

# The Dalles Dam Fishway Status Report

12/18/2017

Inspection Period: 12/10/2017-12/16/2017

## THE DALLES DAM



The Dalles Project-Fisheries  
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*Fishways are inspected twice daily plus one SCADA inspection*

The Dalles Dam	Inspections Out of Criteria	Criteria Limit	Total Number of Inspections: Comments	Temperature: Secchi:
			6	44.9 °F 5.0 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'	1.3	
Entrance weir N1	0	depth (≥ 8')	9.0	
Entrance weir N2	0	Closed		
PUD Intake differential	0	≤ 0.5'		
<b>EAST FISHWAY Out of service Dec1</b>				
Exit differential	0	≤ 0.5'		
Removable weirs 154-157	0	Per forebay	Gearbox rehab start on 155 and 156	
Weir 158-159 differential	0	1.0' ± 0.1'	Gearbox rehab start on 158	
Count station differential	0	≤ 0.3'		
Weir crest depth	0	1.0' ± 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		
Transportation channel velocity	0	1.5 - 4 fps		
North channel velocity	0	1.5 - 4 fps		
South channel velocity	0	1.5 - 4 fps		
West entrance differential	0	1.0' - 2.0'		
Entrance weir W1	0	depth (≥ 8')	Weir removed for caps and rehab	
Entrance weir W2	0	depth (≥ 8')	Weir removed for caps and rehab	
Entrance weir W3	0	No criteria	Weir removed for caps and rehab	
South entrance differential	0	1.0' - 2.0'		
Entrance weir S1	0	depth (≥ 8')		
Entrance weir S2	0	depth (≥ 8')		
<b>JUVENILE PASSAGE</b>				
Sluiceway operation	0	Units 1, 8, 18		
Turbine trashrack drawdown	0	<1.5', wkly	range: 0.1-0.8'	
Spill volume/pattern	0			Spillway closed midnight Aug31
Turbine Unit Priority	6	per FPP	MU 13-16 oos	
Turbine 1% Efficiency	0	per FPP		

## OTHER ISSUES:

### **Birds/Sea lions:**

Sea Lion seen in culdesac eating salmonid. Gulls, mergansers, and cormorants numbers decreasing, several more eagles observed in westrick park. Investigating increasing boat hazing option for next season.

### **Operations**

North fishway in full operation.

Sluiceway 4 gates (unit 1 and 18) until Dec15. Endgate failure prevented full closure. Sluiceways were all closed. Maintenance to correct Dec18.

### **Current Outages;**

T8 (MU15 & MU16) out for transformer failure. Transformer replacement 7/5/18.

MU17 out for overhaul. Returned 12/14/17.

Fish unit 1 and 2 off 0001 Dec 1 for annual fishway outage. East fishladder dewatered Dec 1.

### **Maintenance;**

East exit weir electrical panel FCQ7 partially installed. Further install awaiting final design.

West entrance weirs removed. Entrance weir cap install started but delayed due to attachment dilemma. Design engineer consulted for resolution.

East exit oil boom installation by AWS contract this winter. Scope reviewed.

Fish lock upper and lower bulkhead replacement with concrete for improved isolation and fishladder protection. Scope in review.

Fishway dewater work list; Diffuser valve rehab scope, dewater pump rehab, south weir rehab, Weir caps (lamprey), east exit weir 155,156,158 gearbox rehab

Disconnecting east exit weirs 155, 156 and 158 for removal and gearbox overhaul.

Other repair maintenance plans for upcoming fiscal years; 154 -157 rehab/weir wheel replace, diffuser valve overhaul (rehab and decommission).

Fish related /non-fish funded items; Spillway assessment, spillway crane replace and spillgate 9. All awaiting funding.

All spillway items on Critical Infrastructure. Spillgate 9 on large cap list, projected for 2022. Charter in place for comprehensive spillway assessment.

### **Research/Construction/Contractors:**

*Fish Counters* - Normandau counters on site through Oct 31. Video review counting through the winter.

*Pikeminnow dam angling* - Done for season with a total catch at 1776. Highest invasive walleye by-catches do date being released. Concern brought to FPOM.

*AWS construction* - Extensions Oct/Nov night work and mid Nov day work FPOM approved. Dive day Nov 13 per FPOM approval. Commissioning testing Mar 31.

*Lamprey minor mods* - Rounded entrance weir cap parts for all entrances recieved. Moorings fabricating. Tribal lamprey trap hoist design pending.

*Railroad track removal* - Tailrace deck start Nov nights (FPOM approved)

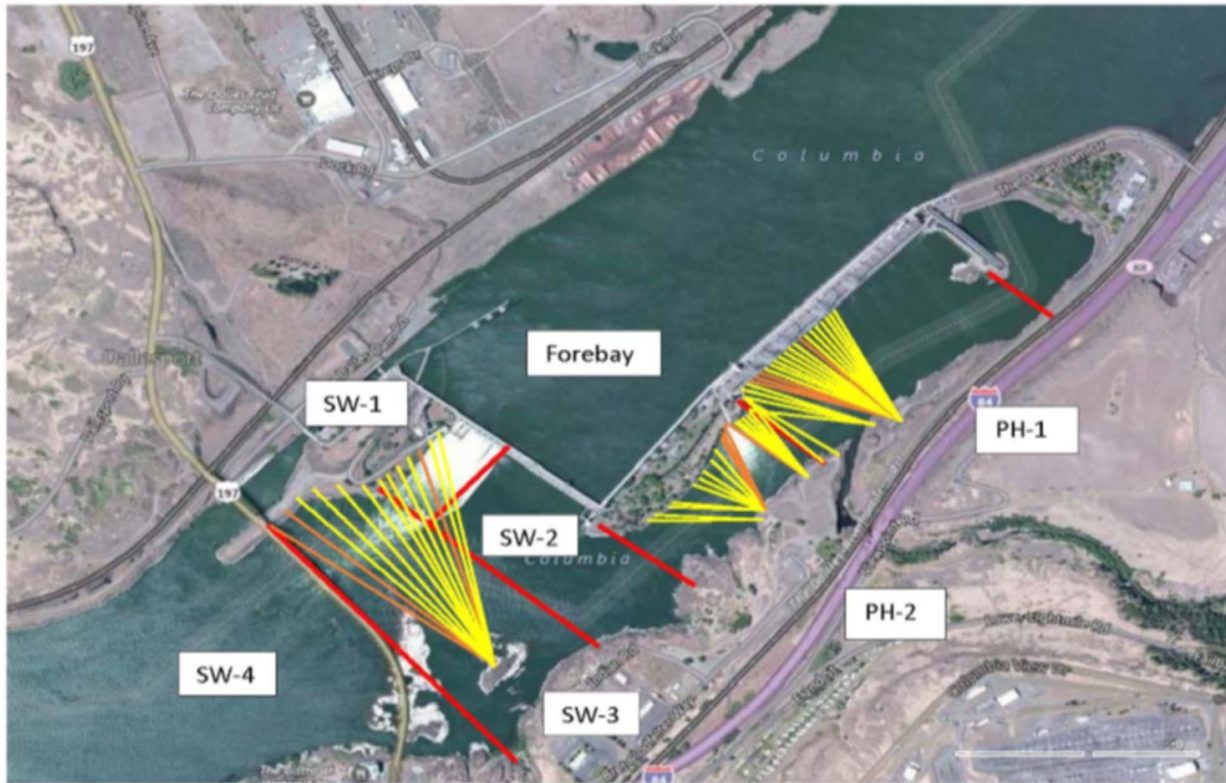
*Fish unit breaker replace*.- Start behind schedule. Demo start Dec4. Completion Feb18, 2018. Two weeks commission testing required.

*Fish unit rehab* - Phase 1A report Jan 2018. Award 2020. Completion 2022.

*Transformer replacement* - Install start May 2018.

Approved by: Ron Twiner

Operation Project Manager The Dalles Dam



Red lines = avian zones

Yellow lines = current wires

Orange lines = down or missing wires

# 2017 Piscivorous Bird Counts

F=foraging, NF=non-foraging

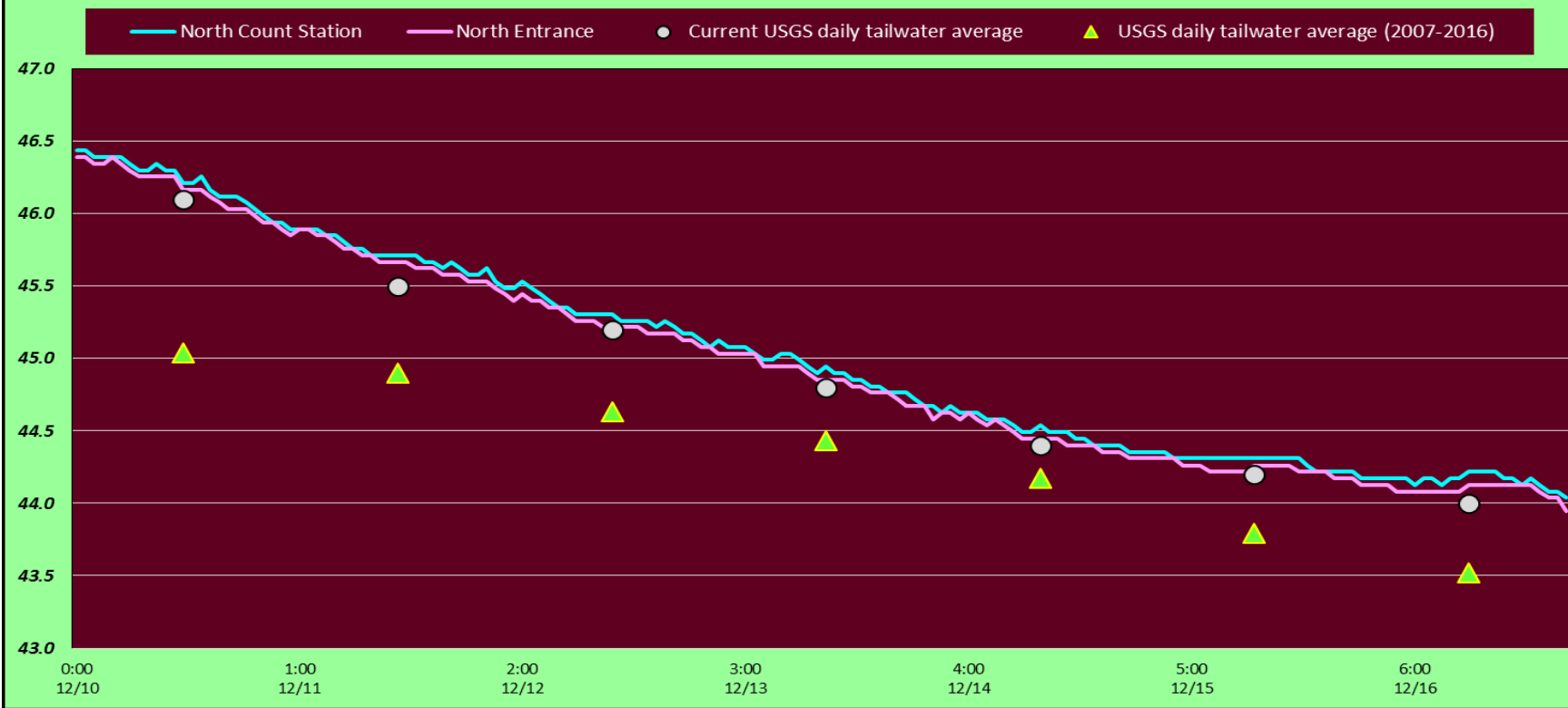
Date	observer	time	Zone	Gull		Cormorant		Caspian tern		Grebe		Pelican		Other		Total birds in zone	Notes
				F	NF	F	NF	F	NF	F	NF	F	NF	F	NF		
12/10	JWR	AM	FB	0	18	0	5	0	0	0	7	0	0	0	0	30	COME BAEA
			PH1	13	3	0	9	0	0	0	0	0	0	2	6	33	
			PH2	0	1	0	0	0	0	0	0	0	0	0	2	3	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	0	0	1	0	0	0	0	0	0	0	0	0	1	
			SW3	0	0	4	12	0	0	0	0	0	0	0	0	16	
12/11	JWR	PM	FB	1	0	2	0	0	0	0	16	0	0	0	0	19	COME BAEA
			PH1	11	8	3	6	0	0	0	0	0	0	4	10	42	
			PH2	0	0	0	0	0	0	0	0	0	0	0	1	1	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	0	0	1	0	0	0	0	0	0	0	0	0	1	
			SW3	0	16	1	23	0	0	0	0	0	0	0	0	40	
12/12	JWR	AM	FB	0	0	0	0	0	0	21	0	0	0	0	21	COME	
			PH1	8	0	0	6	0	0	0	0	0	0	24	38		
			PH2	2	0	0	0	0	0	0	0	0	0	0	2		
			SW1	0	2	0	0	0	0	0	0	0	0	0	2		
			SW2	0	0	0	0	0	0	0	0	0	0	0	0		
			SW3	0	13	0	30	0	0	0	0	0	0	0	0		43
12/13	JWR	PM	FB	0	0	1	0	0	0	1	21	0	0	0	0	23	COME BAEA
			PH1	7	0	2	6	0	0	0	0	0	0	0	16	31	
			PH2	0	0	0	0	0	0	0	0	0	0	0	2	2	
			SW1	0	20	0	0	0	0	0	0	0	0	0	0	20	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	0	0	2	29	0	0	0	0	0	0	0	0	31	
12/14	JWR	AM	FB	0	2	3	0	0	0	1	5	0	0	0	0	11	COME GBHE
			PH1	6	5	1	3	0	0	0	0	0	0	0	13	28	
			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	1	1	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	0	35	2	16	0	0	0	0	0	0	0	0	53	
12/15	JWR	PM	FB	1	1	4	0	0	0	0	0	0	6	16	28	COME BAEA	
			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	2		2
			SW1	0	14	1	0	0	0	0	0	0	0	0	0		15
			SW2	0	0	0	0	0	0	0	0	0	0	0	0		0
			SW3	0	29	1	36	0	0	0	0	0	0	0	0		66
12/16	kg	AM	FB	0	0	0	0	0	0	26	0	0	20	0	46	COME BAEA	
			PH1	3	0	4	0	0	0	0	0	0	0	0	7		
			PH2	0	0	0	0	0	0	0	0	0	0	3	3		
			SW1	0	0	0	0	0	0	0	0	0	0	0	0		
			SW2	0	0	0	16	0	0	0	0	0	0	0	0		16
			SW3	0	0	0	45	0	0	0	0	0	0	0	0		45

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

## The Dalles North

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
12/10	6	6	0	0	0	0	1	1	0	0	0	0	0
12/11	6	6	0	3	3	0	3	3	0	0	0	0	0
12/12	2	2	0	3	3	0	0	0	0	0	0	0	0
12/13	1	1	0	6	6	0	1	1	0	0	0	0	0
12/14	3	2	1	1	1	0	1	1	0	0	0	0	0
12/15	3	3	0	4	4	0	0	0	0	0	0	0	0
12/16	1	0	1	4	4	0	0	0	0	0	0	0	0
<b>total</b>	<b>22</b>	<b>20</b>	<b>2</b>	<b>21</b>	<b>21</b>	<b>0</b>	<b>6</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

## The Dalles Dam North Fish Ladder River/Water Temperatures



USGS: [http://pweb.crohms.org/tmt/documents/ops/temp/201712\\_lcol.html](http://pweb.crohms.org/tmt/documents/ops/temp/201712_lcol.html)

Secchi:		Temperatures
12/10	5.0	Sun 46.1
12/11	5.0	Mon 45.5
12/12	5.0	Tue 45.2
12/13	5.0	Wed 44.8
12/14	5.0	Thurs 44.4
12/15	5.0	Fri 44.2
12/16	5.0	Sat 44.0
	5.0	AVG 44.9

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

= 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
12/10	1.1	8.9	<i>East Ladder dewatered for winter</i>											
12/11	1.3	9.0												
12/12	1.4	8.9												
12/13	1.3	9.0												
12/14	1.3	9.0												
12/15	1.2	9.0												
12/16	1.3	9.0												
<b>AVG:</b>	<b>1.3</b>	<b>9.0</b>												

Fishways are inspected twice daily plus one SCADA inspection.



Pumping concrete for AWS intake structure