

The Dalles Dam Fishway Status Report

9/26/2015

Inspection Period: 9/20/2015 - 9/26/2015

THE DALLES DAM



US Army Corps
of Engineers
Portland District

The Dalles Project-Fisheries
P.O. Box 564
The Dalles, OR 97058-9998
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: 66.2	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	2.9		
North channel velocity	0	1.5 - 4 fps	Average	2.4		
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: 0.1 - 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. No sea lion sightings.

Operations:

Turbine trashrack drawdown completed 9/25. Forebay/gatewell differential in criteria.

Fishway calibration completed 9/20, 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.

Current Outages:

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

MU19 out of service 8/3 to 9/17/2015 for overhaul and Turbine Integrity Testing

Maintenance:

Tarp installed on ice and trash sluiceway to reduce mist on roadway on 9/22.

Derelict Vertical Barrier Screen removal from gatewell of main unit 19 completed. ROV inspection planned during winter for remaining gatewells for more.

Three failed collection channel dewatering pumps repair near complete.

Entrance/Exit weir sensor and PLC replacement being investigated.

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

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 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 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. Approaching

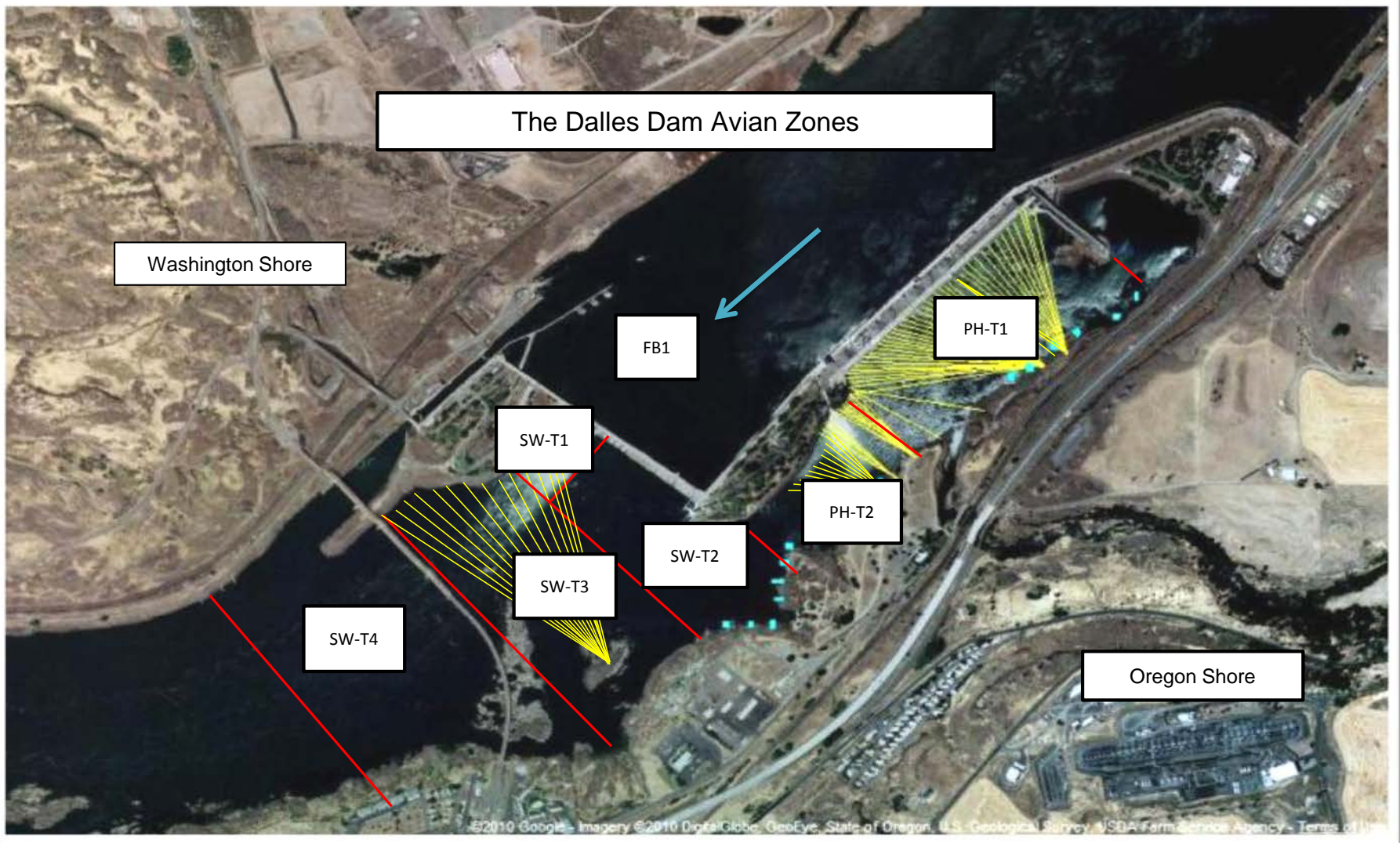
Research/Contractors:

Pikeminnow dam angling had low catch rates this week. Weekly total for NPM >230mm was 30 and 4,552 YTD.

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
9/20/15	JWR	9:44	FB	0	0	3	0	0	0
		9:16	PH1	0	0	0	0	0	0
		9:22	PH2	0	0	0	0	0	0
		9:47	SW1	0	0	0	0	0	0
		9:25	SW2	0	0	0	0	0	0
		9:26	SW3	0	0	0	0	0	0
		9:27	SW4	0	0	0	0	0	0
9/21/15	JWR	13:43	FB	0	0	1	6	0	0
		13:02	PH1	0	0	0	19	0	0
		13:07	PH2	0	0	0	0	0	0
		13:45	SW1	0	0	0	0	0	0
		13:12	SW2	0	0	0	0	0	0
		13:13	SW3	0	0	3	18	0	0
		13:14	SW4	0	2	0	2	0	0
9/22/15	JWR	10:13	FB	0	0	0	63	0	0
		9:18	PH1	0	1	2	2	0	0
		9:42	PH2	0	0	0	0	0	0
		10:16	SW1	0	0	0	0	0	0
		9:45	SW2	0	0	0	0	0	0
		9:46	SW3	0	0	0	31	0	0
		9:47	SW4	0	4	0	2	0	0
9/23/15	EHK	14:30	FB	0	0	0	4	0	0
		13:45	PH1	0	0	0	24	0	0
		14:25	PH2	0	0	0	0	0	0
		14:47	SW1	0	0	0	0	0	0
		13:56	SW2	6	0	0	0	0	0
		13:59	SW3	0	0	0	22	0	0
		14:29	SW4	0	17	0	14	0	0
9/24/15	JWR	8:27	FB	0	0	0	124	0	0
		8:48	PH1	0	1	1	4	0	0
		9:03	PH2	0	0	0	0	0	0
		8:20	SW1	0	0	0	0	0	0
		9:06	SW2	0	0	0	0	0	0
		8:30	SW3	0	0	0	19	0	0
		8:31	SW4	0	27	0	2	0	0
9/25/15	EHK	13:51	FB	0	0	0	10	0	0
		13:09	PH1	0	0	0	32	0	0
		13:16	PH2	2	0	0	0	0	0
		13:58	SW1	0	0	0	0	0	0
		13:22	SW2	0	0	0	2	0	0
		13:24	SW3	0	0	0	20	0	0
		13:48	SW4	0	5	0	11	0	0
9/26/15	EHK	10:44	FB	0	1	0	24	0	0
		9:20	PH1	0	0	0	14	0	0
		9:48	PH2	0	0	0	0	0	0
		10:51	SW1	0	2	0	0	0	0
		9:49	SW2	0	0	0	0	0	0
		9:50	SW3	0	0	0	38	0	0
		10:42	SW4	0	9	0	2	0	0

I Counts

ying

Grebe		Pelican		Other		Total birds in	Notes
F	NF	F	NF	F	NF		
0	0	0	0	0	0	3	
0	0	0	0	0	0	0	
0	0	0	0	0	0	0	
0	0	0	0	0	0	0	
0	0	0	0	0	0	0	
0	0	0	0	0	0	0	
0	0	0	0	0	0	0	
0	0	0	0	0	0	7	
0	0	0	0	0	0	19	
0	0	0	0	0	0	0	
0	0	0	0	0	0	0	
0	0	0	0	0	0	0	
0	0	0	0	0	0	21	
0	0	0	0	0	0	4	
0	0	0	0	0	0	63	COME
0	0	0	0	0	2	7	
0	0	0	0	0	0	0	
0	0	0	0	0	0	0	
0	0	0	0	0	0	0	
0	0	0	0	0	0	31	
0	0	0	0	0	0	6	
0	0	0	0	0	0	4	
0	0	0	0	0	0	24	
0	0	0	0	0	0	0	
0	0	0	0	0	0	0	
0	0	0	0	0	0	6	
0	0	0	0	0	0	22	
0	0	0	0	0	0	31	
0	0	0	0	0	0	124	
0	0	0	0	0	0	6	
0	0	0	0	0	0	0	
0	0	0	0	0	0	0	
0	0	0	0	0	0	0	
0	0	0	0	0	0	19	
0	0	0	0	0	0	29	
0	0	0	0	0	0	10	
0	0	0	0	0	0	32	
0	0	0	0	0	0	2	
0	0	0	0	0	0	0	
0	0	0	0	0	0	2	
0	0	0	0	0	0	20	
0	0	0	0	0	0	16	
0	0	0	0	0	0	25	merganser
0	0	0	0	0	9	23	
0	0	0	0	0	0	0	
0	0	0	0	0	0	2	
0	0	0	0	0	0	0	
0	0	0	0	0	0	38	
0	0	0	0	0	0	11	

The Dalles East

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho
9/20	17233	15068	2165	3011	2225	786	606	482	124
9/21	19427	17628	1799	3309	2462	847	545	532	13
9/22	17858	15042	2816	3184	2477	707	1013	856	157
9/23	16843	15462	1381	3199	2258	941	612	575	37
9/24	18151	15398	2753	2950	2070	880	726	634	92
9/25	11303	10145	1158	2343	1657	686	665	635	30
9/26	13350	10396	2954	2207	1603	604	1180	1038	142
total	165863	143107	22756	29838	21841	7997	7229	6486	743
% North passage	3.25%	3.40%	2.29%	5.08%	4.69%	6.13%	3.43%	3.32%	4.38%

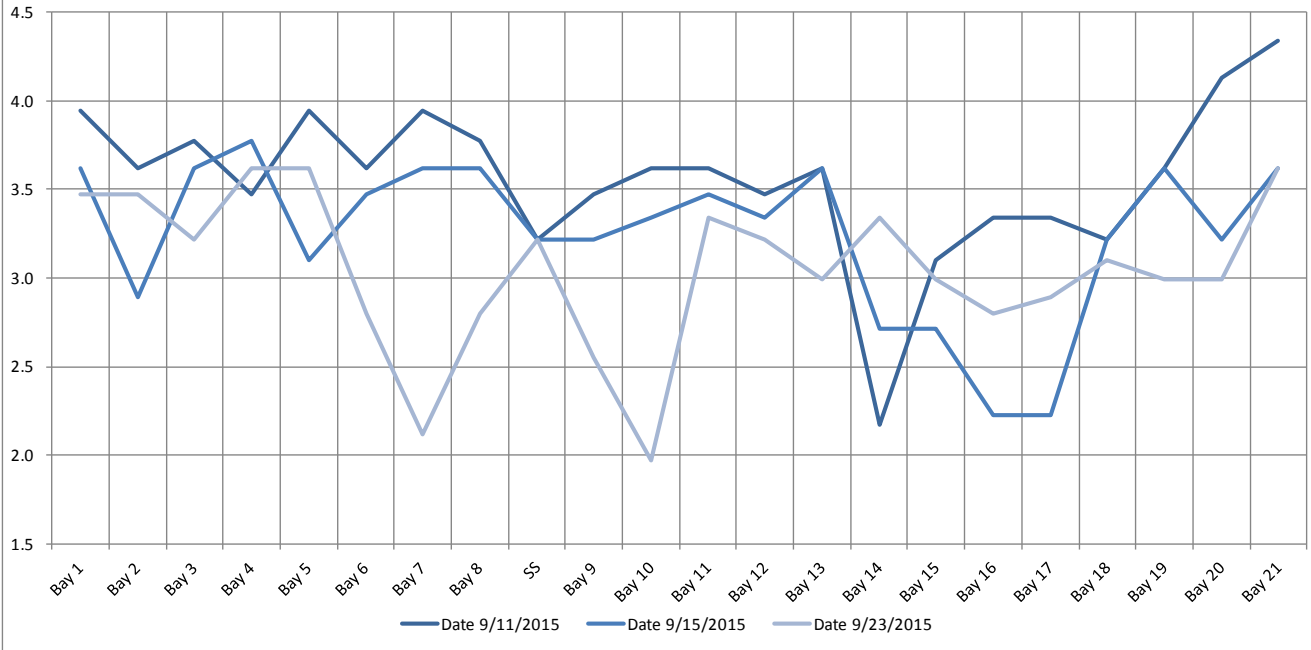
The Dalles North

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho
9/20	1662	1538	124	366	247	119	59	54	5
9/21	170	151	19	166	101	65	9	5	4
9/22	513	466	47	140	91	49	24	19	5
9/23	189	164	25	82	54	28	11	7	4
9/24	203	166	37	81	55	26	19	17	2
9/25	383	336	47	138	96	42	32	30	2
9/26	625	551	74	182	126	56	30	28	2
total	5566	5033	533	1596	1074	522	257	223	34

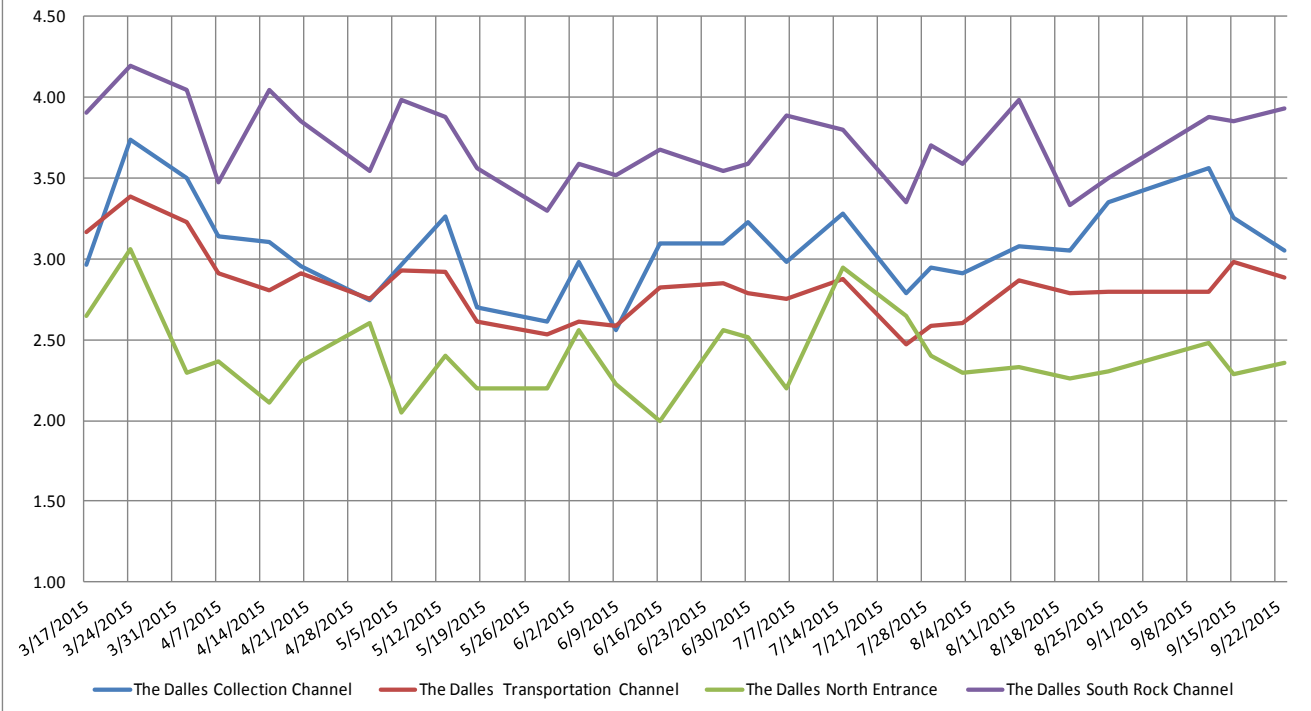
Sockeye	Chum	Pink	Lamprey
8	0	0	0
7	0	4	20
2	0	5	0
4	0	11	18
0	0	8	0
2	0	0	5
0	0	0	8
37	0	30	77
7.50%	NA	6.25%	28.04%

Sockeye	Chum	Pink	Lamprey
0	0	1	5
0	0	0	4
1	0	0	5
0	0	0	1
1	0	0	2
0	0	0	0
1	0	1	5
3	0	2	30

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



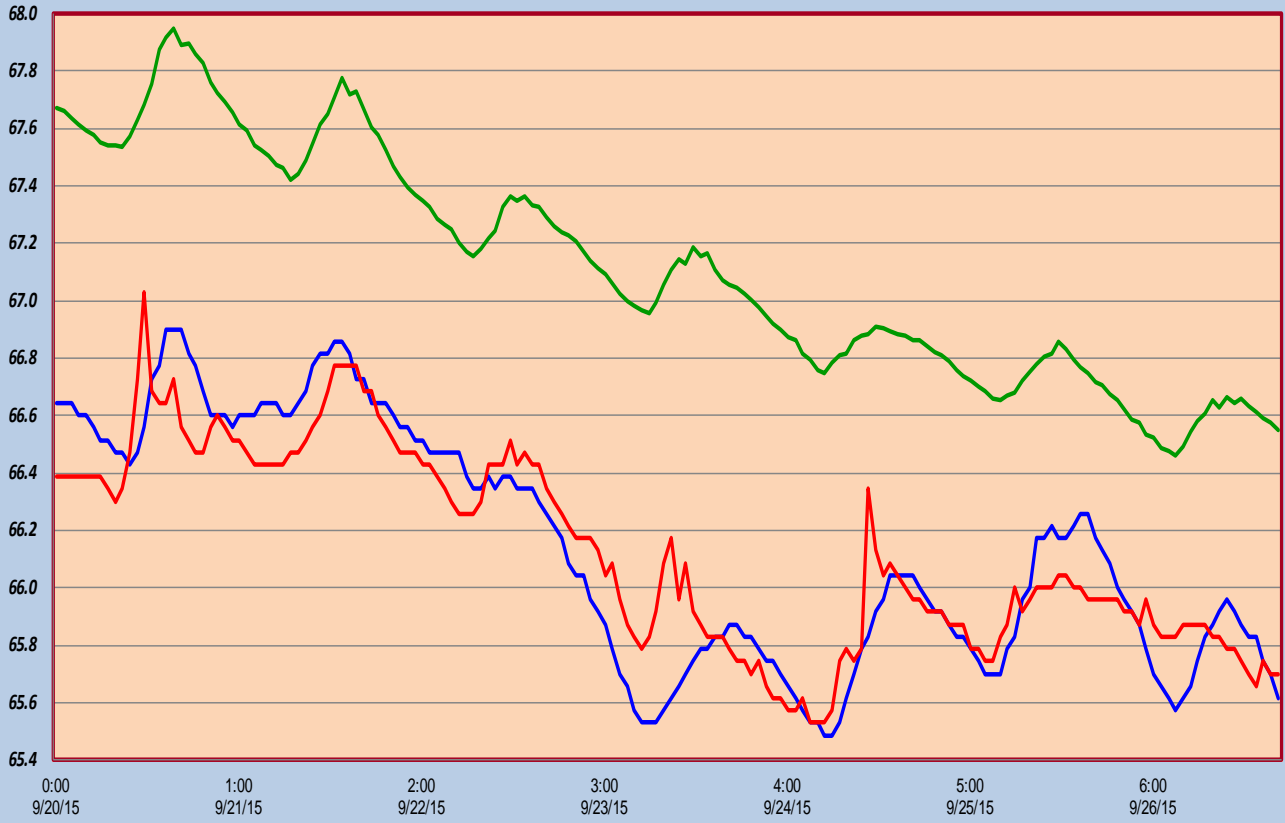
The Dalles Dam Averages Velocities (In criteria 1.5 - 4.0 fps)



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

°F

— East Fish Ladder — North Fish Ladder — TD Ladder Average (2007-2014)



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

Secchi:		Temperatures
5.0	Sun	66.6
5.0	Mon	66.7
5.0	Tue	66.4
5.0	Wed	65.9
5.0	Thurs	65.8
5.0	Fri	66.0
5.0	Sat	65.9
5.0	AVG	66.2

**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
9/20			1.7	4.1	11.3	11.3		1.4	10.8	10.8		1.5	8.5	8.5	
	1.3	9.4	1.7	5.4	11.3	11.3	11.3	1.5	10.4	10.4		1.5	8.5	8.5	
	1.3	9.4	1.5	5.6	11.3	11.3	11.3	1.5	10.3	10.3		1.5	8.5	8.5	
9/21			1.5	7.1	11.1	11.1		1.5	10.4	10.4		1.5	8.6	8.6	
	1.3	9.4	1.3	8.6	11.3	11.3	11.3	1.5	10.3	10.3		1.5	8.4	8.5	
	1.3	9.3	1.3	9.6	11.3	11.3	11.3	1.6	10.3	10.3		1.3	8.6	8.5	
9/22			1.5	8.4	10.5	10.5		1.4	10.3	10.3		1.4	8.5	8.5	
	1.4	9.3	1.1	10.1	11.7	11.7	11.7	1.6	10.2	10.2		1.4	8.5	8.5	
	1.3	9.4	1.2	10.1	11.1	11.1	11.1	1.3	10.4	10.4		1.5	8.5	8.4	
9/23			1.4	8.4	11.4	11.4		1.6	10.4	10.4		1.3	8.6	8.7	
	1.3	9.3	1.3	8.3	11.5	11.5	11.5	1.5	10.3	10.3		1.5	8.5	8.4	
	1.4	9.4	1.2	8.2	11.7	11.7	11.7	1.5	10.4	10.4		1.4	8.5	8.6	
9/24			1.2	8.2	11.7	11.7		1.6	10.1	10.1		1.5	8.6	8.5	
	1.4	9.4	1.4	8.1	11.6	11.6	11.6	1.6	10.2	10.2		1.5	8.5	8.6	
	1.3	9.4	1.1	6.2	12.0	12.0	12.0	1.6	10.3	10.3		1.5	8.5	8.5	
9/25			1.3	8.2	11.6	11.6		1.6	10.2	10.2		1.5	8.4	8.4	
	1.3	9.3	1.3	8.1	11.5	11.5	11.5	1.5	10.3	10.3		1.5	8.5	8.5	
	1.5	9.3	1.3	8.2	11.8	11.8	11.8	1.6	10.4	10.4		1.4	8.5	8.6	
9/26			1.3	8.2	11.5	11.5		1.5	10.2	10.2		1.4	8.6	8.5	
	1.4	9.3	1.3	7.8	12.0	12.4	11.1	1.4	10.3	10.3		1.4	8.5	8.6	
	1.4	9.3	1.5	8.0	12.0	12.6	11.3	1.5	10.3	10.3		1.4	8.5	8.6	
AVG:	1.4	9.4	1.4	No criteria	11.5	11.5	11.5	1.5	10.3	10.3	closed	1.4	8.5	8.5	

Fishways are inspected twice daily plus one SCADA inspection.