

The Dalles Dam Fishway Status Report

11/28/2015

Inspection Period: 11/22/2015 - 11/28/2015

THE DALLES DAM



US Army Corps
of Engineers
Portland District

The Dalles Project-Fisheries
P.O. Box 564
The Dalles, OR 97058-9998
Phone: 541-506-3800

Fishways are inspected twice daily plus one SCADA inspection

The Dalles Dam	Inspections Out of Criteria	Criteria Limit	Total Number of Inspections: 21		Temperature: 51.4 F
			Comments		Secchi: 4.7 feet
NORTH FISHWAY					
Exit differential	0	≤ 0.5'			
Count station differential	0	≤ 0.3'			
Weir crest depth	10	1.0' ± 0.1'	Max 1.3' Mechanics will address this issue during the ladder outage.		
Entrance differential	0	1.0' - 2.0'	Average	1.5	
Entrance weir N1	0	depth (≥ 8')	Average	8.7	
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	1	≤ 0.3'	Picket leads raked as needed. OOS at 1.4'		
Weir crest depth	0	1.0' ± 0.1'			
Junction pool weir JP6	0	depth (≥ 7')	Average	10.0	Weir pulled to achieve criteria with low tailwater
East entrance differential	0	1.0' - 2.0'	Average	1.5	2.2' on 11/20 and corrected
Entrance weir E1	0	No criteria	Average	No criteria; manually adjusted as needed.	
Entrance weir E2	0	depth (≥ 8')	Average	11.4	
Entrance weir E3	0	depth (≥ 8')	Average	11.4	
Collection channel velocity	0	1.5 - 4 fps	Average	3.0	
Transportation channel velocity	0	1.5 - 4 fps	Average	2.2	
North channel velocity	0	1.5 - 4 fps	Average	3.6	
South channel velocity	0	1.5 - 4 fps	Average	3.8	
West entrance differential	0	1.0' - 2.0'	Average	1.4	
Entrance weir W1	0	depth (≥ 8')	Average	9.8	
Entrance weir W2	0	depth (≥ 8')	Average	9.8	
Entrance weir W3	0	No criteria	Average	No criteria; manually adjusted as needed.	
South entrance differential	0	1.0' - 2.0'	Average	1.5	
Entrance weir S1	0	depth (≥ 8')	Average	8.3	
Entrance weir S2	0	depth (≥ 8')	Average	8.4	
JUVENILE PASSAGE					
Sluiceway operation	0	Units 1, 8, 18	Sluiceways 1-1,2,3, 8-1,2, and 18-2 open.		11/25 MU2 was running instead of MU1
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	1	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

Operations:

Turbine trashrack drawdown completed for the season.

Investigating operational changes needed for potential large oil spill in Columbia. Permanent boom purchased for install at east exit.

Maintenance:

Dive Dec 3 to clear bulkhead sills on south and north fishway entrances and inspect north entrance fishway diffuser grating.

North fishway winter maintenance dewatering Dec 2, '15. Routine inspection and preventative maintenance planned for equipment.

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.

Fish count video at north count station recording / testing underway. Result review through FPOM.

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.

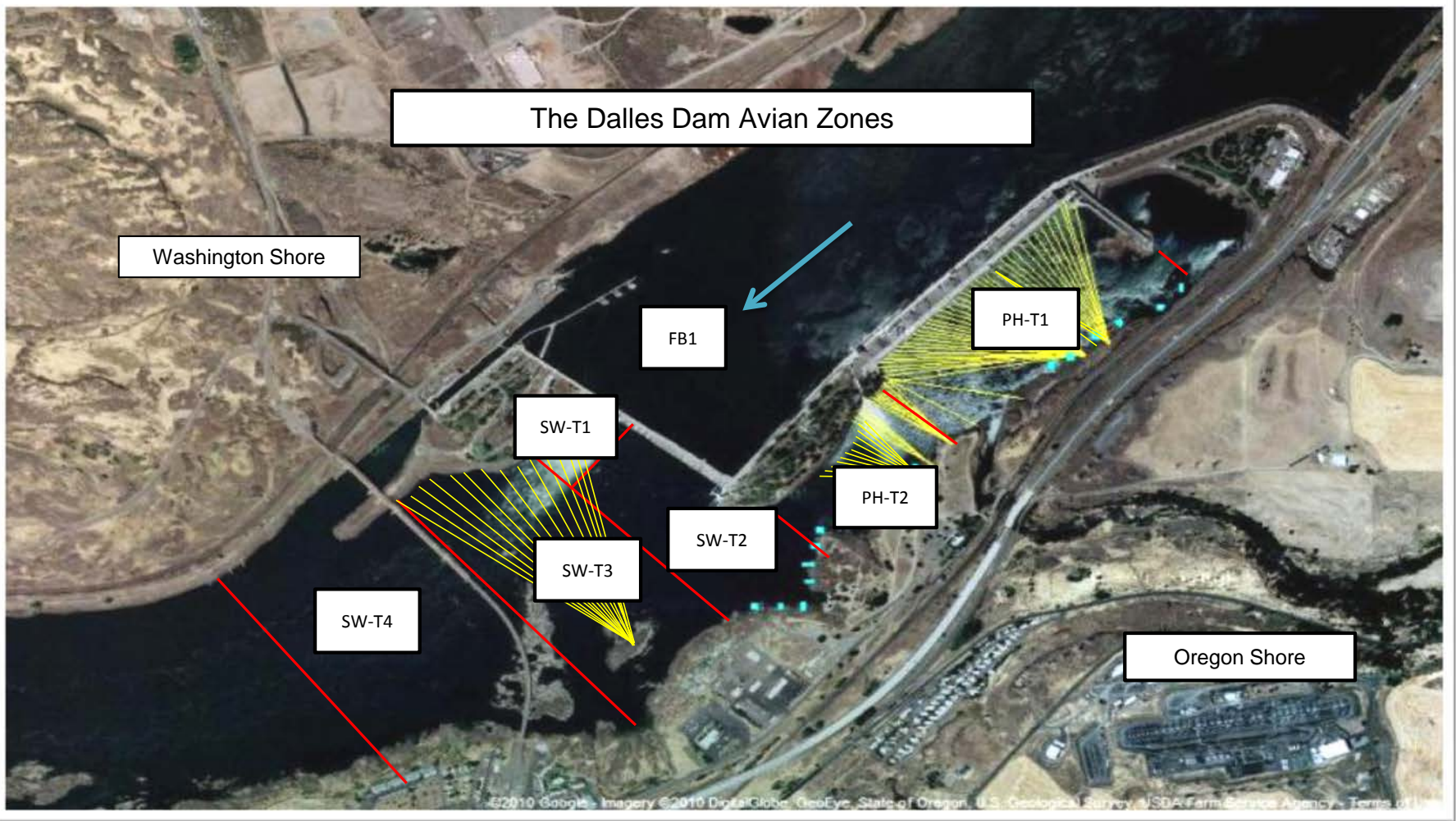
North spill attraction flow proposal reviewed through FPOM task group and near complete for Fish Passage Plan addition.

Research/Contractors:

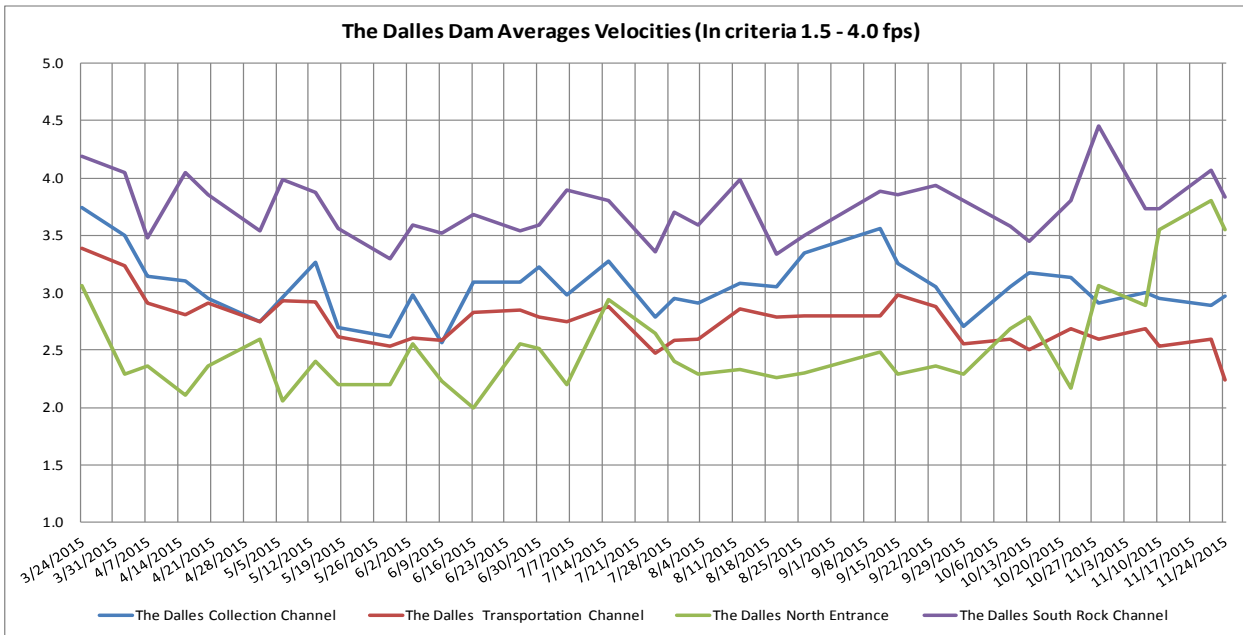
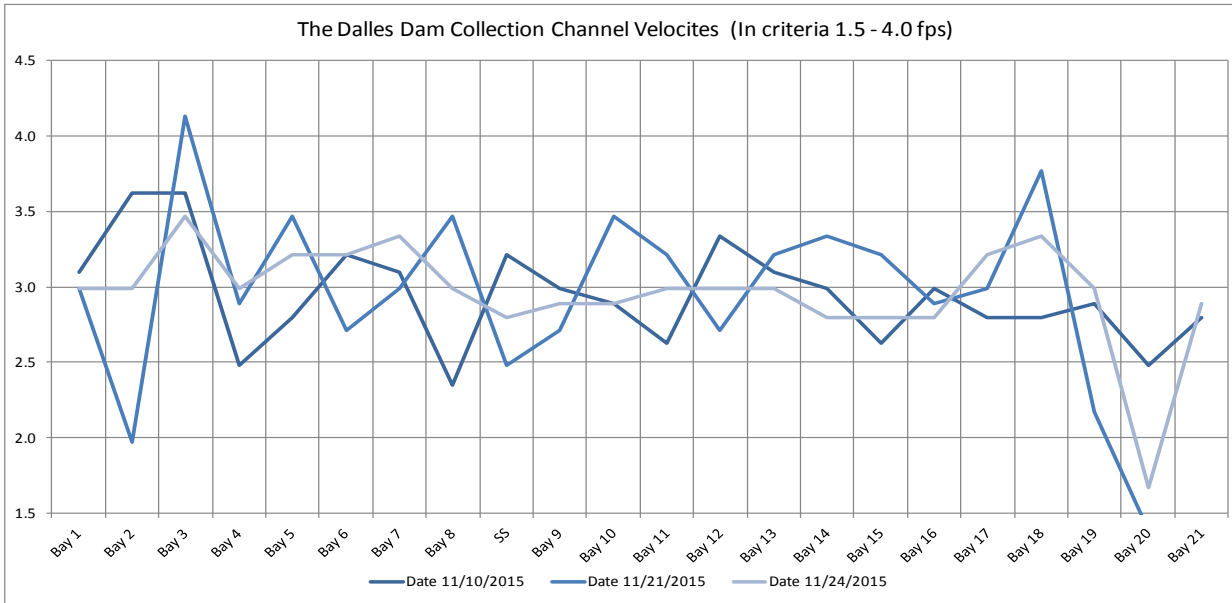
Normandeau fish counters season done 10/31.

Approved by: Ron Twiner

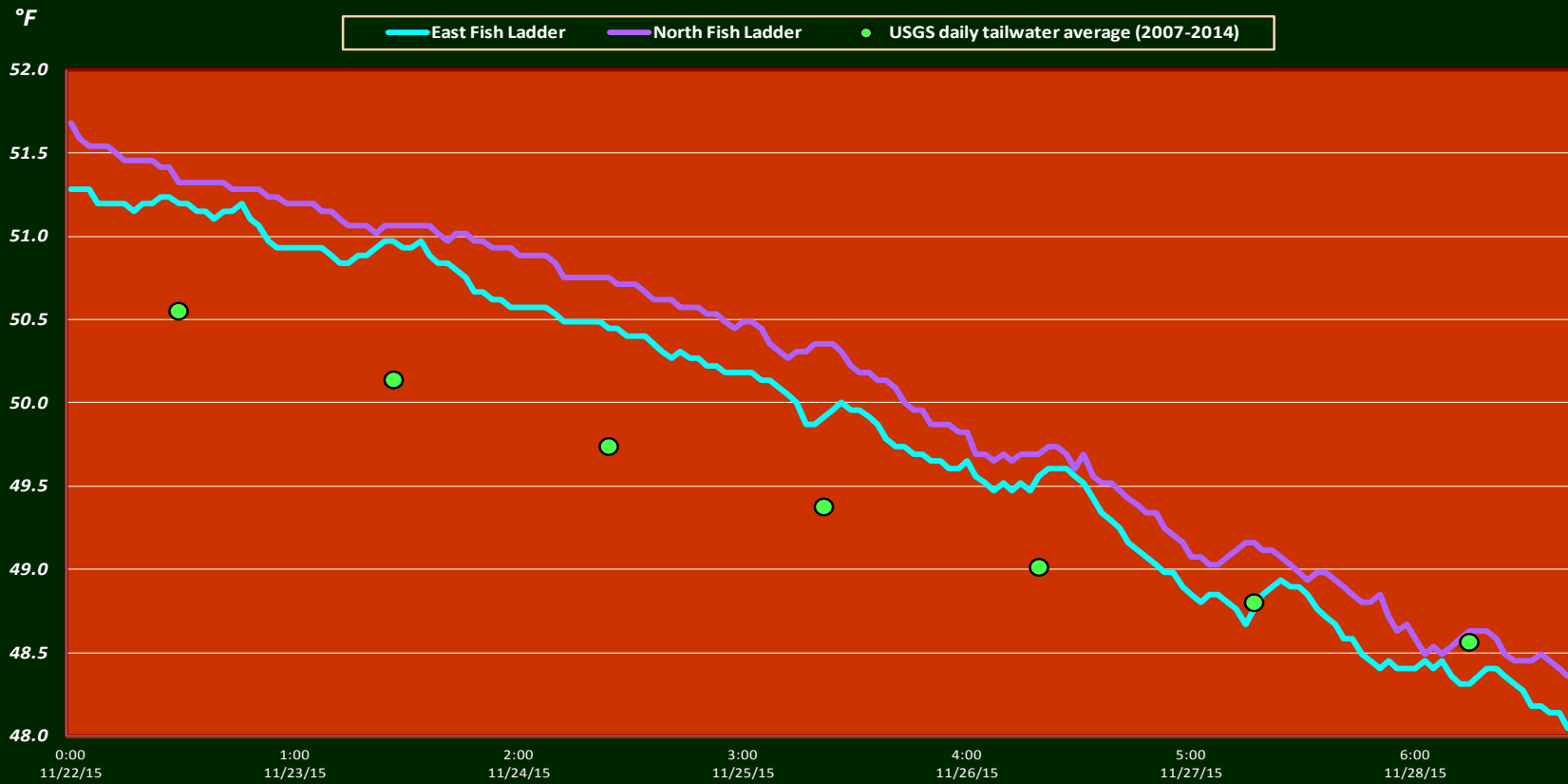
Operation Project Manager The Dalles Dam



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



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



USGS: <http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201511.lcol.html>

Secchi:		Temperatures
5.0	Sun	51.3
4.0	Mon	50.9
5.0	Tue	50.5
4.0	Wed	50.1
5.0	Thurs	59.5
5.0	Fri	49.0
5.0	Sat	48.5
4.7	AVG	51.4

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

= Out of criteria

Date:	North Ladder		East Ladder											Spill On Seal
	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
11/22			1.3	8.9	11.6	10.5		1.3	9.4	9.4	closed	1.4	8.3	8.4
	1.3	8.6	1.2	9.1	11.7	10.7	9.2	1.4	9.3	9.3		1.5	8.2	8.3
	1.4	8.5	1.2	8.9	11.5	10.5	9.0	1.4	9.3	9.3		1.5	8.2	8.3
11/23			1.5	9.0	11.6	10.5		1.4	9.4	9.4		1.5	8.2	8.2
	1.5	8.5	1.6	8.9	11.5	10.4	8.9	1.5	9.3	9.3		1.5	8.3	8.3
	1.5	8.6	1.5	8.9	11.9	10.8	9.3	1.6	9.3	9.3		1.5	8.3	8.3
11/24			1.5	8.9	11.7	10.6		1.4	9.3	9.3		1.4	8.3	8.3
	1.5	8.5	1.5	9.0	12.1	11.1	9.6	1.6	9.4	9.4		1.4	8.4	8.4
	1.5	8.6	1.8	8.5	9.9	11.6	10.1	1.5	9.9	9.9		1.6	8.3	8.3
11/25			1.7	9.1	10.3	11.3		1.5	10.0	10.0		1.5	8.4	8.5
	1.5	8.5	1.6	9.6	10.4	11.4	9.9	1.4	9.9	9.9		1.5	8.3	8.4
	1.5	8.7	1.5	9.3	11.2	11.6	10.2	1.5	9.9	9.8		1.5	8.3	8.4
11/26			1.5	9.2	11.1	11.6		1.4	9.9	9.9		1.4	8.4	8.5
	1.5	8.8	1.5	9.1	11.0	11.5	10.0	1.4	9.8	9.8		1.5	8.2	8.3
	1.4	8.8	1.6	9.1	10.8	11.2	9.8	1.4	9.9	9.9		1.4	8.3	8.4
11/27			1.4	9.2	11.3	11.7		1.3	10.0	10.0	1.4	8.5	8.6	
	1.5	8.6	1.4	5.0	11.8	12.3	10.8	1.5	10.2	10.2	1.5	8.4	8.5	
	1.5	8.8	1.6	5.1	11.5	11.9	10.5	1.4	10.3	10.3	1.5	8.4	8.5	
11/28			1.5	5.0	12.1	12.5		1.5	10.3	10.3	1.6	8.3	8.4	
	1.5	8.8	1.4	4.9	12.0	12.4	10.9	1.4	10.2	10.2	1.6	8.1	8.1	
	1.5	8.8	1.3	5.1	12.3	12.7	11.3	1.6	10.3	10.3	1.6	8.4	8.4	
AVG:	1.5	8.7	1.5	8.1	11.4	11.4	10.0	1.4	9.8	9.8	closed	1.5	8.3	8.4

Fishways are inspected twice daily plus one SCADA inspection.