

The Dalles Dam Fishway Status Report

10/10/2015

Inspection Period: 10/4/2015 - 10/10/2015

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

The Dalles Dam	Inspections Out of Criteria	Criteria Limit	Total Number of Inspections: 21		Temperature: 65.4	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	3.1		
Transportation channel velocity	0	1.5 - 4 fps	Average	2.6		
North channel velocity	0	1.5 - 4 fps	Average	2.7		
South channel velocity	0	1.5 - 4 fps	Average	3.6		
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', w/ky	Range: 0.1 - 0.6'			
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 sea lion sightings.

USDA hazing contract proposed changes for 2016; boat hazing 5 day / week through May and part of June, depending on available funding.

Operations:

Turbine trashrack drawdown completed 10/9/15. Forebay/gatewell differential in criteria.

Fishway calibration completed 10/8/15, East entrance tailwater was off and corrected by electrical personnel.

Investigating operational changes needed for potential large oil spill in Columbia. Fishway protection measures to be evaluated. Plan to be presented to FPOM when complete. Permanent boom purchased for east fishway exit (FPOM approved). Working through installation challenges.

Current Outages:

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

Maintenance:

Failed tarp to be removed from ice and trash sluiceway. The end gate will be closed for 30 mins., coordinated through FPOM.

Three failed collection channel dewatering pumps repair continues.

Entrance/Exit weir sensor and PLC replacement being investigated.

FCQ7 electrical panel for east exit upgrade funding in place awaiting contracting approval. Installation planned for next 2 outage seasons.

Doing inventory assessment on fish unit spare parts.

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.

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 this winter likely delayed a year. Will adjust winter fishway dewater schedule to fit in water work period.

Crane rail replacement on tailrace and intake 2016-2017. First week august rail removal near east exit being coordinated through FPOM.

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

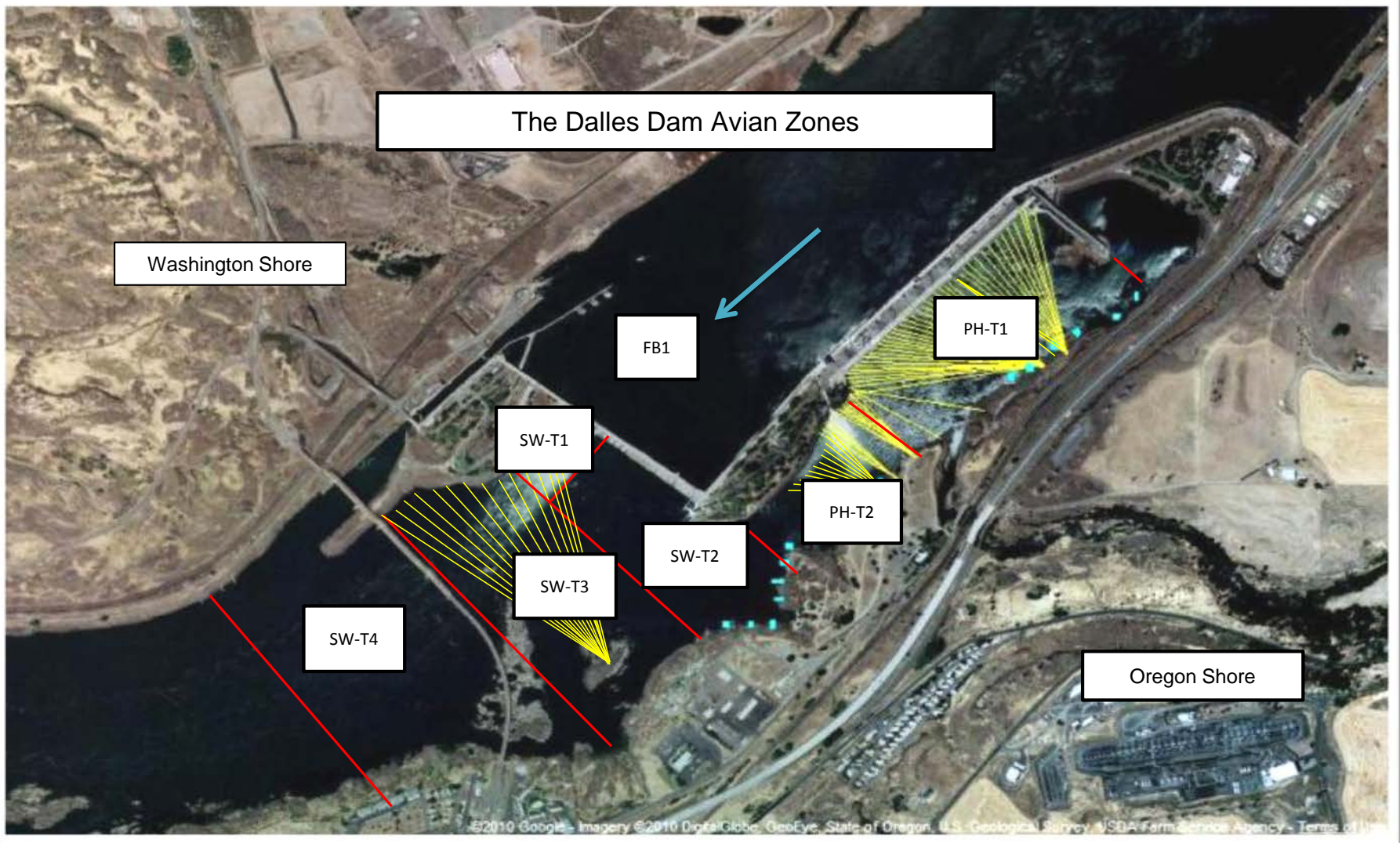
North spill attraction flow continues to be reviewed through FPOM. Threshold for daily passage amount to use spill remains unresolved.

Research/Contractors:

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.

2015 Piscivorous Bird

F=foraging, NF=non-foraging

Date	Observer	Time (24 hr)	Zone	Gull		Cormorant		Caspian tern	
				F	NF	F	NF	F	NF
10/4/15	JWR	8:53	FB	0	0	0	97	0	0
		8:03	PH1	0	0	0	5	0	0
		8:09	PH2	0	0	0	0	0	0
		8:56	SW1	0	0	1	0	0	0
		8:14	SW2	0	0	0	0	0	0
		8:15	SW3	0	0	0	29	0	0
		8:16	SW4	0	47	0	0	0	0
10/5/15	GJF	1350	FB	0	0	0	10	0	0
		1315	PH1	0	0	2	5	0	0
		1320	PH2	0	0	0	0	0	0
		1345	SW1	0	0	0	0	0	0
		1325	SW2	0	0	1	0	0	0
		1326	SW3	0	0	7	39	0	0
		1327	SW4	0	28	3	9	0	0
10/6/15	GJF	930	FB	0	0	0	77	0	0
		850	PH1	0	0	3	4	0	0
		905	PH2	0	0	0	0	0	0
		935	SW1	0	0	0	0	0	0
		910	SW2	0	0	0	0	0	0
		911	SW3	0	0	0	17	0	0
		912	SW4	0	48	0	4	0	0
10/7/15	GJF	1409	FB	0	0	0	5	0	0
		1341	PH1	0	0	1	23	0	0
		1455	PH2	0	0	0	0	0	0
		1435	SW1	0	0	3	0	0	0
		1450	SW2	0	0	2	2	0	0
		1438	SW3	0	0	1	22	0	0
		1439	SW4	0	40	3	18	0	0
10/8/15	GJF	944	FB	0	0	3	72	0	0
		850	PH1	0	1	2	5	0	0
		900	PH2	0	0	0	0	0	0
		1000	SW1	0	0	1	0	0	0
		905	SW2	0	0	3	0	0	0
		906	SW3	0	1	2	22	0	0
		908	SW4	0	32	3	7	0	0
10/9/15	EHK	15:15	FB	0	0	0	19	0	0
		14:41	PH1	0	0	0	37	0	0
		14:52	PH2	0	0	0	0	0	0
		15:24	SW1	0	0	0	0	0	0
		14:58	SW2	0	2	0	0	0	0
		1500	SW3	0	0	0	31	0	0
		15:18	SW4	0	71	0	36	0	0
10/10/15	EHK	9:58	FB	0	0	0	56	0	0
		9:07	PH1	0	0	0	5	0	0
		9:17	PH2	5	0	0	0	0	0
		10:12	SW1	0	0	0	0	0	0
		9:21	SW2	5	0	0	1	0	0
		9:22	SW3	0	0	0	37	0	0
		9:23	SW4	0	35	0	0	0	0

The Dalles East

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho
4-Oct-15	5485	4842	643	2129	1348	781	144	138
5-Oct-15	8091	7235	856	1470	980	490	227	203
6-Oct-15	7985	7073	912	1521	1039	482	285	263
7-Oct-15	7206	6113	1093	1368	976	392	325	307
8-Oct-15	5078	4600	478	988	686	302	212	196
9-Oct-15	4193	3304	889	1063	745	318	67	47
10-Oct-15	6072	5027	1045	1391	919	472	90	82
total	44110	38194	5916	9930	6693	3237	1350	1236
% North passage	2.45%	2.44%	2.50%	4.43%	4.63%	4.00%	3.64%	3.36%

The Dalles North

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho
4-Oct-15	158	136	22	74	50	24	8	7
5-Oct-15	37	26	11	43	31	12	2	1
6-Oct-15	58	50	8	36	24	12	5	4
7-Oct-15	50	37	13	39	32	7	3	2
8-Oct-15	104	96	8	57	44	13	7	7
9-Oct-15	353	295	58	97	68	29	18	18
10-Oct-15	348	316	32	114	76	38	8	4
total	1108	956	152	460	325	135	51	43

Jack Coho	Sockeye	Chum	Pink	Lamprey
6	1	0	2	2
24	0	0	0	1
22	0	0	0	4
18	0	0	1	2
16	0	0	0	5
20	4	0	0	4
8	4	0	0	0
114	9	0	3	18
6.56%	18.18%	NA	-50.00%	40.00%

Jack Coho	Sockeye	Chum	Pink	Lamprey
1	1	0	0	1
1	0	0	0	0
1	0	0	0	4
1	0	0	-1	5
0	0	0	0	1
0	1	0	0	1
4	0	0	0	0
8	2	0	-1	12

USGS: <http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201509.lcol.h>

Secchi:		Temperatures
	Sun	65.5
	Mon	65.2
	Tue	65.3
	Wed	65.6
	Thurs	65.8
5.0	Fri	65.6
5.0	Sat	65.0
5.0	AVG	65.4

<http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201510.lcol.h>

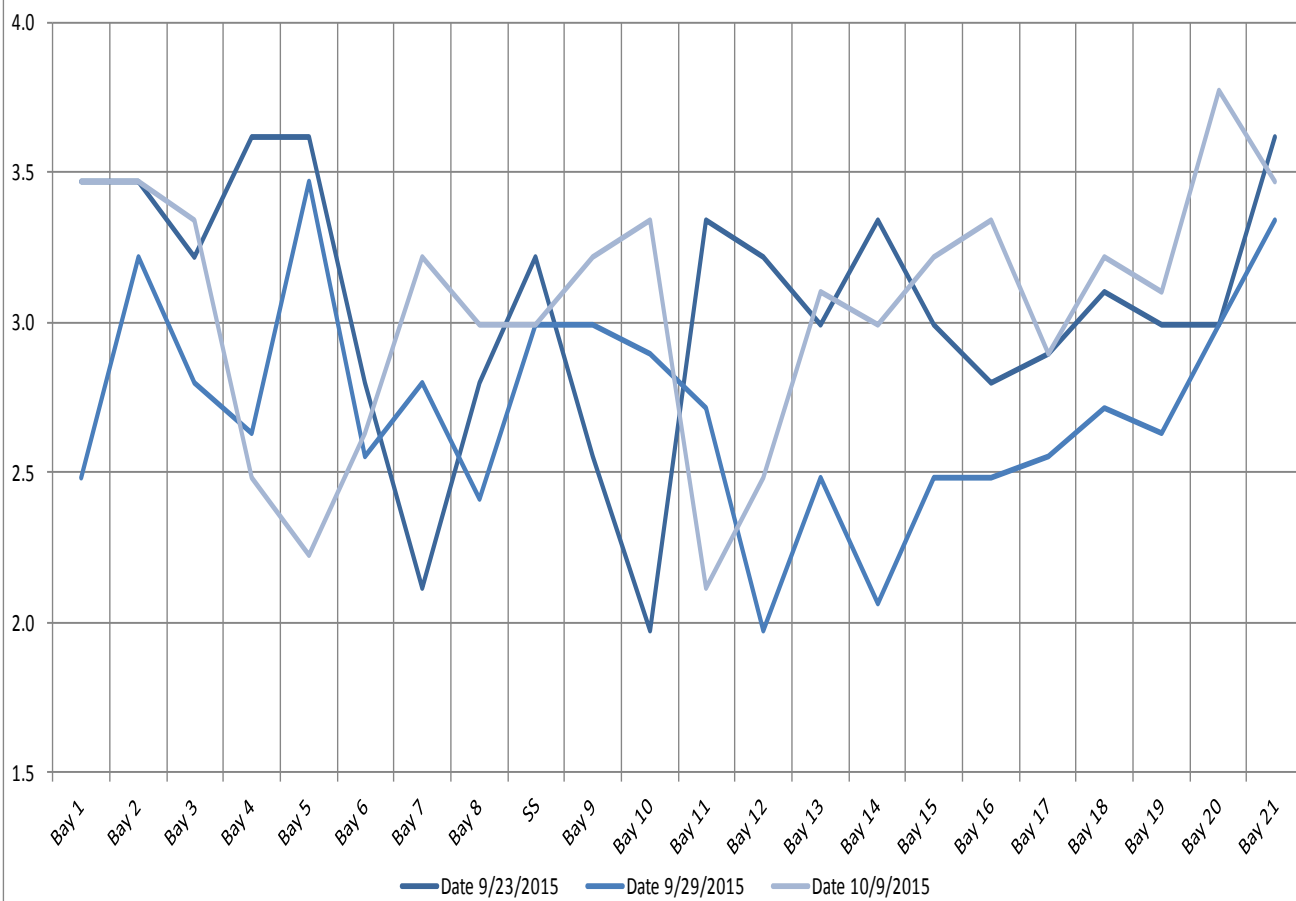
**The Dalles Dam Daily Readings and Averages for
Temperatures, Secchi, Entrances, and Spill**

= Out of criteria

Date:	North Ladder		East Ladder					West Entrance			South Entrance			SPILL ON SEAL	
	Differential	N1 Depth	Differential	E1 Depth	E2 Depth	E3 Depth	JP 6	Differential	W1 Depth	W2 Depth	W3 Depth	Differential	S1 Depth		S2 Depth
10/4			1.6	5.4	11.3	12.7		1.5	10.4	10.4		1.5	8.4	8.3	
	1.4	9.4	1.6	5.5	11.4	12.8	11.4	1.5	10.5	10.5		1.5	8.3	8.3	
10/5			1.7	4.9	10.8	12.2		1.5	10.4	10.4		1.6	8.3	8.3	
	1.3	9.3	1.8	4.8	10.7	12.1	10.7	1.5	10.5	10.6		1.5	8.3	8.3	
	1.3	9.3	1.5	7.4	11.2	12.6	10.7	1.5	10.5	10.5		1.5	8.4	8.4	
10/6			1.6	7.7	11.2	12.6		1.5	10.6	10.6		1.5	8.3	8.2	
	1.3	9.3	1.5	5.0	11.3	12.7	11.3	1.5	10.5	10.5		1.5	8.3	8.3	
	1.3	9.3	1.5	5.1	11.6	13.0	11.6	1.5	10.5	10.6		1.5	8.4	8.4	
10/7			1.6	5.0	11.6	13.0		1.6	10.6	10.6		1.5	8.4	8.4	
	1.3	9.3	1.6	7.6	11.3	12.7	11.3	1.5	10.5	10.5		1.5	8.2	8.2	
	1.3	9.3	1.5	7.5	11.6	13.0	11.6	1.5	10.5	10.4		1.5	8.3	8.3	
10/8			1.5	7.5	11.3	12.7		1.5	10.6	10.6		1.4	8.5	8.5	
	1.3	9.3	1.5	7.6	11.2	12.6	11.2	1.5	10.5	10.5		1.5	8.3	8.3	
	1.3	9.3	1.4	7.5	11.1	12.5	11.1	1.5	10.5	10.4		1.5	8.3	8.4	
10/9			1.7	7.4	10.7	12.1		1.4	10.4	10.4		1.4	8.4	8.4	
	1.3	9.4	1.6	7.5	10.8	12.2	10.8	1.4	10.5	10.5		1.5	8.3	8.4	
	1.4	9.4	1.5	7.5	11.0	12.4	11.0	1.5	10.5	10.5		1.4	8.4	8.3	
10/10			1.5	7.5	10.7	12.1		1.5	10.5	10.5		1.5	8.4	8.3	
	1.3	9.3	1.6	7.5	10.7	12.1	10.7	1.4	10.5	10.5		1.4	8.3	8.4	
	1.3	9.4	1.5	7.6	11.0	12.4	11.0	1.4	10.6	10.6		1.4	8.4	8.4	
AVG:	1.3	9.3	1.6	6.7	11.1	12.5	11.1	1.5	10.5	10.5	closed	1.5	8.3	8.3	

Fishways are inspected twice daily plus one SCADA inspection.

The Dalles Dam Collection Channel Velocites (In criteria 1.5 - 4.0 fps)



The Dalles Dam Averages Velocities (In criteria 1.5 - 4.0 fps)

