

The Dalles Dam Fishway Status Report

8/10/2015

Inspection Period: 8/2/2015 - 8/8/2015

THE DALLES DAM



US Army Corps
of Engineers
Portland District

The Dalles Project-Fisheries
P.O. Box 564
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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: 71.2 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	9.5	
Entrance weir N2	0	Closed	Bulkhead installed.		
PUD Intake differential	0	≤ 0.5'	TDS raked PUD intake.		
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	12.2	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	13.0	
Entrance weir E3	0	depth (≥ 8')	Average	13.2	
Collection channel velocity	0	1.5 - 4 fps	Average	2.9	
Transportation channel velocity	0	1.5 - 4 fps	Average	2.6	
North channel velocity	0	1.5 - 4 fps	Average	2.3	
South channel velocity	0	1.5 - 4 fps	Average	3.6	
West entrance differential	0	1.0' - 2.0'	Average	1.6	
Entrance weir W1	0	depth (≥ 8')	Average	10.6	
Entrance weir W2	0	depth (≥ 8')	Average	10.6	
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	8.2	
Entrance weir S2	0	depth (≥ 8')	Average	8.2	
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: 0.2'- 0.9'.		
Spill volume	0	40%+-1%	Average	40.0	
Spill Pattern	0	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 lions observations this week.
USDA hazing ended July 30. Evaluating effectiveness of periodic boat hazing use for next season planning.

Operations:

Turbine trashrack drawdown completed 8/2. The difference between forebay and gatewells in criteria.
Fishway calibration completed 8/10, all values within criteria

Current Outages:

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

Maintenance:

8/4 Main unit 8 out for T4 work 0700-1120. Within FPP 6 hour limit before sluiceway change needed.
Midseason ROV East fishway grating inspection completed 8/4 (0710-1250). All gratings intact
Midseason ROV North fishway grating inspection completed 8/4 (1330-1500). All gratings intact
8/5 Main unit 1-4 out in morning for CO2 work. Coordinated with FPOM.
8/5 Fished Main unit 19 scrollcase and draft tube on 8/6. Removed 51 sturgeon from draft tube and released to river
F1-F2 out of service night of 8/6 (2040 - 0515 hr) for CO2 system work
Three failed collection channel dewatering pump being repaired with end-of-year additions OM funds.
FCQ7 electrical panel for east exit upgrade funding in place and awaiting contracting approval. Installation next outage season pending funding.
Preparing workload for upcoming winter maintenance period; entrance weir wheel replace, entrance weir guide repair, exit sensor upgrades.
Long Term repair plans; Upgrade east exit weirs 154-157, 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 stopped.

Studies:

North fishladder rehab study for rock wall 60% DDR review. Construction dates to be determined. Alternatives for review by FPOM after DDR completion.
Fish count video at north count station recording / testing underway.
East fishladder backup system construction start this winter. No plan changes.
Crane rail replacement on tailrace and intake decks winter of 2016-2017. No plan changes.
Transformer replacement planning underway. Plans include elimination of TA transformers with fish unit tie through T1 with another tie for backup.

Research/Contractors:

Columbia River Northern Pikeminnow Management Program dam angling 8/2; NPM \geq 230mm 220, YTD NPM \geq 230mm 4,131.
ODFW collecting biological data from harvested pikeminnow.
Normandeau fish counters at east and north count stations 16 hr/day through 10/31.
PSMFC Wasco County PUD weekly sampling; finished for season.
Tribal lamprey trappers continue collecting lamprey daily from east count station;
Yakama Nation lamprey collections; YN reached their allocation # for TDA of 450. Umatilla at ~400 and Nez Perce approx half quota.
USGS total dissolved gas monitoring continues.

Approved by: Ron Twiner

Operation Project Manager The Dalles Dam

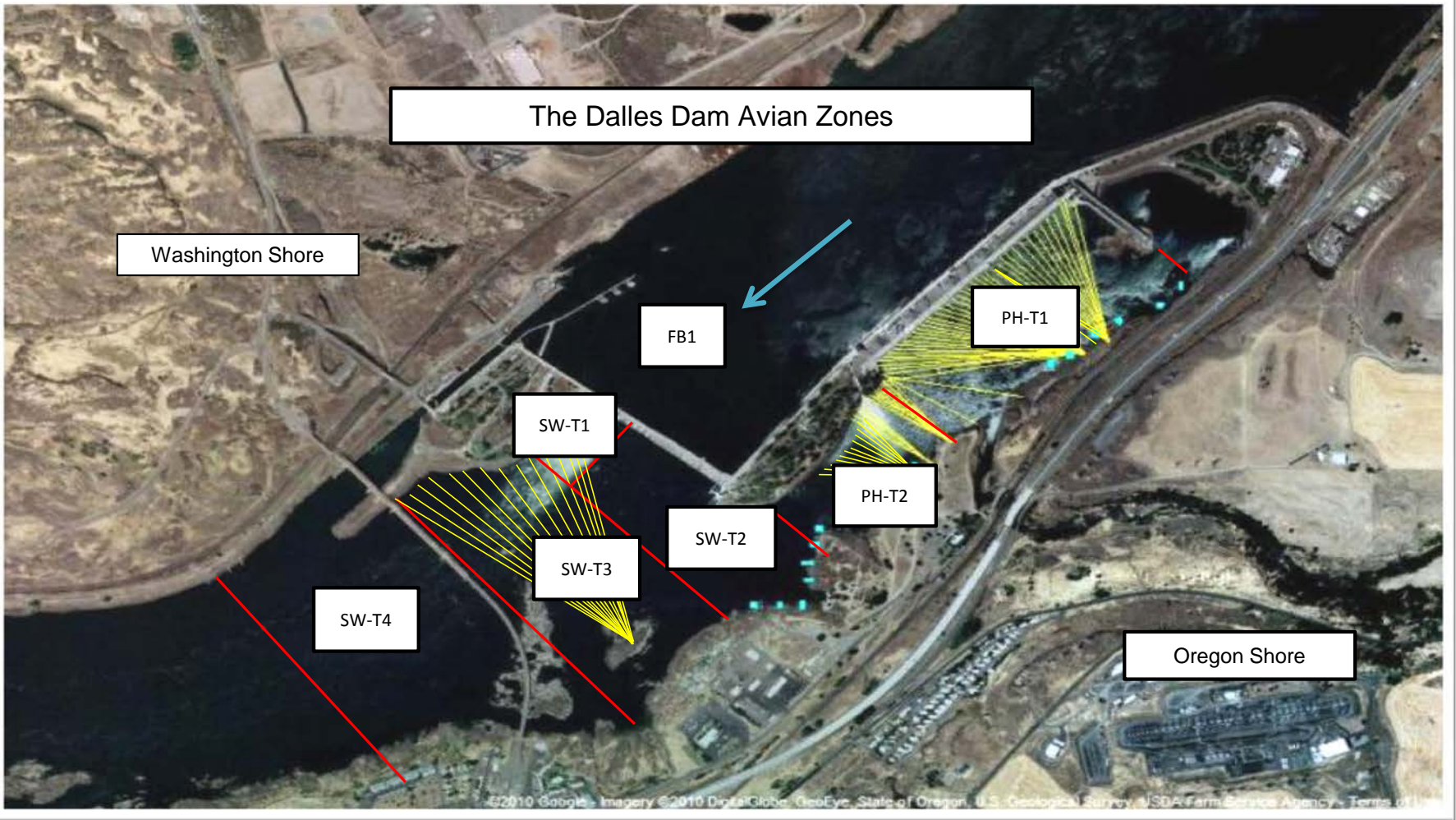
The Dalles East

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
8/2	736	664	72	1464	683	781	0	0	0	180	0	0	68
8/3	517	458	59	1029	530	499	1	1	0	107	0	0	29
8/4	371	318	53	688	358	330	0	0	0	41	0	1	35
8/5	503	433	70	1175	643	532	0	0	0	133	0	0	18
8/6	593	550	43	1037	562	475	1	1	0	128	0	0	58
8/7	706	646	60	1147	685	462	0	0	0	59	0	0	4
8/8	1048	941	107	1230	652	578	0	0	0	103	0	-2	68
total	4474	4010	464	7770	4113	3657	2	2	0	751	0	-1	280
% North	21.1	21.4	18.3	32.6	31.2	34.2	71.4	71.4	0.0	40.6	0.0	0.0	53.4

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
8/2	166	149	17	599	252	347	0	0	0	100	0	0	38
8/3	84	72	12	675	305	370	0	0	0	64	0	0	44
8/4	178	156	22	495	236	259	0	0	0	71	0	0	19
8/5	164	151	13	559	301	258	0	0	0	94	0	0	29
8/6	159	145	14	560	289	271	0	0	0	107	0	0	32
8/7	236	222	14	523	270	253	5	5	0	53	0	0	143
8/8	210	198	12	353	211	142	0	0	0	24	0	0	16
total	1197	1093	104	3764	1864	1900	5	5	0	513	0	0	321

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



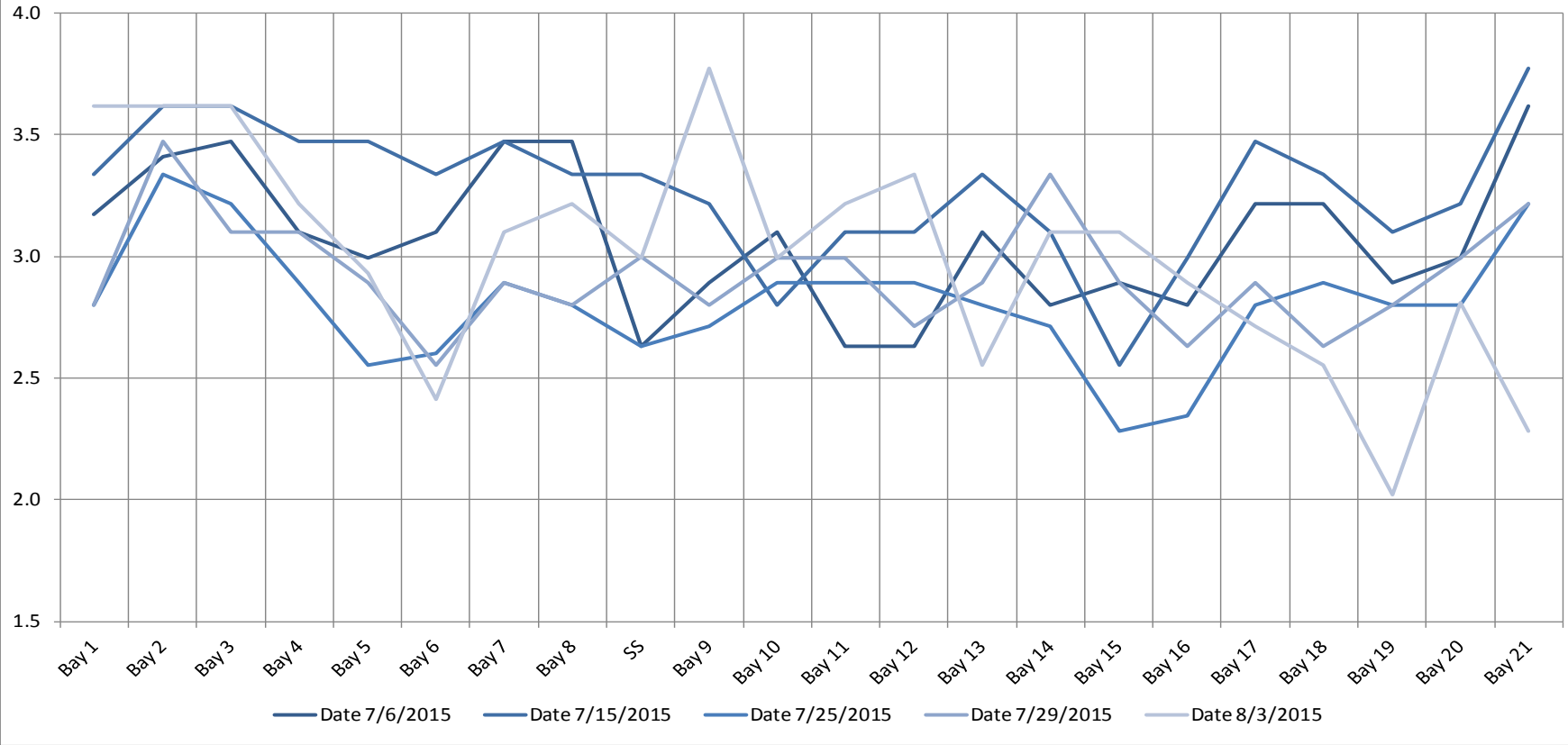
Avian lines in yellow, zones in red, river flow in blue.

2015 Piscivorous Bird Counts

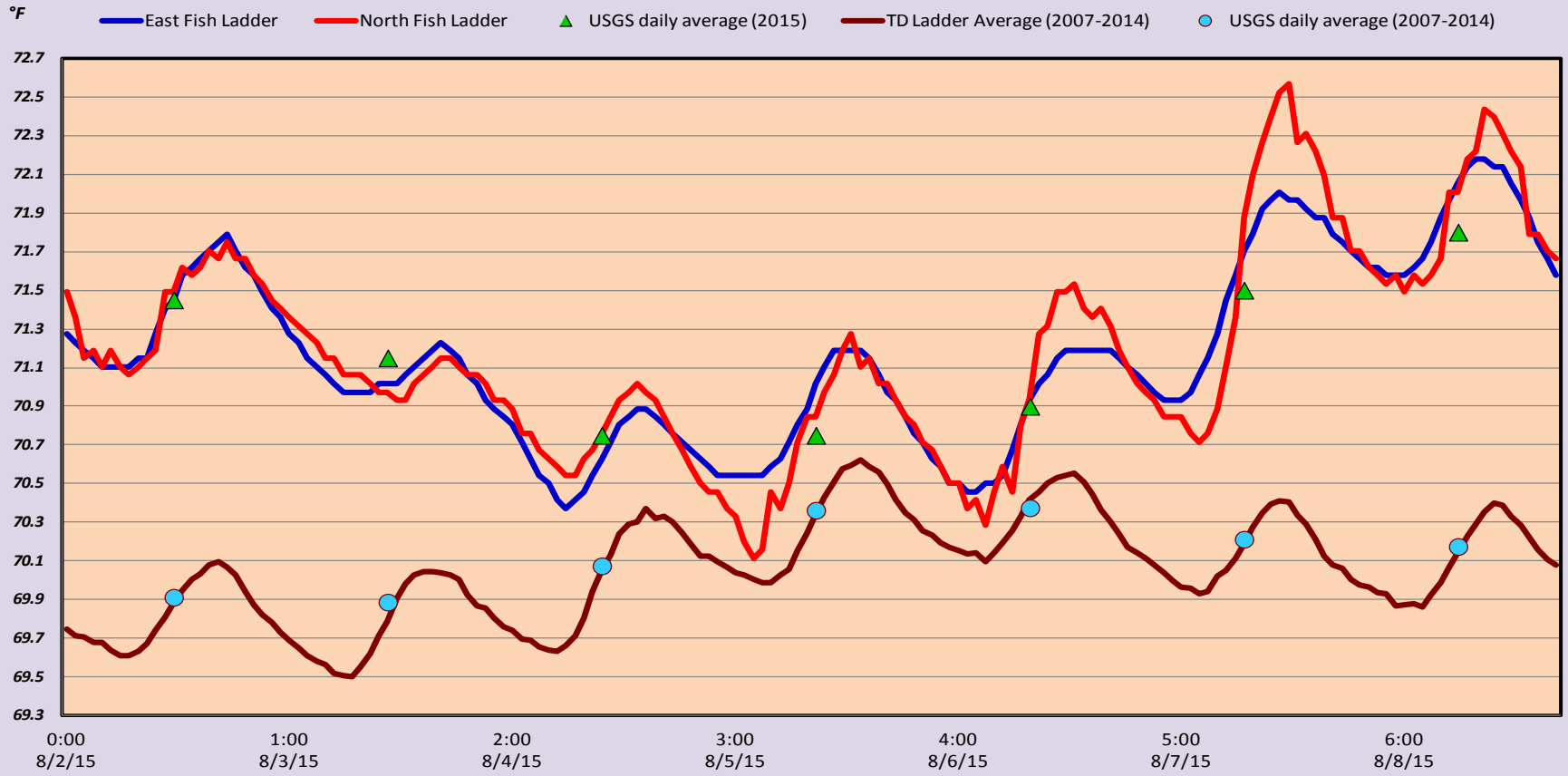
F=foraging, NF=non-foraging

Date	Observer	Time (24 hr)	Zone	Gull		Cormorant		Caspian tern		Grebe		Pelican		Other		Total birds in	Notes	
				F	NF	F	NF	F	NF	F	NF	F	NF	F	NF			
8/2/15	EHK	13:02	FB	0	2	0	14	0	0	0	0	0	0	0	3	19	osprey	
		12:42	PH1	0	1	0	0	0	0	0	0	0	0	0	0	0		1
		12:48	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0		0
		13:10	SW1	5	26	0	0	0	0	0	0	0	0	0	0	0		31
		12:50	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0		0
		13:23	SW3	32	20	0	6	0	0	0	0	0	0	0	0	0		58
		13:25	SW4	37	33	0	0	0	0	0	0	0	0	0	0	70		
8/3/15	EHK	8:58	FB	0	0	0	48	0	0	0	0	0	0	0	0	48	Great Blue Heron	
		8:15	PH1	0	0	0	0	0	0	0	0	0	0	0	0	0		
		8:31	PH2	1	0	0	0	0	0	0	0	0	0	0	0	1		
		9:15	SW1	40	14	0	0	0	0	0	0	0	0	0	0	54		
		8:34	SW2	0	0	0	0	0	0	0	0	0	0	0	1	1		
		9:30	SW3	6	0	0	0	0	0	0	0	0	0	0	0	6		
		9:32	SW4	13	0	0	0	0	0	0	4	0	0	0	17			
8/4/15	PSK	14:58	FB	0	0	0	10	0	0	0	0	0	0	0	0	10		
		14:34	PH1	0	0	0	2	0	0	0	0	0	0	0	0	2		
		14:46	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0		
		15:10	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0		
		14:51	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0		
		15:18	SW3	11	4	0	0	0	0	0	0	0	0	0	0	15		
		15:22	SW4	82	0	0	7	0	0	0	0	0	0	0	89			
8/5/15	JWR	9:33	FB	2	0	1	55	0	0	0	0	0	0	0	0	58		
		8:54	PH1	0	0	0	0	0	0	0	0	0	0	0	0	0		
		8:58	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0		
		9:40	SW1	0	65	0	0	0	0	0	0	0	0	0	0	65		
		9:06	SW2	2	0	1	0	0	0	0	0	0	0	0	0	3		
		9:06	SW3	31	0	0	0	0	0	0	0	0	0	0	0	31		
		9:08	SW4	6	0	0	0	0	0	0	11	0	0	0	17			
8/6/15	PSK	14:27	FB	0	1	0	16	0	0	0	0	0	0	0	0	17		
		13:30	PH1	0	0	0	4	0	0	0	0	0	0	0	0	4		
		13:36	PH2	0	10	0	0	0	0	0	0	0	0	0	0	10		
		14:43	SW1	14	57	0	0	0	0	0	0	0	0	0	0	71		
		13:44	SW2	0	13	1	0	0	0	0	0	0	0	0	0	14		
		14:56	SW3	3	6	0	7	0	0	0	0	0	0	0	0	16		
		14:58	SW4	15	0	0	0	0	0	0	0	14	0	0	29			
8/7/15	JWR	9:53	FB	2	0	1	69	0	0	0	0	0	0	0	0	72		
		9:18	PH1	0	0	0	0	0	0	0	0	0	0	0	0	0		
		9:24	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0		
		9:57	SW1	24	54	0	0	0	0	0	0	0	0	0	0	78		
		9:31	SW2	1	0	1	0	0	0	0	0	0	0	0	0	2		
		9:32	SW3	36	0	0	0	0	0	0	0	0	0	0	0	36		
		9:34	SW4	13	0	0	0	0	0	0	11	8	0	0	32			
8/8/15	JWR	13:22	FB	0	0	2	34	0	0	0	0	0	0	0	0	36		
		12:54	PH1	0	0	0	0	0	0	0	0	0	0	0	0	0		
		13:00	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0		
		13:25	SW1	30	76	0	0	0	0	0	0	0	0	0	0	106		
		13:03	SW2	0	0	1	0	0	0	0	0	0	0	0	0	1		
		13:04	SW3	29	0	0	0	0	0	0	0	0	0	0	0	29		
		13:05	SW4	57	0	0	0	0	0	0	7	2	0	0	66			

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



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





JUNCTION POOL GRATING



SOUTH ENTRANCE

USGS:	http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201508.lcol.html	
Temperatures		Secchi:
71.5	Sun	5.0
71.2	Mon	5.0
70.8	Tue	5.0
70.8	Wed	5.0
70.9	Thurs	5.0
71.5	Fri	5.0
71.8	Sat	5.0
AVG: 71.2	AVG	5.0

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

= Out of criteria

North Ladder			East Ladder												
North Entrance			East Entrance					West Entrance			South Entrance			% Spill	
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
8/2			1.3	7.4	13.0	13.0	12.0	1.6	10.4	10.4	closed	1.4	8.2	8.1	39.8
	1.4	9.4	1.4	7.3	12.9	12.9	11.9	1.6	10.4	10.4		1.4	8.1	8.2	
	1.4	9.3	1.5	7.2	12.8	12.8	11.8	1.6	10.3	10.3		1.5	8.2	8.1	
8/3			1.6	7.3	11.9	11.9	10.9	1.5	10.2	10.2		1.4	8.3	8.2	40.0
	1.4	9.3	1.7	6.0	12.2	12.1	11.1	1.6	10.2	10.2		1.4	8.4	8.3	
	1.4	9.3	1.3	8.4	12.3	12.2	11.2	1.5	10.3	10.2		1.5	8.1	8.2	
8/4			1.4	8.5	12.3	12.3	11.3	1.5	10.4	10.4		1.5	8.1	8.1	39.9
	1.2	9.4	ROV'd East									Fishway			
	1.2	9.6	1.5	7.1	12.7	11.7	11.7	1.7	10.0	10.0		1.5	8.5	8.5	
8/5			1.5	6.0	13.2	13.2	12.2	1.7	10.0	10.0		1.5	8.2	8.2	40.1
	1.4	9.6	1.4	6.1	13.8	13.8	12.8	1.6	10.4	10.6		1.4	8.3	8.3	
	1.3	9.5	1.4	6.0	13.1	13.1	12.1	1.5	10.4	10.4		1.5	8.2	8.2	
8/6			1.5	6.0	12.9	12.9	11.9	1.5	10.5	10.5		1.5	8.2	8.2	40.0
	1.4	9.5	1.5	5.4	13.2	13.2	12.2	1.5	11.0	11.0		1.5	8.2	8.2	
	1.4	9.5	1.5	5.3	13.3	13.3	12.3	1.5	11.0	11.1		1.4	8.2	8.3	
8/7			1.2	5.6	14.1	14.1	12.9	1.5	11.0	11.0	1.4	8.3	8.3	40.2	
	1.4	9.5	1.5	1.5	13.1	14.2	13.1	1.5	11.0	11.0	1.5	8.2	8.2		
	1.4	9.6	1.5	1.9	13.5	14.6	13.5	1.6	11.0	11.1	1.5	8.2	8.2		
8/8			1.6	1.3	13.0	14.1	12.9	1.6	10.9	10.9	1.5	8.2	8.2	39.9	
	1.3	9.5	1.6	2.0	13.3	13.9	12.8	1.6	11.1	11.1	1.5	8.3	8.3		
	1.4	9.7	1.5	2.0	13.6	14.2	13.1	1.6	11.5	11.5	1.5	8.1	8.1		
AVG:	1.4	9.5	1.5	No criteria	13.0	13.2	12.2	1.6	10.6	10.6	closed	1.5	8.2	8.2	40.0

Fishways are inspected twice daily plus one SCADA inspection.