The Dalles Dam Fishway Status Report

12/26/2015

Inspection Period: 12/20/2015 - 12/26/2015

THE DALLES DAM

US Army Corps of Engineers
Portland District

The Dalles Project-Fisheries
P.O. Box 564
The Dalles, OR 97058-9998
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Fishways are inspected once daily plus one SCADA inspection starting December 1

The Dalles Dam	Inspections Out of Criteria	Criteria Limit	Total Number of Inspections: 11 / Comments	Temperature: 44.6 °F / Secchi: 5.0 feet
NORTH FISHWAY				
Exit differential Count station differential Weir crest depth Entrance differential Entrance weir N1 Entrance weir N2 PUD Intake differential	Fishadder at orifice flow. Upper diffuser closed due to motor maintenance. PUD turbine in service.			
EAST FISHWAY				
Exit differential	0	≤ 0.5'		
Removable weirs 154-157	0	Per forebay	Auto adjusts 1' increments.	
Weir 158-159 differential	5	1.0' ± 0.1'	Weir 158 not adjusting properly; electricians have fixed the problem.	
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	0	1.0' - 2.0'	Average 1.3	FU2 out of service for overhaul maintenance.
Entrance weir E1	0	No criteria	Average	
Entrance weir E2	11	depth (≥ 8')	Average	FU2 out of service for overhaul maintenance. Weir <8
Entrance weir E3	0	depth (≥ 8')	Average 11.6	
Collection channel velocity	NA	1.5 - 4 fps	Average	Resume March 1
Transportation channel velocity	NA	1.5 - 4 fps	Average	
North channel velocity	NA	1.5 - 4 fps	Average	
South channel velocity	NA	1.5 - 4 fps	Average	
West entrance differential	0	1.0' - 2.0'	Average 1.5	
Entrance weir W1	0	depth (≥ 8')	Average 9.8	FU2 out of service for overhaul maintenance. Weir <8
Entrance weir W2	11	depth (≥ 8')	Average	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 1.6	
Entrance weir S1	11	depth (≥ 8')	Average	FU2 out of service for overhaul maintenance. Weir closed
Entrance weir S2	0	depth (≥ 8')	Average 9.8	FU2 out of service for overhaul maintenance. Weir <8
JUVENILE PASSAGE				
Sluicegate operation	0	Units 1, 8, 18	Sluicegates 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 Pattern	Spill closed on 9/1/15			
Turbine Unit Priority	NA	per FPP	Out of fish passage season	
Turbine 1% Efficiency	NA	per FPP	Out of fish passage season	

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 with 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.

Current Outages:
T8 (MU15 & MU16) de-rated to 85MW ops through 9/14/2017
F2 OOS 0600 12/1/2015 to 1700 2/28/2016 for O/H

Maintenance:
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. Installation underway.
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 E3 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 until further notice.
Crane rail replacement on tailrace and intake 2016-17. 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 approved through FPOM for Fish Passage Plan.
Lamprey minor modification planning site visit in Jan.

Research/Contractors:
Normandeau fish counters season done 10/31.

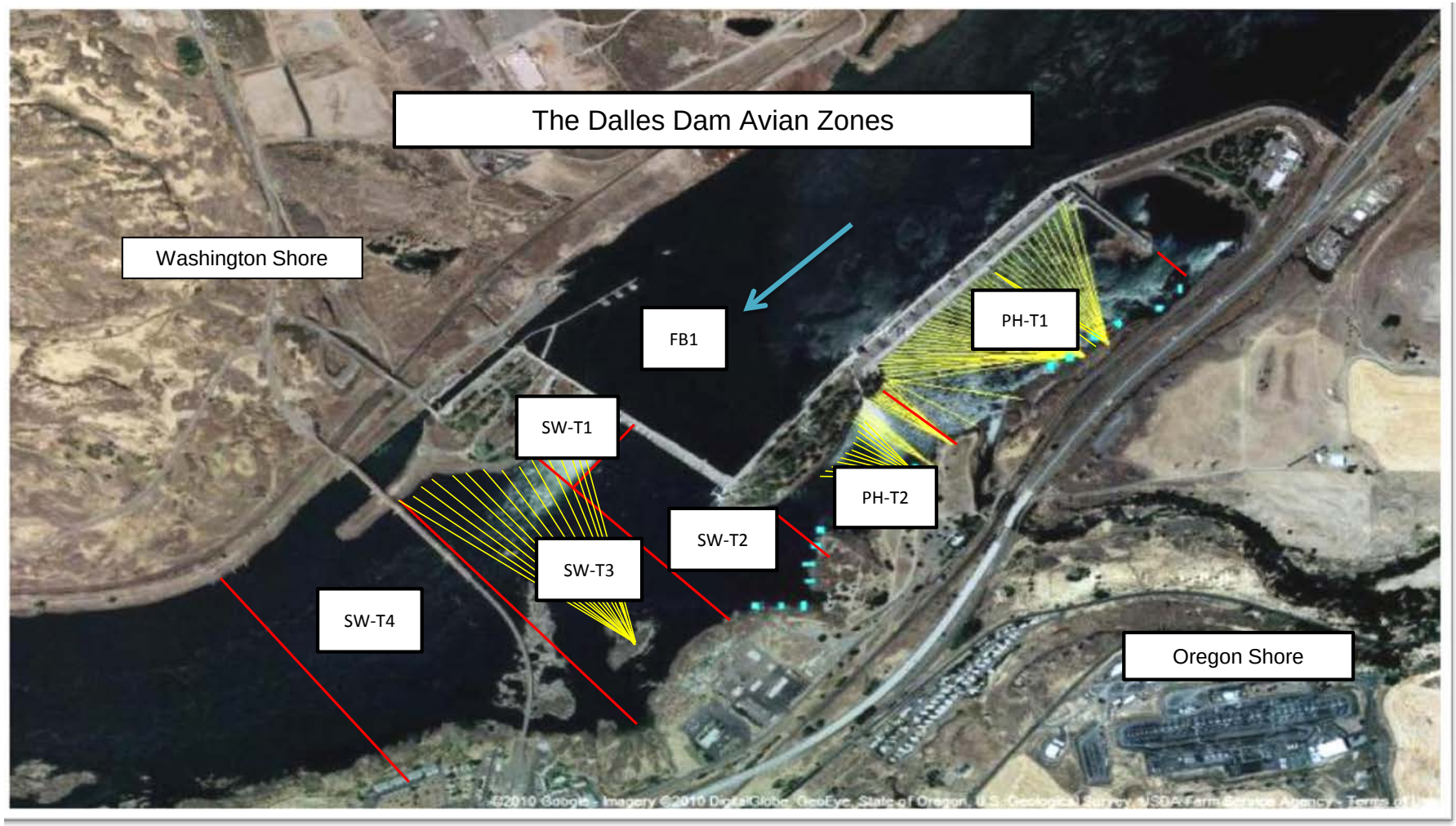
Approved by: Ron Twiner
Operation Project Manager The Dalles Dam

2015 Piscivorous Bird Counts

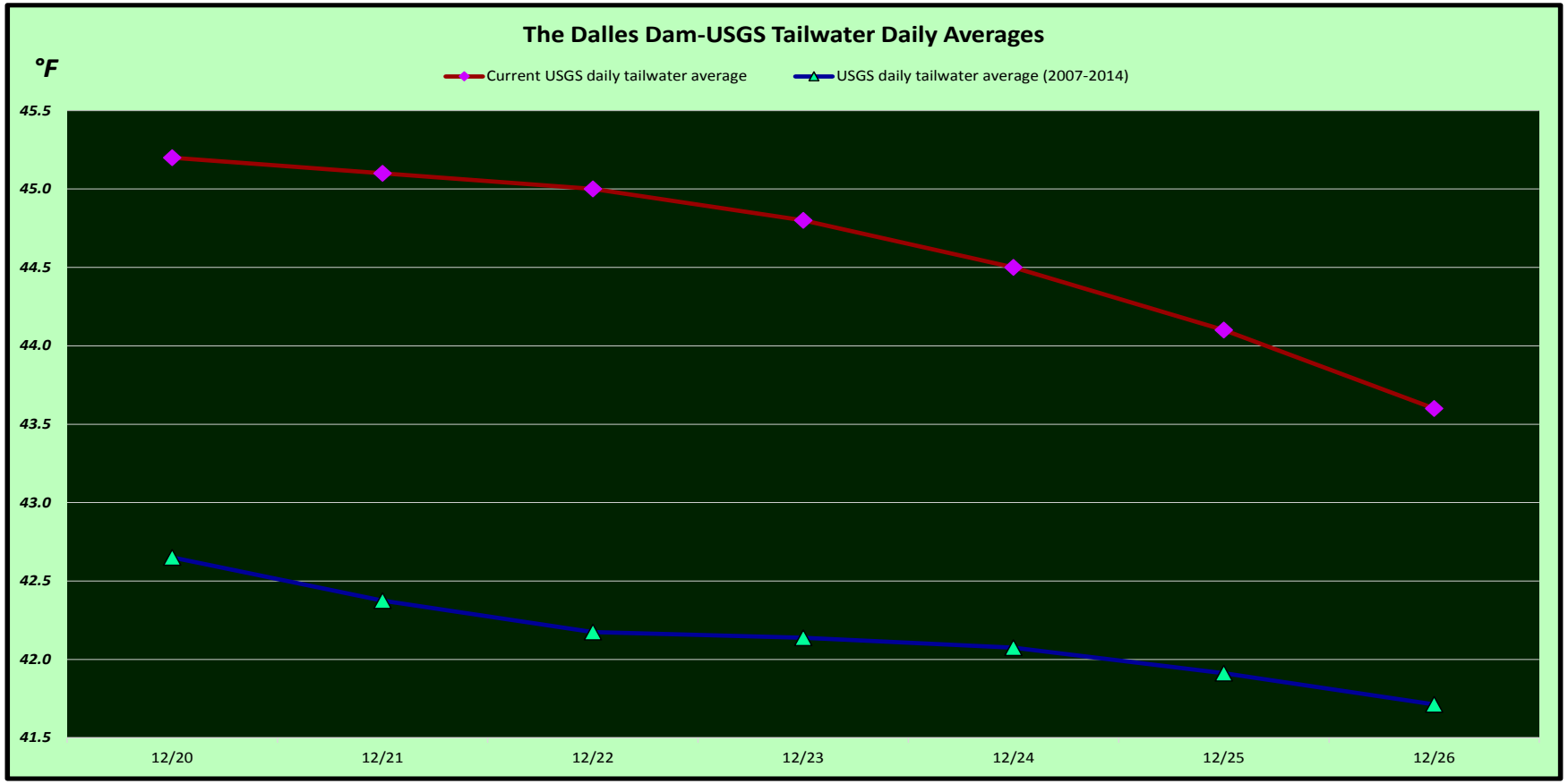
F=foraging, NF=non-foraging

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		
12/20/15			FB	0	0	0	0	0	0	0	0	0	0	0	0	0	NO OBSERVATIONS
			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	
12/21/15	GJF	13:05	FB	0	2	7	2	0	0	12	0	0	0	0	1	24	BAEA
		12:30	PH1	0	13	13	38	0	0	0	0	0	0	24	27	115	COME
		12:31	PH2	0	4	0	0	0	0	0	0	0	0	0	21	25	11 BAEA, 10 GBH
		12:50	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		12:32	SW2	0	36	0	27	0	0	0	0	0	0	0	0	63	
		12:33	SW3	0	0	0	0	0	0	0	0	0	0	0	0	0	
		12:34	SW4	0	250	0	20	0	0	0	0	0	0	0	1	271	GBH
12/22/15	EHK	10:04	FB	0	0	0	0	0	0	0	9	0	0	0	0	9	
		13:26	PH1	0	0	0	44	0	0	0	0	0	0	0	24	68	24 come
		13:20	PH2	0	0	0	0	0	0	0	0	0	0	0	10	10	4 baea & 6 gbh
		13:30	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		13:14	SW2	4	0	0	0	0	0	0	0	0	0	0	0	4	
		13:16	SW3	0	27	0	25	0	0	0	0	0	0	0	0	52	
		13:17	SW4	0	0	0	0	0	0	0	0	0	0	0	0	0	
12/23/15	JWR	11:55	FB	0	0	1	0	0	0	0	7	0	0	0	0	8	
		9:50	PH1	0	2	1	14	0	0	0	0	0	0	0	18	35	COME
		10:00	PH2	0	0	0	0	0	0	0	0	0	0	0	22	22	18 BAEA, 4 GBHE
		11:48	SW1	0	0	1	0	0	0	0	0	0	0	0	0	1	
		10:02	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	
		10:03	SW3	0	21	0	37	0	0	0	0	0	0	0	0	58	
		11:49	SW4	0	303	0	10	0	0	0	0	0	0	0	0	313	
12/24/15	EHK	9:40	FB	0	0	0	9	0	0	1	0	0	0	0	0	10	
		9:02	PH1	4	4	0	0	0	0	0	0	0	0	0	0	8	
		9:09	PH2	4	0	0	0	0	0	0	0	0	0	0	21	25	17 BAEA & 4 GBH
		9:43	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		9:13	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	
		9:14	SW3	0	0	0	31	0	0	0	0	0	0	0	0	31	
		9:16	SW4	0	63	0	0	0	0	0	0	0	0	0	0	63	
12/25/15																	NO OBSERVATIONS
12/26/15	EHK	11:08	FB	0	0	0	2	0	0	13	0	0	0	0	2	17	2 BAEA
		10:33	PH1	1	21	0	52	0	0	0	0	0	0	0	9	83	9 COME
		10:45	PH2	4	0	0	0	0	0	0	0	0	0	0	23	27	19 BAEA & 4 GBH
		11:10	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		10:47	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	
		10:49	SW3	0	26	0	72	0	0	0	0	0	0	0	0	98	
		10:52	SW4	0	264	0	0	0	0	0	0	0	0	0	0	264	

Key: BAEA= Bald Eagle, GBH= Great Blue Heron, COME = Common Merganser



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


The Dalles Dam-USGS Tailwater Daily Averages
°F
Current USGS daily tailwater average
USGS daily tailwater average (2007-2014)
45.5
45.0
44.5
44.0
43.5
43.0
42.5
42.0
41.5
12/20
12/21
12/22
12/23
12/24
12/25
12/26

Secchi:		USGS: Temperatures
5.0	Sun	45.2
5.0	Mon	45.1
5.0	Tue	45.0
5.0	Wed	44.8
5.0	Thurs	44.5
5.0	Fri	44.1
5.0	Sat	43.6
5.0	AVG	44.6

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*											
	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	S2 Depth
12/20	PUD turbine in service. Entrance criteria not monitored.		1.3	CLOSED	CLOSED	10.8		1.7		CLOSED		1.6	CLOSED	9.9
12/21			1.3			11.0	9.5	1.5	9.1			1.4		10.1
			1.3			11.9	10.4	1.3	9.0			1.9		8.9
12/22			1.4			11.2	9.7	1.8	9.1			1.8		9.1
			1.3			11.4	9.9	1.7	9.5			1.7		9.5
12/23			1.3			12.1	10.6	1.6	10.0			1.5		10.0
			1.3			12.1	10.6	1.6	9.5			1.5		9.9
12/24			1.2			12.2	10.6	1.5	10.0			1.6		9.9
			1.2			12.2	10.7	1.2	12.2			1.6		10.1
12/25														
12/26			1.2			11.2		1.5	10.0			1.6		10.0
			1.3			11.2	9.7	1.6	10.0			1.5		10.1
AVG:			***1.3***	*#DIV/0!*	*#*	***11.6***	***10.2***	***1.5***	***9.8***	***#DIV/0!***	closed	***1.6***	***#DIV/0!***	***9.8***

SPILL ON SEAL

Fishways are inspected twice daily plus one SCADA inspection.