

The Dalles Dam Fishway Status Report

12/20/2015

Inspection Period: 12/13/2015 - 12/19/2015

THE DALLES DAM



US Army Corps
of Engineers
Portland District

The Dalles Project-Fisheries
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The Dalles, OR 97058-9998
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Fishways are inspected twice daily plus one SCADA inspection- once per day starting December 1

The Dalles Dam	Inspections Out of Criteria	Criteria Limit	Total Number of Inspections: 14		Temperature: 44.8 °F	
			Comments		Secchi: 5.0 feet	
NORTH FISHWAY						
Exit differential			OUT OF SERVICE FOR WINTER WORK PERIOD (RTS-01/2016)			
Count station differential						
Weir crest depth						
Entrance differential						
Entrance weir N1						
Entrance weir N2						
PUD Intake differential						
EAST FISHWAY						
Exit differential	0	≤ 0.5'				
Removable weirs 154-157	0	Per forebay	Auto adjusts 1' increments.			
Weir 158-159 differential	3	1.0' ± 0.1'	Weir 158 not adjusting properly, TR has been placed			
Count station differential	0	≤ 0.3'	milfoil Picket leads raked as needed.			
Weir crest depth	0	1.0' ± 0.1'				
Junction pool weir JP6	0	depth (≥ 7')	Average	10.2		
East entrance differential	1	1.0' - 2.0'	Average	1.2	FU2 out of service for overhaul maintenance.	
Entrance weir E1	0	No criteria	Average			
Entrance weir E2	14	depth (≥ 8')	Average	-1.9	FU2 out of service for overhaul maintenance. Weir <8	
Entrance weir E3	0	depth (≥ 8')	Average	11.5		
Collection channel velocity		1.5 - 4 fps	Average			
Transportation channel velocity		1.5 - 4 fps	Average			
North channel velocity		1.5 - 4 fps	Average			
South channel velocity		1.5 - 4 fps	Average			
West entrance differential	0	1.0' - 2.0'	Average	1.6		
Entrance weir W1	4	depth (≥ 8')	Average	6.4	FU2 out of service for overhaul maintenance. Weir <8	
Entrance weir W2	14	depth (≥ 8')	Average	-0.1	FU2 out of service for overhaul maintenance. Weir <8	
Entrance weir W3	0	No criteria	Average			
South entrance differential	0	1.0' - 2.0'	Average	1.5		
Entrance weir S1	14	depth (≥ 8')	Average	0.9	FU2 out of service for overhaul maintenance. Weir closed	
Entrance weir S2	1	depth (≥ 8')	Average	9.1	FU2 out of service for overhaul maintenance. Weir <8	
JUVENILE PASSAGE						
Sluiceway operation	0	Units 1, 8, 18	Sluiceways 1-1,18-3 open. Other gates and units 1, 8, 18 all closed after 12/15			
Turbine trashrack drawdown		<1.5', wkly				
Spill volume	Spill closed on 9/1/15					
Spill Pattern						
Turbine Unit Priority	0	per FPP				
Turbine 1% Efficiency	0	per FPP				

OTHER ISSUES:**Birds/Sea lions:**

Bird observation data collected once daily. Refer to Avian Zone map. Seal lion observed 12/18 near east entrance. No brands noticed. Many birds around project. No hazing activity. Hazing to resume Apr15. Hazing from boat to be included 2016.

Operations:

North fishway in service without PUD auxiliary water. East fishway in service with one fish unit auxiliary water. Turbine trashrack drawdown and velocities completed for the season to resume Mar 1. Investigating operational changes needed for potential large oil spill in Columbia. Permanent boom purchased for install at east exit.

Maintenance:

ROV inspection of North PUD intake trash racks and North entrance diffuser grating shown all intact and in good working condition. East fishway dewatering scheduled for Jan 5. Entrance weir guide repair and wheel replacement will continue from last year. Two failed collection channel dewatering pumps on deck for repair. Repair/installation underway. Entrance/Exit weir sensor and PLC replacement being investigated. On budget list. East exit weir electrical panel FCQ7 parts on hand. Funding not presently available for installation. Updating inventory on all fishway component spare parts. New dewatering pump motor for north fishway entrance expected delivery this spring. Install planned for dewater season 2016/2017. East fishladder expansion joint leakage increasing with lower temperatures. Repair deferred to next season due to funding constraints. Upcoming winter maintenance period workload; adjust 158 weir, finish entrance weir wheel replace, east entrance weir guide repair. *Long Term repair plans*; 154 -157 weir replacement, removal/permanent closure of collection channel diffusers, repair north failed diffusers, *Fish related /non-fish funded items*; spillway evaluation, spillway crane rehab, spillgate 9 trunnion pin replace, sluiceway chaingate rehab (approx 50% complete), fish unit breaker replace (in planning), and transformer replace (in planning). All spillway items on Critical Infrastructure list and Unfunded Requirement list. Spill gate 9 repair on hold awaiting funding.

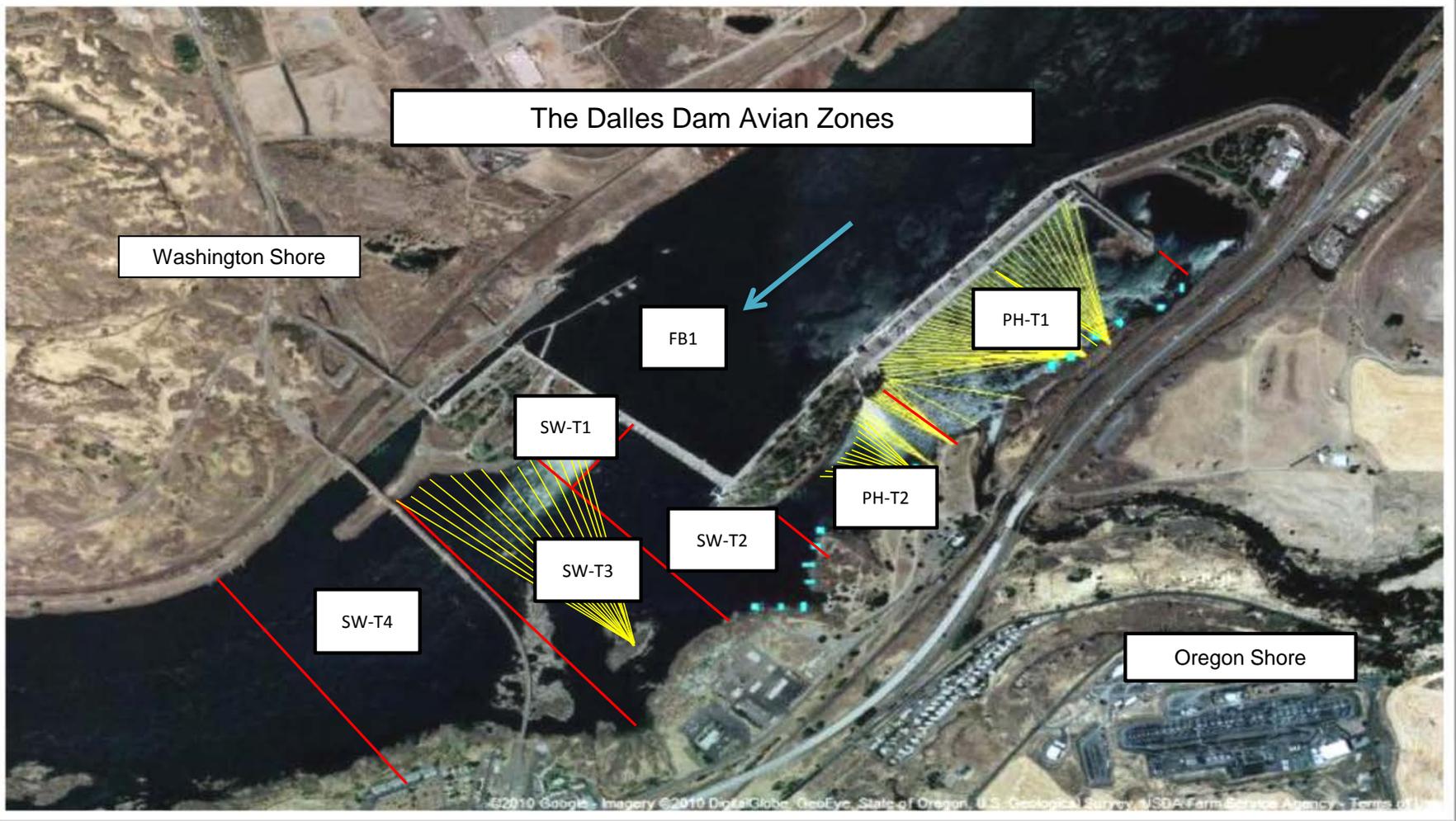
Studies:

North fishladder rehab study for rock wall ongoing. Construction 2017/18. FPOM review as needed. East fishladder emergency backup construction delayed. Winter fishway dewater schedule now adjusted to fit in water work period. Crane rail replacement on tailrace and intake 2016-17 now to be completed within in water work period. Transformer replacement planning underway. Plans to eliminate fish unit TA transformers. Work to start 2017. Periodic planning meetings continue. North spill attraction flow proposal reviewed through FPOM task group and near complete for Fish Passage Plan addition. Lamprey minor modification planning site visit in Jan.

Research/Contractors:

Normandeau fish counters season done 10/31.

Approved by: Ron Twiner
Operation Project Manager The Dalles Dam



Avian lines in yellow, zones in red, river flow in blue.

2015 Piscivorous Bird Counts

F=foraging, NF=non-foraging

Date	Observer	Time (24 hr)	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		
12/13/15	JWR	11:42	FB	1	1	2	0	0	0	0	16	0	0	0	0	20	4 GBHE, 4 BAEA
		10:58	PH1	1	0	2	41	0	0	0	0	0	0	4	23	71	
		11:05	PH2	0	0	0	0	0	0	0	0	0	0	0	8	8	
		11:40	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		11:10	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	
		11:11	SW3	0	8	0	36	0	0	0	0	0	0	0	0	44	
		11:45	SW4	0	87	0	0	0	0	0	0	0	0	0	0	87	
12/14/15	JWR	10:24	FB	0	1	0	0	0	0	7	0	0	0	0	1	9	BAEA COME 6 BAEA, 6 GBHE
		9:46	PH1	0	0	0	29	0	0	0	0	0	0	0	16	45	
		9:56	PH2	0	0	0	0	0	0	0	0	0	0	0	12	12	
		10:19	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		10:02	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	
		10:03	SW3	0	23	0	57	0	0	0	0	0	0	0	0	80	
		10:21	SW4	0	21	0	6	0	0	0	0	0	0	0	0	27	
12/15/15	EHK	13:11	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	12 COME 1 GBH & 1 BAEA
		12:32	PH1	0	0	4	28	0	0	0	0	0	0	5	7	44	
		12:46	PH2	1	0	0	0	0	0	0	0	0	0	0	2	3	
		13:15	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		12:50	SW2	0	0	0	1	0	0	0	0	0	0	0	0	1	
		12:52	SW3	0	26	0	34	0	0	0	0	0	0	0	0	60	
		12:55	SW4	0	164	0	0	0	0	0	0	0	0	0	0	164	
12/16/15	GJF	13:48	FB	0	0	0	0	0	0	11	0	0	0	13	2	26	COOTS F, BAEA NF COME 4X BAEA, 3X GBH
		13:00	PH1	21	0	30	4	0	0	0	0	0	0	79	10	144	
		13:05	PH2	0	6	1	0	0	0	0	0	0	0	0	7	14	
		13:40	SW1	0	13	0	0	0	0	0	0	0	0	0	0	13	
		13:15	SW2	0	39	0	65	0	0	0	0	0	0	0	0	104	
		13:15	SW3	0	0	0	5	0	0	0	0	0	0	0	0	5	
		13:16	SW4	0	296	0	21	0	0	0	0	0	0	0	0	317	
12/17/15	GBH	14:30	FB	0	0	0	1	0	0	0	9	0	0	1	0	11	BAEA BAEA F, COME NF 3X GBH, 5X BAEA
		13:45	PH1	0	0	0	33	0	0	0	0	0	0	1	45	79	
		14:00	PH2	0	7	1	0	0	0	0	0	0	0	0	5	13	
		14:15	SW1	0	1	0	0	0	0	0	0	0	0	0	0	1	
		14:16	SW2	0	2	0	36	0	0	0	0	0	0	0	0	38	
		14:17	SW3	0	0	0	0	0	0	0	0	0	0	0	0	0	
		14:17	SW4	0	496	0	58	0	0	0	0	0	0	0	0	554	
12/18/15	GJF	15:04	FB	0	6	7	0	0	0	2	0	0	0	0	0	15	COME 6X GBH, 5X BAEA GBH
		13:30	PH1	0	1	14	34	0	0	0	0	0	0	41	26	116	
		14:30	PH2	0	3	0	0	0	0	0	0	0	0	0	11	14	
		15:00	SW1	0	0	0	0	0	0	0	0	0	0	0	2	2	
		14:34	SW2	0	31	0	61	0	0	0	0	0	0	0	0	92	
		14:35	SW3	0	0	0	0	0	0	0	0	0	0	0	0	0	
		14:36	SW4	0	429	0	14	0	0	0	0	0	0	0	0	443	
12/19/15	GJF	14:50	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	NO VISIBILITY COME F, GBH NF 1X BAEA F, 10X GBH NF & 4X BAEA NF GBH
		14:40	PH1	20	3	7	47	0	0	0	0	0	0	15	1	93	
		14:12	PH2	0	1	0	0	0	0	0	0	0	0	1	14	16	
		14:48	SW1	0	0	1	0	0	0	0	0	0	0	0	2	3	
		14:30	SW2	0	41	0	55	0	0	0	0	0	0	0	0	96	
		14:31	SW3	0	0	0	0	0	0	0	0	0	0	0	0	0	
		14:32	SW4	0	379	0	27	0	0	0	0	0	0	0	0	406	

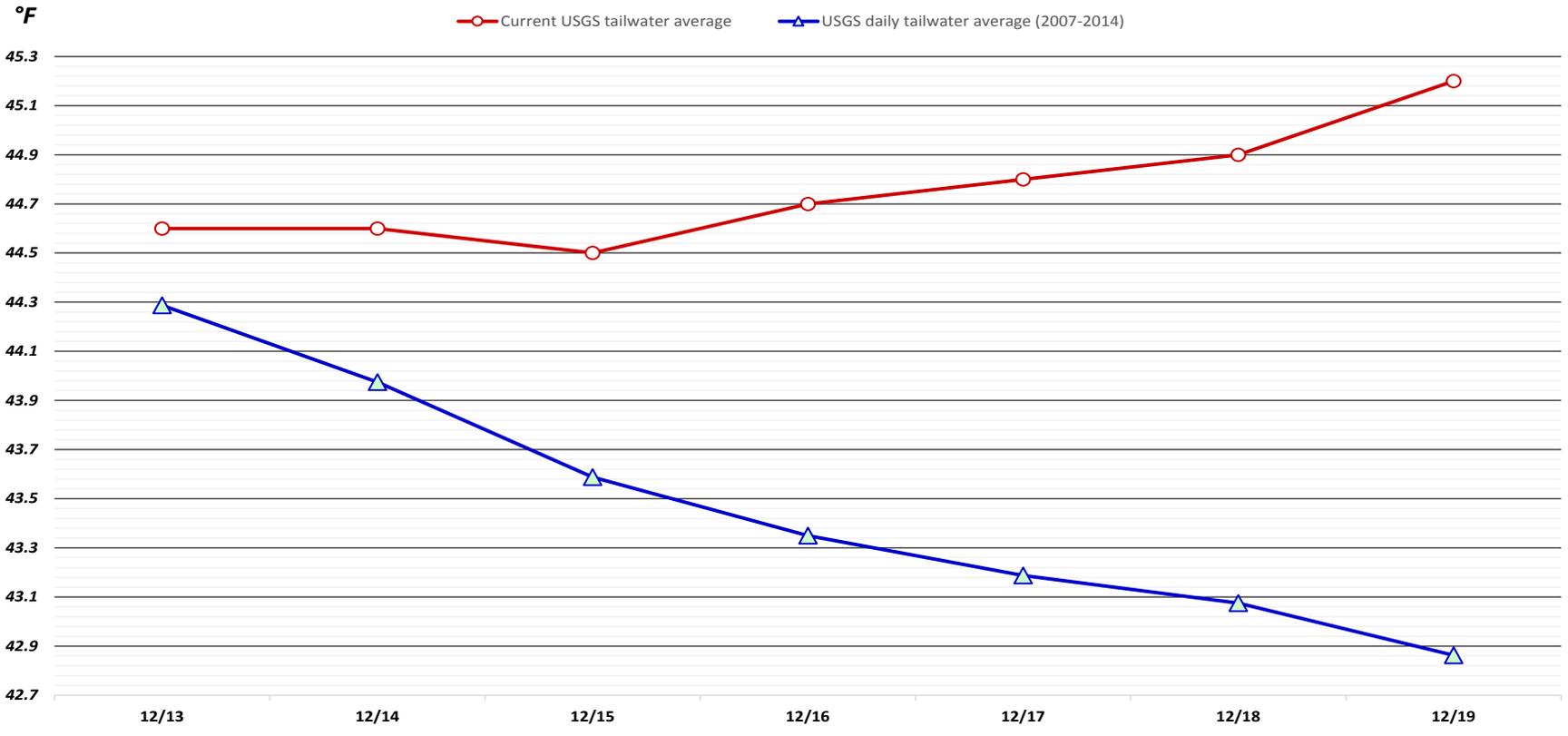
key to other picivorous bird:

BAEA=Bald Eagle

COME=Common Merganser

GBHE=Great Blue Heron

The Dalles-USGS Tailwater Temperatures



ROV image looking at PUD intake trash racks





ROV image taken at North entrance diffuser grating

Secchi:		USGS: Temperatures
5.0	Sun	44.6
5.0	Mon	44.6
5.0	Tue	44.5
5.0	Wed	44.7
5.0	Thurs	44.8
5.0	Fri	44.9
5.0	Sat	45.2
5.0	AVG	44.8

<http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201512.lcol.html>

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

= Out of criteria

North Ladder		East Ladder												S P I L L O N S E A L
North Entrance		East Entrance					West Entrance				South Entrance			
Date:	Differential	N1 Depth	Differential	E1 Depth	E2 Depth	E3 Depth	JP 6	Differential	W1 Depth	W2 Depth	W3 Depth	Differential	S1 Depth	
12/13	OOS for winter work period		1.5	-2.0	-1.9	11.2		1.9	8.9	-0.4	closed	1.8	-1.9	9.6
			1.2	-2.0	-1.9	11.3	9.9	1.5	9.0	2.0		1.4	2.1	9.5
1.2			-2.0	-1.9	10.8		1.4	9.0	2.1	1.4		2.1	9.5	
1.2			-2.0	-1.9	11.3	9.9	1.5	9.0	2.0	1.4		2.1	9.5	
12/14			1.5	-1.9	-1.9	10.4		1.7	9.0	-0.5		1.7	-0.5	9.9
			1.2	-1.9	-1.9	11.7	10.3	1.7	9.6	-0.4		1.6	-0.5	10.0
12/15			1.1	-1.8	-2.1	11.3		1.4	9.0	-2.3		1.4	2.1	9.6
			1.1	-2.1	-2.0	11.6	10.1	1.7	-0.4	-0.4		1.6	1.3	10.0
12/16			1.1	-2.0	-2.0	11.1		1.6	9.5	-0.4		1.4	1.4	10.1
			0.8	-1.9	-2.0	12.7	11.2	1.6	-0.5	-0.5		1.6	-0.5	-0.5
12/17			1.0	-2.1	-2.0	12.2		1.7	-0.6	-0.6		1.6	1.2	10.0
			1.3	-2.0	-1.9	10.6	9.1	1.5	9.6	-0.5		1.4	1.3	10.1
12/18			1.0	-1.9	-1.9	12.7		1.7	-0.5	-0.5		1.6	1.3	10.0
			1.1	-1.9	-1.9	12.2	10.7	1.8	9.4	-0.6		1.5	1.3	10.0
12/19														
AVG:			1.2	-2.0	-1.9	11.5	10.2	1.6	6.4	-0.1	closed	1.5	0.9	9.1

Fishways are inspected twice daily plus one SCADA inspection.