

The Dalles Dam Fishway Status Report

12/6/2015

Inspection Period: 11/29/2015 - 12/05/2015

THE DALLES DAM



US Army Corps
of Engineers
Portland District

The Dalles Project-Fisheries
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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: 16		Temperature: 46.5	F
			Comments		Secchi: 5.0	feet
NORTH FISHWAY						
Exit differential	0	≤ 0.5'				
Count station differential	0	≤ 0.3'				
Weir crest depth	2	1.0' ± 0.1'	Max 1.2' Mechanics will address this issue during the ladder outage.			
Entrance differential	2	1.0' - 2.0'	Average 1.2	OOO at 0.9'. PUD was in bypass preparing for the dewatering.		
Entrance weir N1	0	depth (≥ 8')	Average 9.3			
Entrance weir N2	0	Closed	Bulkhead installed.			
PUD Intake differential	0	≤ 0.5'				
EAST FISHWAY						
Exit differential	0	≤ 0.5'				
Removable weirs 154-157	0	Per forebay	Auto adjusts 1' increments.			
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')	Average 10.7	Weir pulled to achieve criteria with low tailwater		
East entrance differential	2	1.0' - 2.0'	Average 1.2	FU2 out of service for annual maintenance.		
Entrance weir E1	0	No criteria	Average	No criteria; manually adjusted as needed.		
Entrance weir E2	10	depth (≥ 8')	Average 3.8	FU2 out of service for annual maintenance.		
Entrance weir E3	0	depth (≥ 8')	Average 12.0			
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	3	1.0' - 2.0'	Average 1.4	OOO due to FU2 out of service and dive on December 3		
Entrance weir W1	4	depth (≥ 8')	Average 7.7	FU2 out of service for annual maintenance.		
Entrance weir W2	7	depth (≥ 8')	Average 6.6	FU2 out of service for annual maintenance.		
Entrance weir W3	0	No criteria	Average	No criteria; manually adjusted as needed.		
South entrance differential	3	1.0' - 2.0'	Average 1.6	OOO due to FU2 out of service and dive on December 3.		
Entrance weir S1	10	depth (≥ 8')	Average 4.3	FU2 out of service for annual maintenance.		
Entrance weir S2	1	depth (≥ 8')	Average 8.0	OOO due to dive on December 3		
JUVENILE PASSAGE						
Sluiceway operation	0	Units 1, 8, 18	Sluiceways 1-1,2,3, 8-1,2, and 18-2 open.			
Turbine trashrack drawdown		<1.5', wkly				
Spill volume	NA	40%+-1%	Average	Spill closed on 9/1/15		
Spill Pattern	NA	per FPP				
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.
No hazing activity. Working on USDA hazing plan 2016. Hazing to resume Apr15

Current Outages:

T8 (MU15 & MU16) de-rated to 85MW ops through 9/14/2017
F2 OOS 0600 12/1/2015 to 17 2/28/2016 for O/H

Operations:

North fish ladder dewatered on December 3 but due to the safety of fish had to be rewatered up that same day.
Fish Counts for the dewatering: Chinook - 15 in ladder, 1 released & 1 mort; Steelhead - 2 in ladder, Sturgeon - three 9" (1 released), five 6' (1 released), fifteen 5" or smaller; Lamprey ~20 (all remained in the ladder). The ladder will not be dewatered again this season.
Turbine trashrack drawdown and velocities completed for the season.
Investigating operational changes needed for potential large oil spill in Columbia. Permanent boom purchased for install at east exit.

Maintenance:

FU2 out of service for annual maintenance on December 1.
Dive Dec 3 to clear bulkhead sills on south and north fishway entrances and inspect north entrance fishway diffuser grating.
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 remaining on deck for repair. Parts on hand. Repair/installation planning 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, entrance weir guide repair, east exit sensor upgrades.
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.

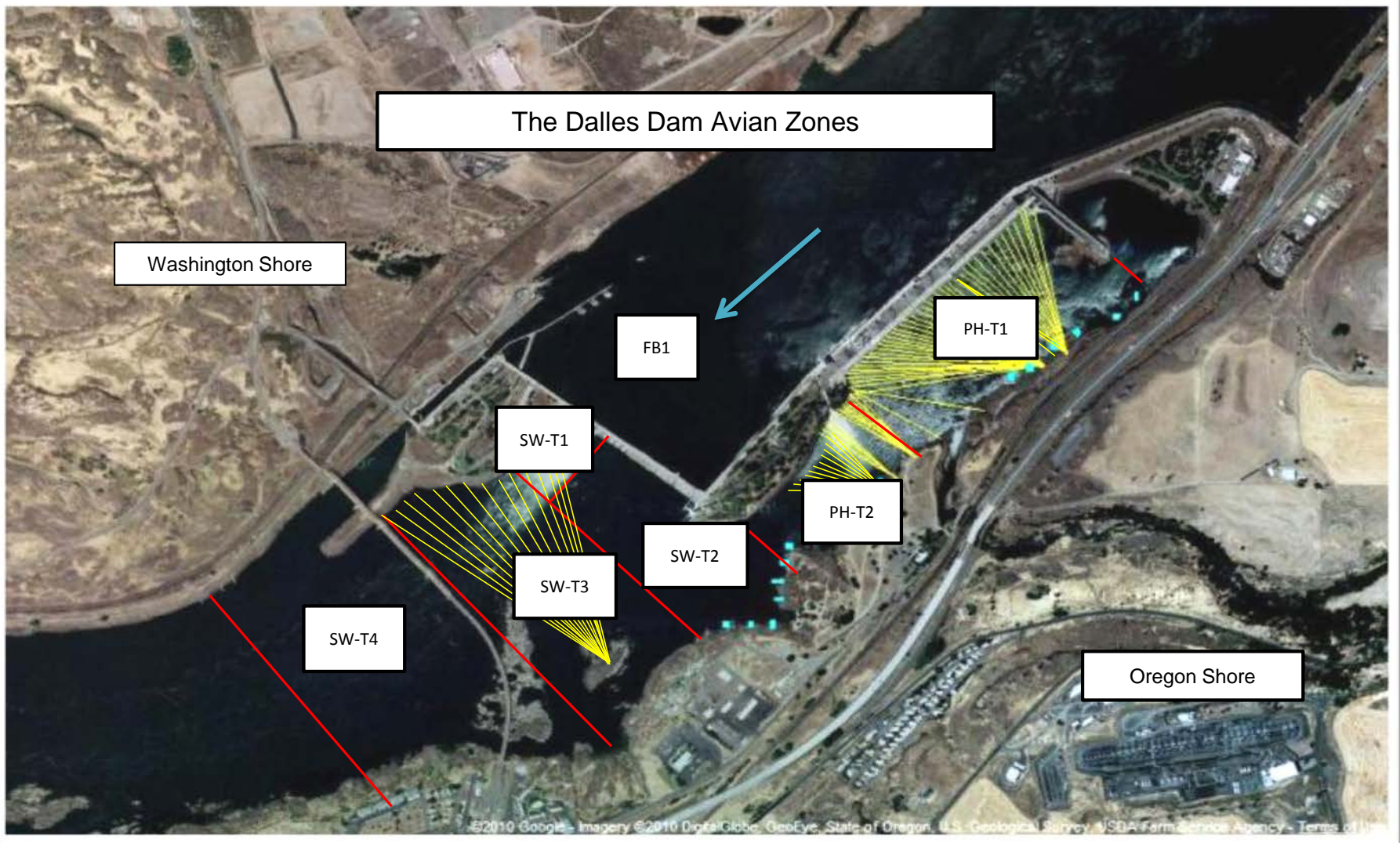
Studies:

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.

Research/Contractors:

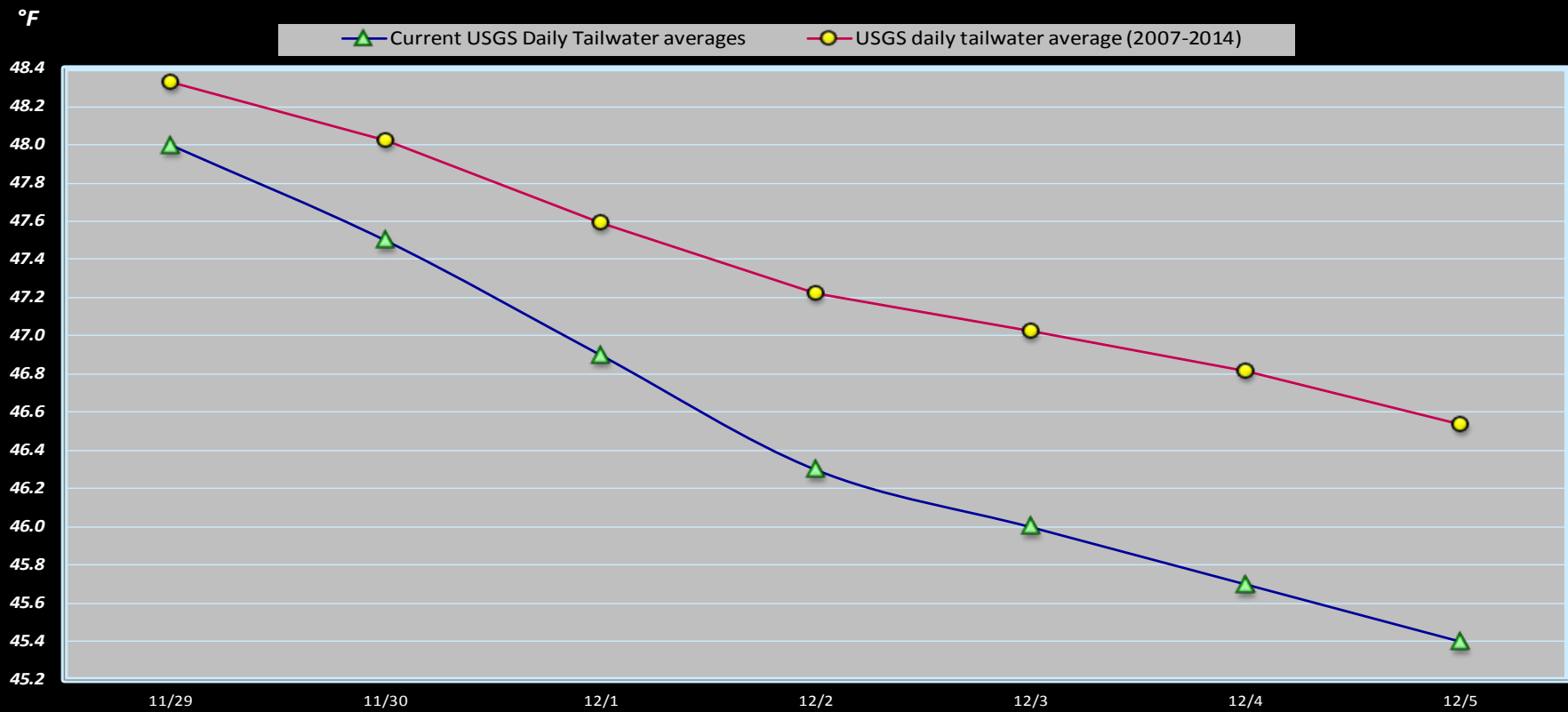
Normandeau fish counters season done 10/31.

Approved by: Ron Twiner
Operation Project Manager The Dalles Dam



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

The Dalles Dam Tailwater River Temperatures



Secchi:		Temperatures
5.0	Sun	48.0
5.0	Mon	47.5
5.0	Tue	46.9
5.0	Wed	46.3
5.0	Thurs	46.0
5.0	Fri	45.7
5.0	Sat	45.4
5.0	AVG	46.5

USGS: <http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201511.lcol.html>
<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		S2 Depth
11/29			1.9	5.1	12.0	12.4		1.4	10.5	10.5		1.5	8.3		8.4
	1.5	8.7	1.7	6.6	12.1	12.5	11.0	1.5	10.2	10.2		1.5	8.3		8.4
	1.5	9.7	1.5	6.6	12.0	12.5	11.0	1.4	10.4	10.4		1.5	8.3		8.4
11/30			1.6	6.7	11.8	12.3		1.5	10.3	10.3		1.5	8.3		8.3
	0.9	10.0	1.5	2.0	13.0	13.4	11.9	1.6	8.5	8.5		1.6	8.5		8.5
	0.9	8.8	1.6	2.1	13.1	13.6	12.1	1.6	10.6	10.6		1.5	8.7		8.7
12/1			0.2	3.1	11.1	11.5		0.2	10.5	10.5		0.8	8.5		8.5
	-	-	1.3	-2.1	-2.1	11.7	10.2	1.7	2.0	9.0		1.9	0.5	8.4	
	-	-	1.3	-2.0	-2.0	11.1	9.6	1.5	8.5	-		1.5	2.9	8.5	
12/2			1.1	-1.9	-2.0	11.8		1.6	1.9	8.8		1.5	3.0	8.5	
	-	9.2	1.0	-2.2	-2.1	12.5	11.0	1.7	8.3	2.4		1.8	0.6	8.6	
12/3			-0.9	-2.0	-2.0	11.1		-0.1	1.7	1.7		0.2	1.7	8.6	
	-	-	1.9	-2.0	-2.0	12.3	10.8	2.6	8.8	2.5		3.8	0.0	-0.3	
12/4			1.1	-0.6	-2.0	11.8		1.5	8.8	2.5		1.7	1.5	8.4	
	-	-	1.0	-1.9	-2.0	11.7	10.3	1.6	8.7	2.5		1.6	1.6	8.5	
12/5			1.2	-1.9	-2.0	11.1		1.5	2.5	2.5		1.7	1.5	8.5	
	-	-	1.4	-1.9	-2.0	10.9	9.4	1.6	8.8	2.5		1.7	1.5	8.5	
AVG:	1.2	9.3	1.2	0.8	3.8	12.0	10.7	1.4	7.7	6.6	closed	1.6	4.3	8.0	

Fishways are inspected twice daily plus one SCADA inspection.