

The Dalles Dam Fishway Status Report

9/20/2015

Inspection Period: 9/13/2015 - 9/19/2015

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

The Dalles Dam	Inspections Out of Criteria	Criteria Limit	Total Number of Inspections: 21		Temperature: 66.7 F
			Comments		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'	Average	1.4	
Entrance weir N1	0	depth (≥ 8')	Average	9.4	
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	12.1	Weir pulled to achieve criteria with low tailwater
East entrance differential	0	1.0' - 2.0'	Average	1.5	
Entrance weir E1	0	No criteria	Average	No criteria; manually adjusted as needed.	
Entrance weir E2	0	depth (≥ 8')	Average	12.0	
Entrance weir E3	0	depth (≥ 8')	Average	12.0	
Collection channel velocity	0	1.5 - 4 fps	Average	3.6	
Transportation channel velocity	0	1.5 - 4 fps	Average	2.8	
North channel velocity	0	1.5 - 4 fps	Average	2.5	
South channel velocity	0	1.5 - 4 fps	Average	3.9	
West entrance differential	0	1.0' - 2.0'	Average	1.5	
Entrance weir W1	0	depth (≥ 8')	Average	11.3	
Entrance weir W2	0	depth (≥ 8')	Average	11.3	
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	8.5	
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.		
Turbine trashrack drawdown	0	<1.5', wkly	Range: 0-0.5'		
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. Almost no gulls after end of spill. No sea lion sightings.

Operations:

Turbine trashrack drawdown completed 9/15. Forebay/gatewell differential in criteria.

Fishway calibration completed 9/18, most values within criteria TDE notified of discrepancies.

Current Outages:

T8 (MU15 & MU16) de-rated to 85MW ops through 9/14/2017

MU19 OOS 0600 8/3/2015 to 1700 9/17/2015 for O/H and Turbine Integrity Testing

MU9 OOS 0001 9/7/2015 to 1700 9/10/2015 for Annual Maintenance

Maintenance:

Derelict Vertical Barrier Screen removal from gatewell of main unit 19 completed. ROV inspection planned for remaining gatewells to confirm no more.

Three failed collection channel dewatering pumps repair near complete.

Two new water sensor units and PLCs being purchased to replace east exit and entrance systems for improved reliability. Installation this winter.

FCQ7 electrical panel for east exit upgrade funding in place still awaiting contracting approval. Installation planned for next outage season.

Purchasing new dewatering pump motor for north fishway entrance.

Investigating cost and feasibility for 154 -157 weir replacement through project labor.

Preparing workload for upcoming winter maintenance period; entrance weir wheel replace, entrance weir guide repair, exit/entrance sensor upgrades.

Long Term repair plans; 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 planning by small projects team moving again.

Studies:

North fishladder rehab study for rock wall 90% DDR review. Construction 2017/18. FPOM review ongoing.

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

East fishladder emergency backup construction to start this winter, through next 2 in water work periods. Contract awarded. Site meetings underway.

Crane rail replacement on tailrace and intake 2016-2017. Timing for rail removal near east exit being coordinated through FPOM.

Transformer replacement planning underway. Plans to eliminate fish unit TA transformers. Work to start 2017.

North spill attraction flow continues to be reviewed through FPOM. Threshold for daily passage amount to use spill remains unresolved. Approaching 25K chinook per day with no observable passage delay.

Research/Contractors:

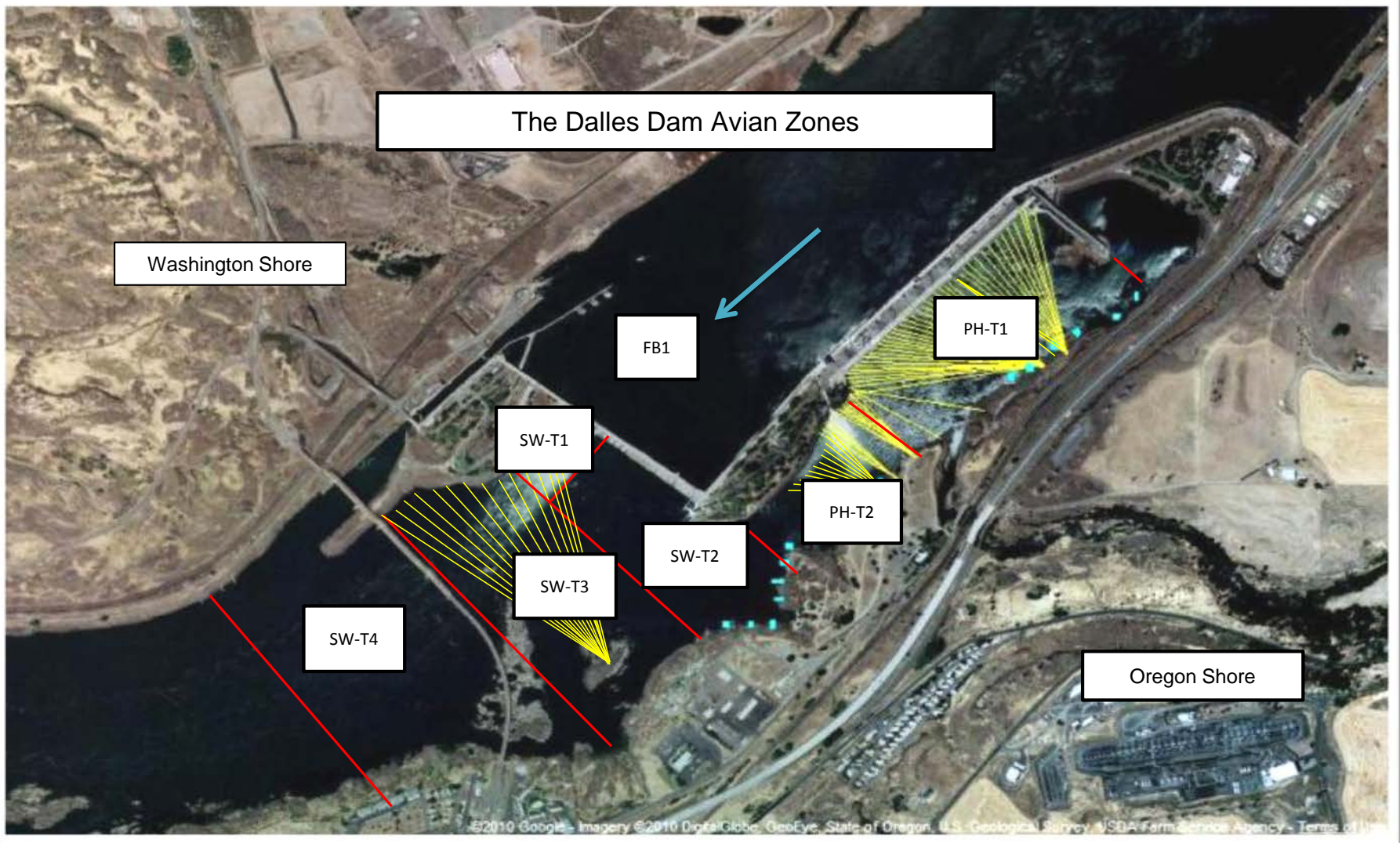
Pikeminnow dam angling had low catch rates this week. Weekly total for NPM >230mm was 15 and 4,522 YTD.

ODFW collecting biological data from harvested pikeminnow.

Normandeau fish counters at east and north count stations 16 hr/day through 10/31.

Approved by: Ron Twiner

Operation Project Manager The Dalles Dam



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

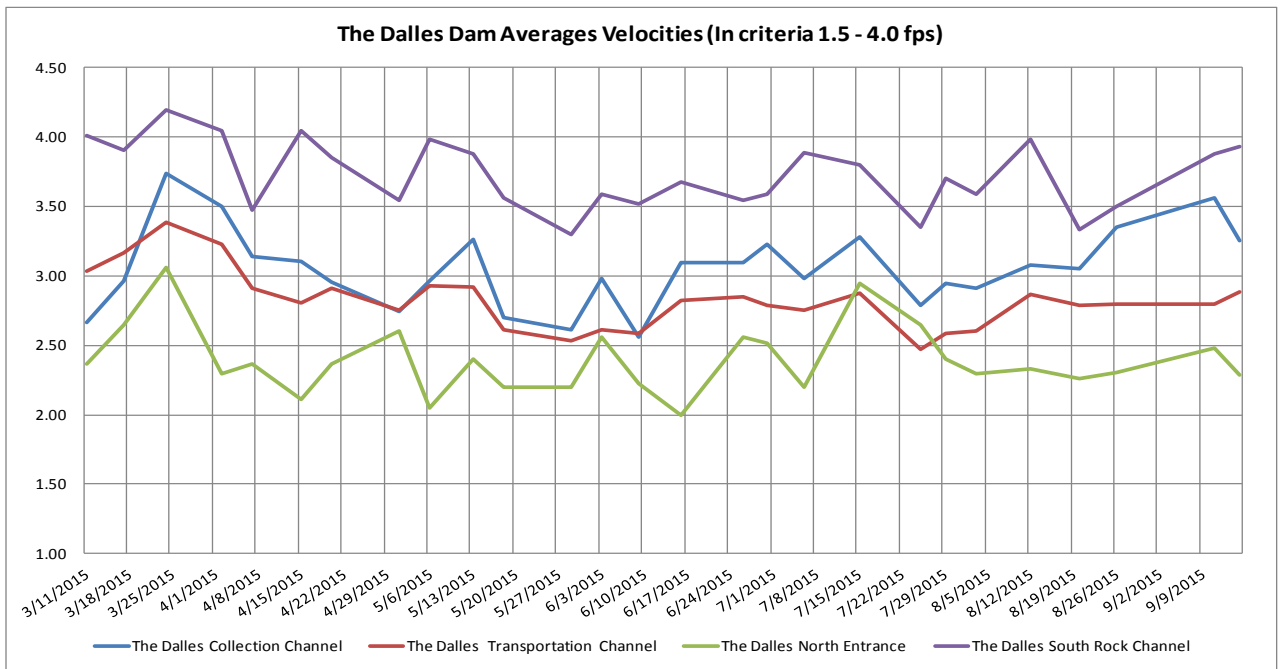
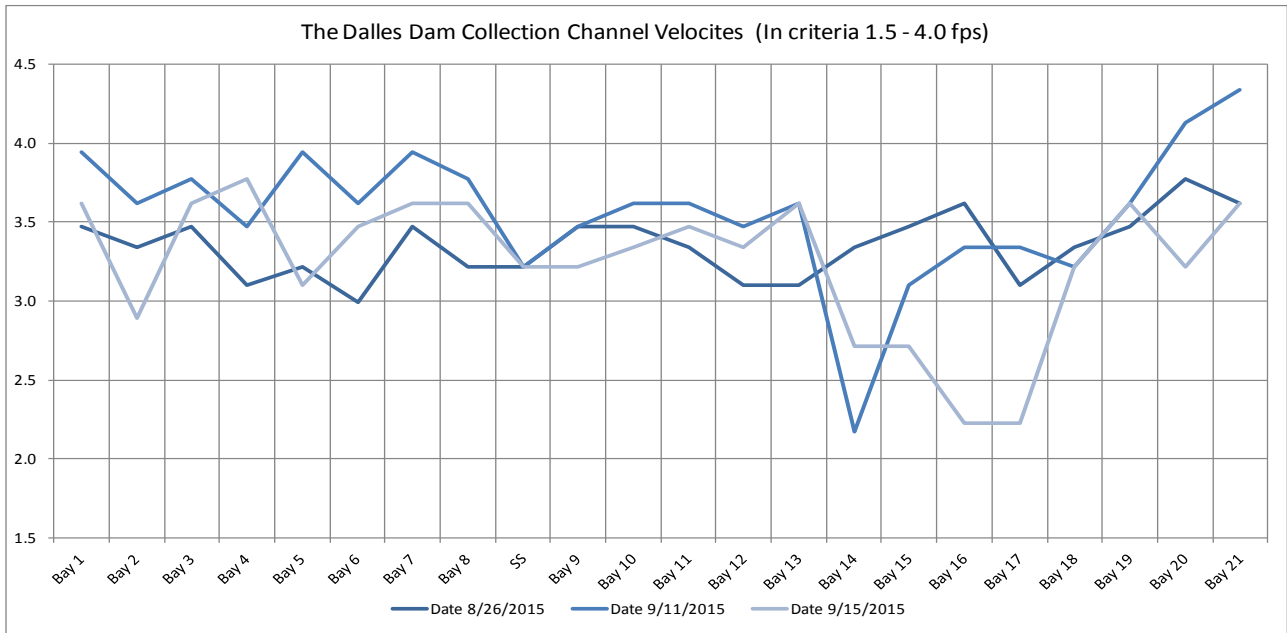
The Dalles East

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
9/13	23631	21634	1997	3602	2732	870	993	943	50	6	0	6	34
9/14	22008	19393	2615	5224	3516	1708	589	548	41	16	0	1	13
9/15	22372	17904	4468	5585	4061	1524	783	688	95	5	0	5	6
9/16	18404	16398	2006	4191	3046	1145	700	628	72	0	0	0	12
9/17	20278	17074	3204	3401	2434	967	694	614	80	5	0	2	10
9/18	13141	11808	1333	2368	1774	594	500	454	46	4	0	0	5
9/19	18279	15086	3193	3866	2881	985	688	666	22	5	0	0	6
total	138113	119297	18816	28237	20444	7793	4947	4541	406	41	0	14	86
Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
% North Passage	4.3	4.5	2.6	6.0	5.7	6.8	7.0	6.9	7.9	6.8	0.0	6.7	21.8

The Dalles North

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
9/13	2028	1882	146	358	251	107	126	113	13	1	0	1	6
9/14	1445	1338	107	544	377	167	107	101	6	0	0	0	5
9/15	620	566	54	342	227	115	38	36	2	0	0	0	1
9/16	220	194	26	125	84	41	29	25	4	2	0	0	4
9/17	686	624	62	180	134	46	24	23	1	0	0	0	2
9/18	416	367	49	123	74	49	21	20	1	0	0	0	4
9/19	719	670	49	138	96	42	28	20	8	0	0	0	2
total	6134	5641	493	1810	1243	567	373	338	35	3	0	1	24

<http://www.nwp.usace.army.mil/Missions/Environment/Fish/Counts.aspx>



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

°F

— East Fish Ladder — North Fish Ladder ▲ USGS Daily Average



USGS: [://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201509.lcol](http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201509.lcol)

Secchi:		Temperatures
5.0	Sun	68.2
5.0	Mon	67.3
5.0	Tue	66.0
5.0	Wed	65.9
5.0	Thurs	66.4
5.0	Fri	66.5
5.0	Sat	66.4
5.0	AVG	66.7

**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
9/13			1.4	3.1	12.6	12.6	12.6	1.5	11.3	11.3	closed	1.5	8.5	8.5	
	1.4	9.3	1.4	3.0	12.5	12.5	12.5	1.5	11.2	11.2		1.5	8.5	8.5	
	1.4	9.4	1.5	3.0	12.3	12.3	12.3	1.5	11.2	11.2		1.5	8.5	8.5	
9/14			1.6	3.0	12.0	12.0	12.0	1.4	11.2	11.2		1.5	8.6	8.6	
	1.3	9.4	1.6	3.0	11.8	11.8	11.8	1.4	11.1	11.1		1.6	8.5	8.4	
	1.4	9.4	1.5	5.1	12.1	12.1	12.1	1.5	10.7	10.7		1.5	8.4	8.5	
9/15			1.4	4.2	12.1	12.1	12.1	1.4	11.0	11.0		1.6	8.5	8.5	
	1.3	9.5	1.5	4.1	11.9	11.9	11.9	1.5	10.9	10.9		1.5	8.5	8.5	
	1.4	9.3	1.6	4.1	11.8	11.8	11.8	1.4	11.0	11.0		1.5	8.6	8.6	
9/16			1.5	4.1	12.2	12.2	12.2	1.6	10.9	10.9		1.4	8.7	8.7	
	1.3	9.5	1.5	5.1	12.1	12.1	12.1	1.6	10.8	10.8		1.5	8.5	8.5	
	1.4	9.4	1.6	5.1	11.9	11.9	11.9	1.5	10.9	10.9		1.4	8.6	8.6	
9/17			1.6	5.0	11.5	11.5	11.5	1.3	10.9	10.9		1.5	8.5	8.5	
	1.3	9.3	1.6	5.4	11.5	11.5	11.5	1.6	10.3	10.3		1.6	8.5	8.5	
	1.4	9.4	1.6	5.6	11.5	11.5	11.5	1.6	10.0	10.0		1.5	8.4	8.4	
9/18			1.5	5.4	11.7	11.7	11.7	1.7	9.9	9.9	1.5	8.5	8.5		
	1.4	9.5	1.5	5.0	11.8	11.8	11.8	1.5	10.5	10.5	1.5	8.6	8.6		
	1.4	9.4	1.5	4.5	12.0	12.0	12.0	1.5	10.6	10.6	1.5	8.5	8.5		
9/19			1.6	5.3	11.6	11.6	11.6	1.5	10.4	10.4	1.6	8.4	8.4		
	1.4	9.3	1.4	4.5	11.9	11.9	11.9	1.6	9.5	9.5	1.5	8.4	8.4		
	1.4	9.3	1.5	4.1	11.9	11.9	11.9	1.5	10.8	10.8	1.5	8.6	8.6		
AVG:	1.4	9.4	1.5	No criteria	11.9	11.9	11.9	1.5	10.7	10.7	closed	1.5	8.5	8.5	

Fishways are inspected twice daily plus one SCADA inspection.