

The Dalles Dam Fishway Status Report

12/3/2016

Inspection Period: 11/27/2016 - 12/03/2016

THE DALLES DAM



US Army Corps
of Engineers
Portland District

Fishways are inspected twice daily plus one SCADA inspection

The Dalles Dam	Inspections Out of Criteria	Criteria Limit	Total Number of Inspections: 16		Temperature: 50.8 °F	
			Comments: Fall like conditions on project		Secchi: 5.0 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')	9.2			
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	OOC at forebay 158.1'			
Weir 158-159 differential	0	1.0' ± 0.1'				
Count station differential	0	≤ 0.3'	Picket leads raked as needed.			
Weir crest depth	0	1.0' ± 0.1'				
Junction pool weir JP6	0	depth (≥ 7')	10.9			
East entrance differential	0	1.0' - 2.0'	1.5			
Entrance weir E1	0	No criteria	0.0			
Entrance weir E2	0	depth (≥ 8')	12.6			
Entrance weir E3	0	depth (≥ 8')	12.6			
Collection channel velocity	0	1.5 - 4 fps	2.87			
Transportation channel velocity	0	1.5 - 4 fps	2.64			
North channel velocity	0	1.5 - 4 fps	2.69			
South channel velocity	0	1.5 - 4 fps	3.70			
West entrance differential	0	1.0' - 2.0'	1.5			
Entrance weir W1	0	depth (≥ 8')	10.3			
Entrance weir W2	0	depth (≥ 8')	10.3			
Entrance weir W3	0	No criteria	Closed			
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			
JUVENILE PASSAGE						
Sluiceway operation	0	Units 1, 8, 18				
Turbine trashrack drawdown	0					
spill off						
Turbine Unit Priority	4	per FPP	MU's 3, 15, and 16 OOS			
Turbine 1% Efficiency	0	per FPP				

Birds/Sea lions:

No sea lions observed. High numbers of Cormorants.
Bird observation data collected once daily. Refer to Avian Zone map and bird count.
Two of 13 spillway avian lines broke closest to bridge. Awaiting USDA cost estimate.

Operations:

East fishway dewatered Dec 1-3. Eighty seven lamprey, 75 shad and 5 sturgeon released to river. Three steelhead and 1 lamprey mortality during dewatering process (MFRs provided to FPOM). Five large sturgeon held on south entrance pool for removal at later date.

Current Outages;

T8 (MU15 & MU16) forced out due to transformer failure. Return unknown.
MU21 out for exciter failure RTS unknown

Maintenance:

New east exit weir electrical panel FCQ7 installation ~50% complete. Work continues with available FY17 funding.
East ladder dewatered Dec 1 through end Feb for AWS backup construction. North ladder dewatering Jan 3 - 17.

Planned winter work; East exit weirs coupler/sealer replacement, vegetation removal and routine PMs.

Long Term repair maintenance plans; 154 -157 weir wheel replace, collection channel diffusers decommission, repair failed diffusers - all awaiting funding

Fish related /non-fish funded items; Spillway crane and spillgate 9, both awaiting funding.

All spillway items on Critical Infrastructure list and Unfunded Requirement list.

Research/Construction:

Unit 1 environmental acceptable grease - Coordinated and approved through FPOM.

North fishladder rehab/rock wall stabilizing - Awaiting funding.

East fishladder AWS emergency backup - Prefab continues north staging area. Digging continues below fishladder. Concrete cutting started.

Forebay scaffold work platform installed and dive operations started.

Railroad track removal - Start in water work period 2016. Possible work over sluiceway next summer. Crane rail replacement postponed to 2021.

Tailrace crane rehab - Work resumed. Completion Dec.

Fish unit breaker replace.- Work start fall 2017. Switch over Jan 2018.

Transformer replacement - Install start May 2018. Requires 4 months per transformer bank. Reviewing sequence for least risk to fish passage.

N Wasco Co PUD Memo of Agreement - Reviewing for final.

Fish unit rehab - Award planned for 2020. Completion 2022.

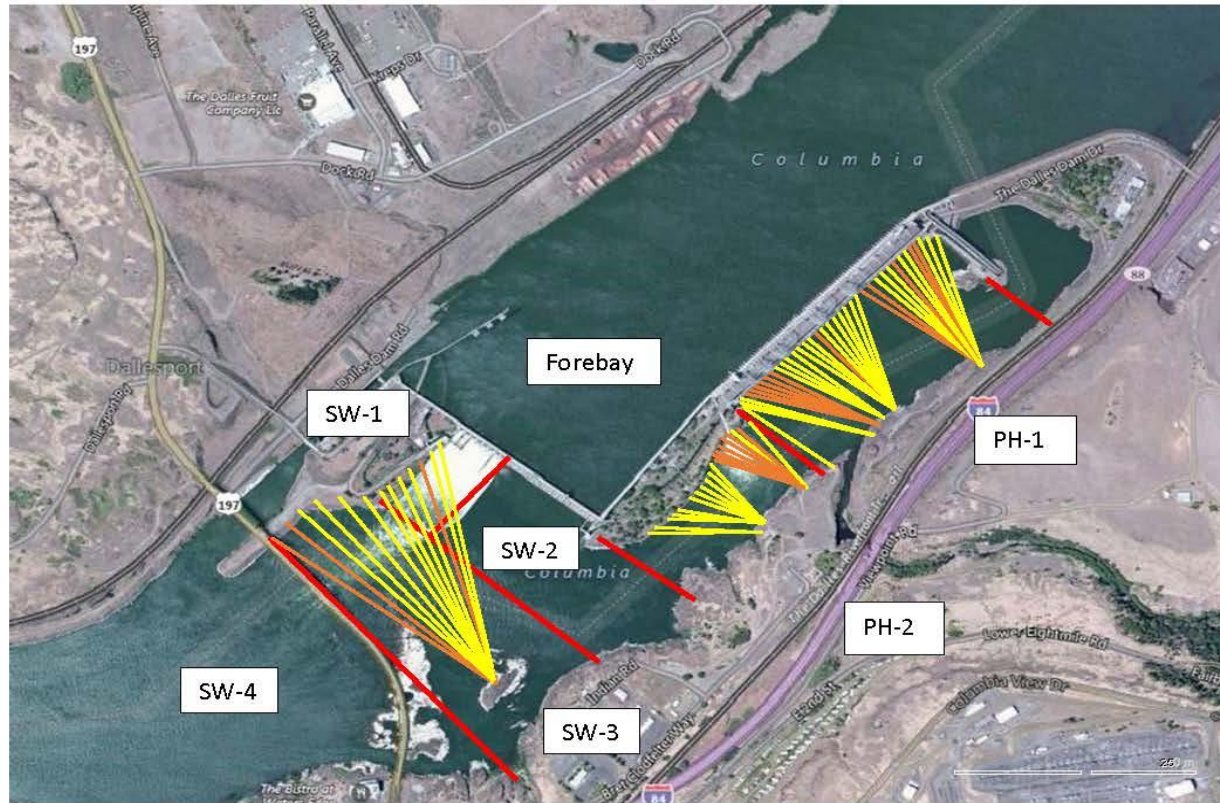
Fish unit breaker replacement - Start in water work period 2017/18

Lamprey minor mods - Rounded weir caps planned for all entrances 2018. Fab and install with project labor. Planning meeting Dec 19.

Research/Contractors:

Kiewit on site for AWS backup. Monitoring work progress.

Approved by: Ron Twiner
Operation Project Manager The Dalles Dam



Red lines = avian zones

Yellow lines = current wires

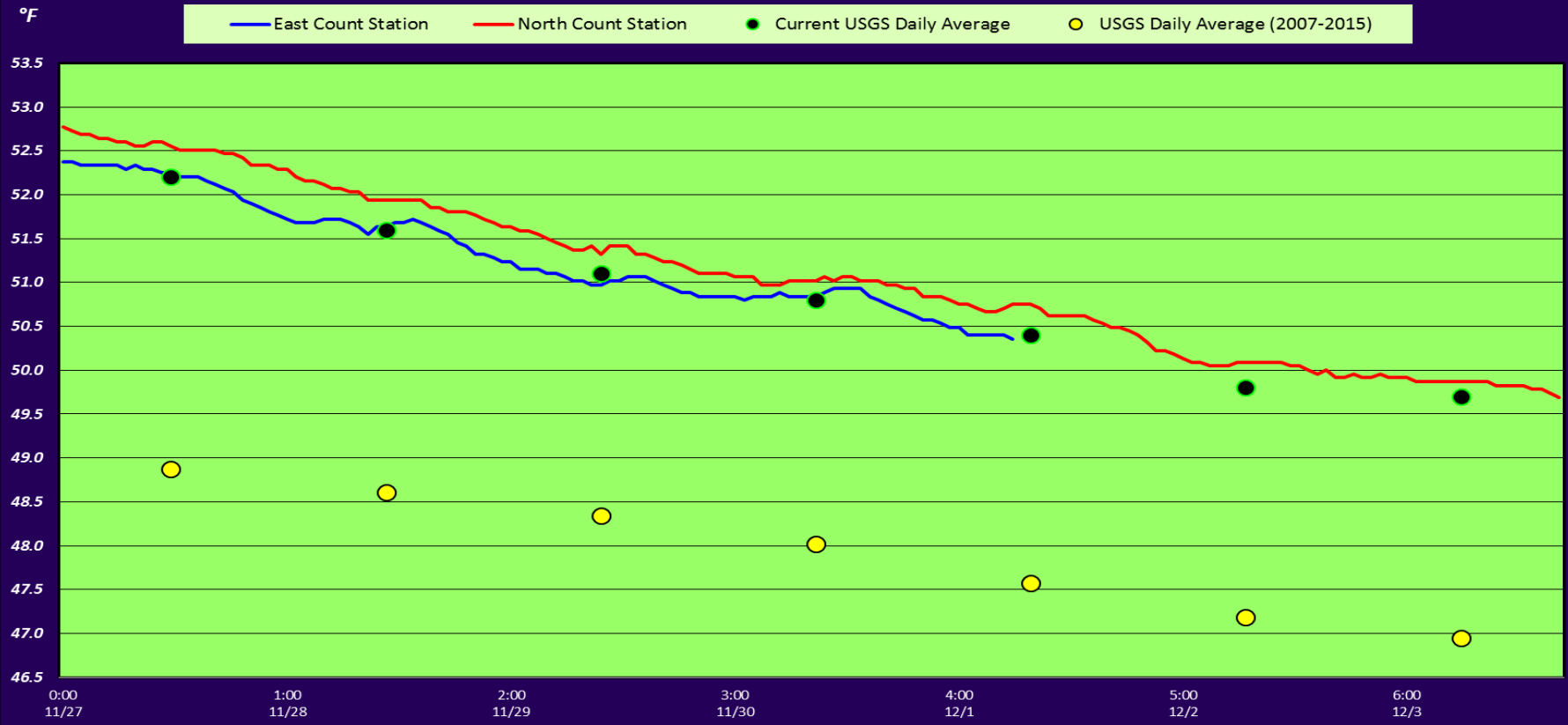
Orange lines = down or missing wires

2016 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			
11/27/16	EHK	AM	FB	0	0	0	0	0	0	0	43	0	0	0	0	43	19 come & 1 gbh 5 gbh	
			PH1	0	0	0	43	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	5		5
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0		0
			SW3	0	12	0	38	0	0	0	0	0	0	0	0	0		50
			SW4	0	0	0	0	0	0	0	0	0	0	0	0	0		0
11/28/16	JWR	PM	FB	0	2	0	0	0	0	0	86	0	0	0	0	88	COME	
			PH1	0	0	0	58	0	0	0	0	0	0	0	49	107		
			PH2	2	0	0	0	0	0	0	0	0	0	0	0	2		
			SW1	0	146	0	0	0	0	0	0	0	0	0	0	146		
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0		
			SW3	0	72	0	34	0	0	0	0	0	0	0	0	0		106
			SW4	0	45	0	39	0	0	0	0	0	0	0	0	0		84
11/29/16	JWR	AM	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		
			SW4	0	0	0	0	0	0	0	0	0	0	0	0	0		
11/30/16																No observation/ dewatering		
																No observation/ dewatering		
																No observation/ dewatering		
																No observation/ dewatering		
																No observation/ dewatering		
12/1/16																No observation/ dewatering		
																No observation/ dewatering		
																No observation/ dewatering		
																No observation/ dewatering		
																No observation/ dewatering		
12/2/16																No observation/ dewatering		
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																No observation/ dewatering		
12/3/16																No observation/ dewatering		
																No observation/ dewatering		
																No observation/ dewatering		
																No observation/ dewatering		
																No observation/ dewatering		
<i>daily averages</i>				0.1	13.2	0.0	10.1	0.0	0.0	0.0	6.1	0.0	0.0	0.0	3.5	33.0		

The Dalles Dam Adult Fish Ladder(s) River/Water Temperatures



USGS: [Nov - http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201611.lcol.html](http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201611.lcol.html)

Secchi:		Temperatures
5.0	Sun	52.2
5.0	Mon	51.6
5.0	Tue	51.1
5.0	Wed	50.8
5.0	Thurs	50.4
5.0	Fri	49.8
5.0	Sat	49.7
5.0	AVG	50.8

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

= Out of criteria

Date:	North Ladder		East Ladder											S P I L L O F F
	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
11/27			1.2	0.0	12.2	12.2	9.0	1.2	10.2	10.2		1.5	8.3	8.3
	1.3	9.2	1.3	0.0	12.3	12.3	9.9	1.4	10.1	10.1		1.6	8.3	8.3
	1.4	9.1	1.6	0.0	12.4	12.4	10.5	1.5	10.2	10.2		1.5	8.3	8.3
11/28			1.5	0.0	12.8	12.8	12.2	1.8	10.6	10.6		1.7	8.3	8.3
	1.5	9.2	1.5	0.0	13.2	13.2	11.5	1.4	10.8	10.8		1.4	8.5	8.5
	1.4	9.2	1.6	0.0	13.3	13.3	11.6	1.4	10.7	10.7		1.5	8.4	8.4
11/29			1.5	0.0	12.1	12.0	11.1	1.6	10.3	10.3		1.4	9.1	9.1
	1.4	9.2	1.5	0.0	12.3	12.2	10.4	1.6	9.9	9.9		1.5	8.6	8.6
	1.4	9.2	1.6	0.0	12.5	12.5	10.8	1.6	10.3	10.3		1.5	8.7	8.7
11/30			1.5	0.0	12.5	12.6	10.3	1.5	10.5	10.5		1.4	8.7	8.7
	1.5	9.1	1.6	0.0	12.3	12.4	11.3	1.5	10.2	10.2		1.6	8.6	8.5
	1.5	9.1	1.3	0.0	13.2	13.2	12.2	1.3	10.0	10.0		1.3	9.6	9.6
12/1														
	1.4	9.1												
12/2														
	1.4	9.2												
12/3														
	1.4	9.2												
AVG:	1.4	9.2	1.5	0.0	12.6	12.6	10.9	1.5	10.3	10.3		1.5	8.6	8.6

Fishways are inspected twice daily plus one SCADA inspection.



AWS backup forebay work/ dive platform



AWS backup excavation progress



AWS backup concrete boring preparation