0	18	
			PH2	1	0	0	0	0	0	0	0	0	0	0	0	1	
			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	5	35	0	0	0	0	0	0	0	0	40	
11/17	JED	PM	FB	14	75	10	1	0	0	10	0	0	0	0	110		
			PH1	14	1	23	1	0	0	0	0	0	0	21	0	60	COME
			PH2	14	0	0	4	0	0	0	0	0	0	0	0	18	sunny, 10mph cold
			SW1	0	0	0	0	0	0	0	0	0	0	1	0	1	COME
			SW2	15	0	0	0	0	0	0	0	0	0	0	0	15	
			SW3	10	0	4	0	0	0	0	0	0	0	5	0	19	
SW4	15	410	0	52	0	0	0	0	0	0	0	0	477	2 GBHE, 3COME			

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

# The Dalles Dam Adult Fish Ladder(s) River Temperatures



	Secchi:		USGS: Temperatures
11/11	5+	Sun	54.6
11/12	5+	Mon	54.0
11/13	5+	Tue	53.4
11/14	5+	Wed	53.1
11/15	5+	Thurs	52.8
11/16	5+	Fri	
11/17	5+	Sat	
	5+	AVG	53.6

**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	Differential	W1 Depth	W2 Depth	W3 Depth	Differential	S1 Depth	S2 Depth
11/11			1.6	6.2	12.7	12.7	11.4	1.5	8.5	8.5	C L O S E D	1.5	8.5	8.5
	1.4	9.7	1.5	6.5	12.6	12.5	11.9	1.5	8.5	8.5		1.6	8.5	8.5
	1.5	9.8	1.4	6.6	12.5	12.5	11.0	1.6	8.5	8.5		1.4	8.6	8.6
11/12			1.6	6.6	12.6	12.5	11.8	1.5	8.4	8.4		1.5	8.5	8.5
	1.4	9.9	1.5	6.5	12.5	12.6	12.1	1.6	8.5	8.5		1.5	8.6	8.4
	1.4	10.0	1.4	6.5	12.6	12.6	11.0	1.5	8.5	8.5		1.5	8.4	8.4
11/13			1.8	6.5	12.5	12.5	12.9	1.7	8.4	8.4		1.7	8.5	8.5
	1.5	10.2	1.5	9.5	12.4	12.4	13.4	1.6	8.9	8.9		1.5	8.9	8.9
	1.4	10.1	1.5	9.5	12.5	12.6	12.7	1.4	8.1	8.1		1.4	9.0	9.0
11/14			1.5	9.6	12.5	12.5	13.0	1.3	9.0	9.0		1.5	8.9	8.9
	1.4	10.3	1.4	9.4	12.5	12.5	12.8	1.4	8.9	8.9		1.5	8.8	8.8
	1.4	9.8	1.5	8.9	12.5	12.5	12.0	1.5	8.6	8.6		1.5	8.4	8.4
11/15			1.5	9.0	12.4	12.4	12.8	1.7	8.5	8.5		1.6	8.5	8.4
	1.4	10.2	1.6	9.1	12.5	12.5	11.3	1.5	8.4	8.4		1.4	8.5	8.5
	1.5	10.1	1.5	9.0	12.5	12.5	12.8	1.6	8.6	8.6		1.6	8.5	8.5
11/16			1.4	9.1	12.5	12.5	12.7	1.5	8.6	8.6		1.5	8.6	8.6
	1.5	10.1	1.4	9.0	12.4	12.4	12.6	1.6	8.5	8.5		1.6	8.4	8.5
	1.5	10.0	1.4	9.0	12.5	12.5	12.3	1.5	8.6	8.6	1.5	8.5	8.6	
11/17			1.4	3.0	12.6	12.5	10.5	1.4	8.5	8.5	1.4	8.6	8.6	
	1.3	10.1	1.4	3.1	12.5	12.6	10.4	1.4	8.5	8.5	1.4	8.5	8.6	
	1.3	10.1	1.5	3.0	12.4	12.5	10.3	1.4	8.6	8.6	1.4	8.5	8.5	
<b>AVG:</b>	<b>1.4</b>	<b>10.0</b>	<b>1.5</b>	no criteria	<b>12.5</b>	<b>12.5</b>	<b>12.0</b>	<b>1.5</b>	<b>8.6</b>	<b>8.6</b>		<b>1.5</b>	<b>8.6</b>	<b>8.6</b>

*Fishways are inspected twice daily plus one SCADA inspection.*