

The Dalles Dam Fishway Status Report

7/4/2015

Inspection Period: 6/28/2015 - 7/4/2015

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: 71.0	F
			Comments		Secchi: 4.9	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	9.3		
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'	currently at 1.3' for shad passage			
Junction pool weir JP6	0	depth (≥ 7')	Average	8.6		
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	3.2		
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	3.6		
West entrance differential	0	1.0' - 2.0'	Average	1.5		
Entrance weir W1	0	depth (≥ 8')	Average	9.6		
Entrance weir W2	0	depth (≥ 8')	Average	9.6		
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: 0.4' - 0.8'			
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.

Gull predation upstream and downstream of bridge and within avian lines. Investigating boat hazing. see avian zone map.

Operations:

Gatewell drawdown completed on 7/3. All values were within criteria.

No calibration completed this week.

Current Outages:

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

Maintenance:

Entrance weir wheel and guide work to resume next winter outage.

Three collection channel dewatering pumps on deck for rehab, repair delayed due to lack of funding. Two of 6 collection channel pumps remain stuck.

FCQ7 electrical panel for east exit upgrade funding in place. Planning and parts purchase underway. Installation next outage season pending funding.

Future 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, fish unit breaker and transformer replace.

All spillway items on Critical Infrastructure list and Unfunded Requirement list. Spill gate 9 repair planning underway through small projects team.

Studies:

North fishladder rehab study for rock wall started. Construction dates to be determined. Alternatives to be presented to FPOM.

Fish count video at north count station recording started. IR light testing underway.

East fishladder backup system construction start this winter. FPOM coordination completed.

Crane rail replacement on tailrace and intake decks winter of 2016-2017. FPOM coordination completed.

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 6/28; total for week NPM \geq 230mm - 89, YTD NPM \geq 230mm - 3,259.

ODFW collecting biological data from harvested pikeminnow.

Fish counters at east and north count stations 16 hr/day.

PSMFC Wasco Co PUD weekly sampling 7/1; 13 Chinook subyearling smolts.

CRITFC and member tribes (YN, CTUIR, and NPT) trapping adult pacific lamprey starting 6/30.

PSMFC monitoring and maintaining thin walled PIT tag antennas and computer equipment. No issues.

USGS total dissolved gas monitoring continues.

USDA gull hazer's on site 12 hours/day, primarily hazing from the navlock peninsula. Pigeon removal and sea lion hazing as needed.

Approved by: Ron Twiner

Operation Project Manager The Dalles Dam

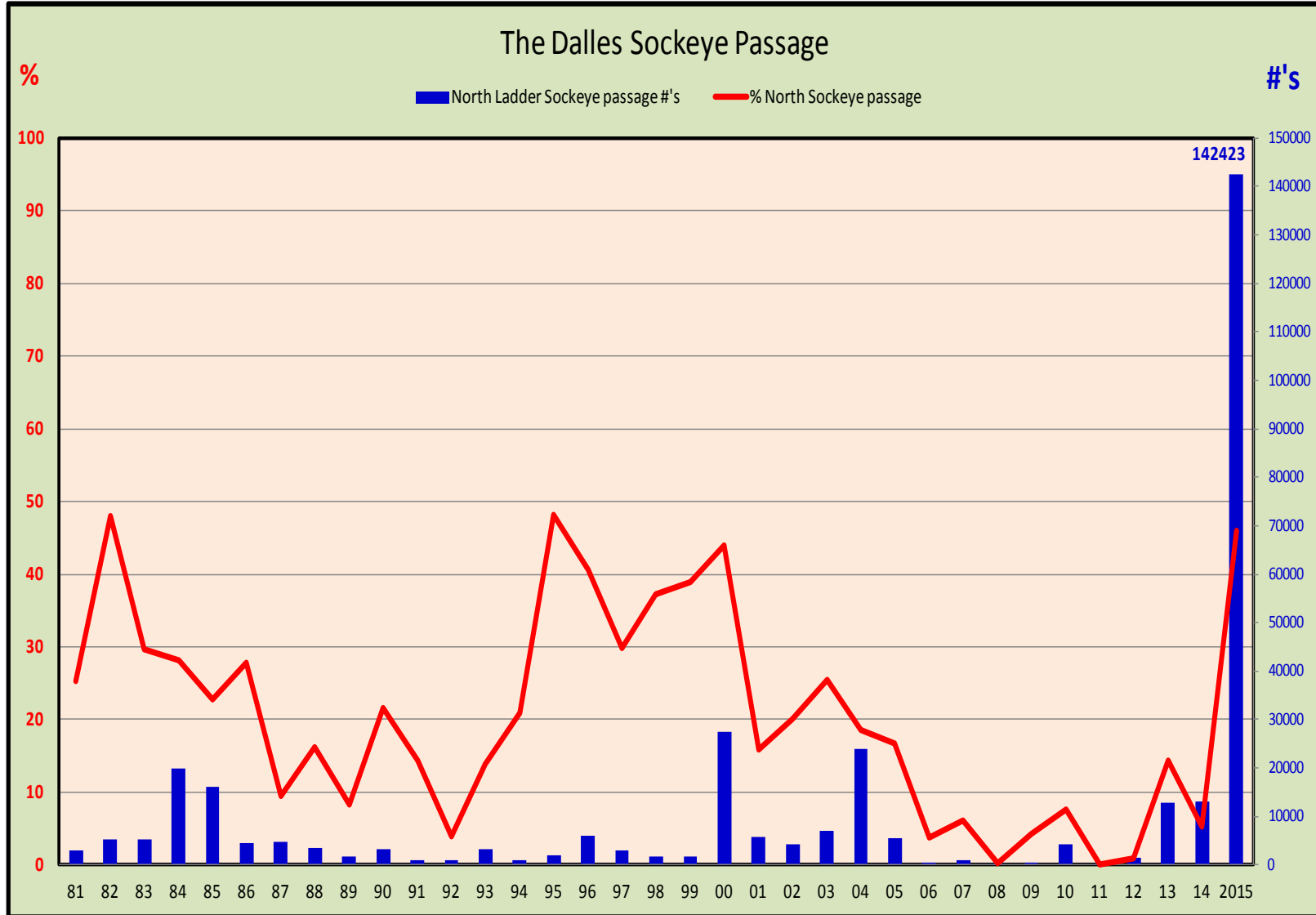
Columbia River DART

2015 Adult Passage Daily Ladder Counts at The Dalles

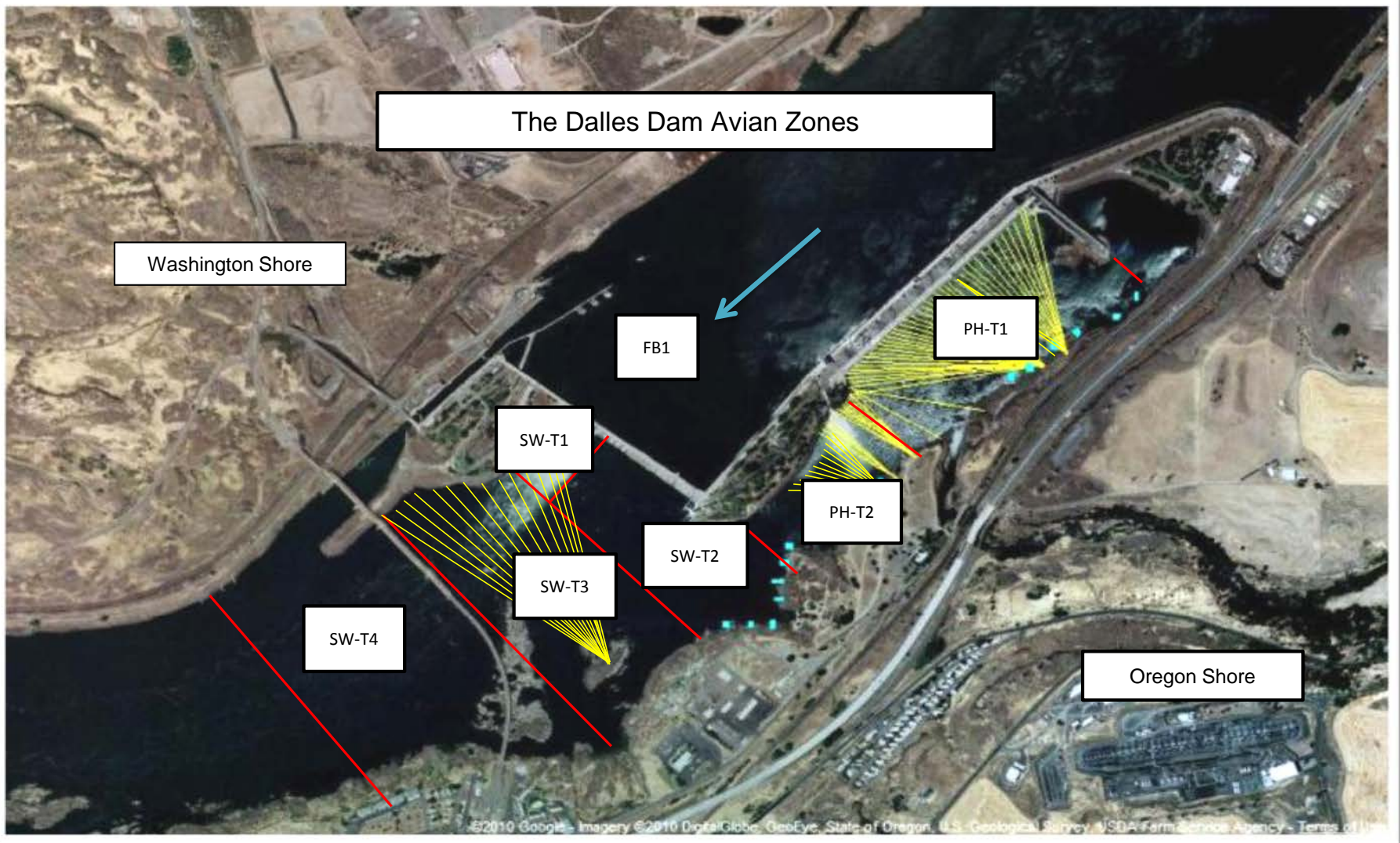
http://www.cbr.washington.edu/dart/wrapper?type=php&fname=adultladder_1436282686_530.php

6/28/2015 - 7/4/2015

Date	Chinook				Jack Chinook				Steelhead				Wild Steelhead				Sockeye				Coho				Jack Coho				Lamprey				Outflow (kcfs)
	Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder						
	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#			
6/28	63	2431	37	1445	52	241	48	223	58	104	42	75	51	48	49	46	52	11932	48	10933		0		0		0		0	68	155	32	72	55.3
6/29	51	1850	49	1796	56	202	44	160	65	115	35	61	65	59	35	32	46	8428	54	9998		0		0		0		0	55	170	45	139	57.3
6/30	57	1459	43	1097	76	359	24	114	68	158	32	75	70	96	30	41	61	11462	40	7486		0		0		0		0	65	86	35	47	55.2
7/1	63	1439	37	841	62	173	38	108	74	210	26	75	79	128	21	34	59	9448	41	6672		0		0		0		0	80	161	20	41	55.4
7/2	57	1229	43	911	71	203	29	83	66	204	34	103	62	104	39	65	54	8873	46	7559		0		0		0		0	65	86	35	46	57.6
7/3	63	1678	37	998	47	133	53	148	71	159	29	64	76	106	24	34	62	8330	38	5182		0		0		0		0	76	150	24	47	51.1
7/4	59	1682	41	1152	78	305	22	85	65	137	35	74	68	78	32	37	61	6940	39	4367		0		0		0		0	51	72	49	70	48.7
reporting period YTD	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	
	59	11768	41	8240	64	1616	36	921	67	1087	33	527	68	619	32	289	56	65413	44	52197		0		0		0		0	66	880	34	462	



Results of a combination of high sockeye numbers and optimal spill volume creating attraction flow without excessive velocities.



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

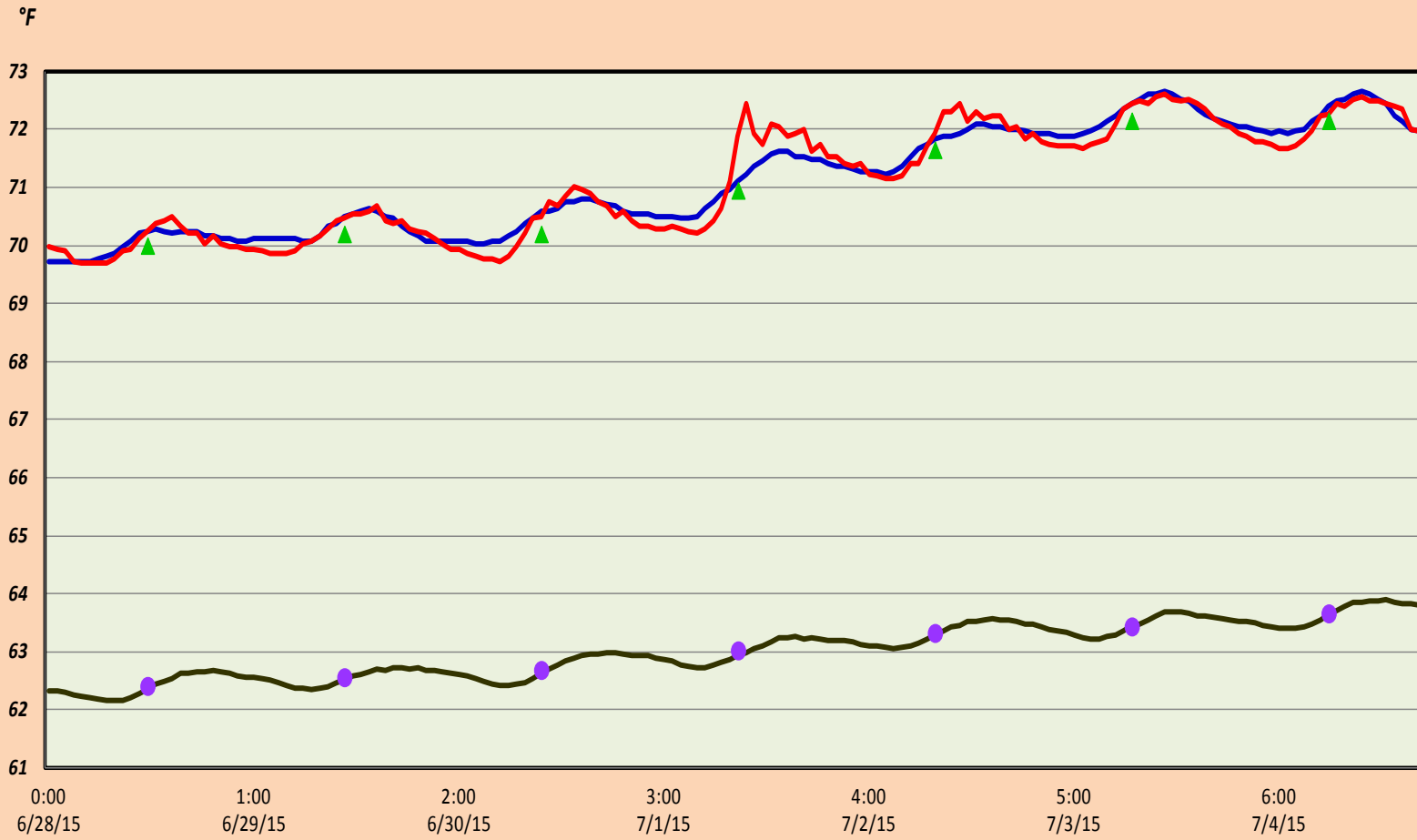
2015 Piscivorous Bird Counts

F=foraging, NF=non-foraging

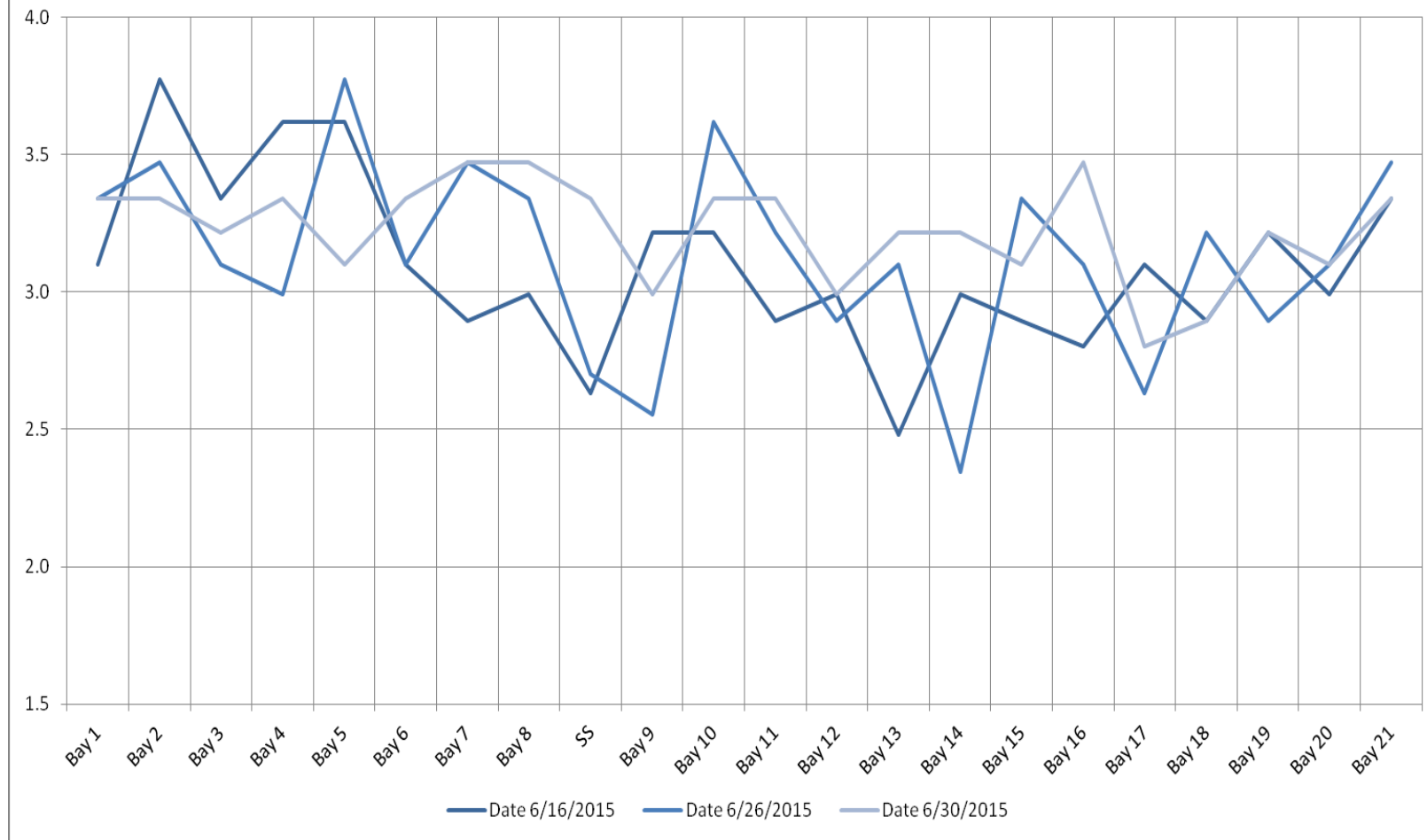
Date	Observer	Time (24 hr)	Zone	Gull		Cormorant		Caspian tern		Grebe		Pelican		Other		Total birds in	Notes	
				F	NF	F	NF	F	NF	F	NF	F	NF	F	NF			
6/28/15	PSK	10:30	FB	0	0	0	22	0	0	0	0	0	0	0	0	0	22	
		11:02	PH1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
		11:16	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		9:21	SW1	9	0	0	0	0	0	0	0	0	0	0	0	0	9	
		11:18	SW2	0	0	0	3	0	0	0	0	0	0	0	0	0	3	
		9:40	SW3	50	158	0	0	0	0	0	0	0	0	0	0	0	208	
		9:47	SW4	12	0	0	0	0	0	0	0	0	0	0	0	0	12	
6/29/15	jwr	12:35	FB	0	0	1	26	0	0	0	0	0	0	0	0	0	27	
		12:53	PH1	0	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	0	
		13:38	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		13:03	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		13:04	SW3	26	59	0	0	0	0	0	0	0	0	0	0	0	85	
		13:06	SW4	19	0	0	0	0	0	0	0	4	0	0	0	0	23	
6/30/15	jwr	9:36	FB	0	0	2	46	0	0	0	0	0	0	0	0	0	48	
		8:25	PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		8:32	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		9:34	SW1	8	0	0	0	0	0	0	0	0	0	0	0	0	8	
		8:36	SW2	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
		8:37	SW3	17	55	0	0	0	0	0	0	3	0	0	0	0	75	
		8:39	SW4	11	0	0	0	0	0	0	0	14	22	0	0	0	47	
7/1/15	PSK	14:41	FB	0	0	4	6	0	0	0	0	0	0	0	0	0	10	
		12:38	PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		12:52	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		14:13	SW1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
		12:58	SW2	0	0	0	6	0	0	0	0	0	0	0	0	0	6	
		14:31	SW3	10	72	0	0	0	0	0	0	0	0	0	0	0	82	
		14:34	SW4	19	3	0	0	0	0	0	0	0	20	0	0	0	42	
7/2/15	jwr	9:43	FB	0	0	0	45	0	0	0	0	0	0	0	0	0	45	
		9:22	PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		9:26	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		9:46	SW1	2	5	0	0	0	0	0	0	0	0	0	0	0	7	
		9:38	SW2	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
		9:40	SW3	35	102	0	0	0	0	0	0	0	0	0	0	0	137	
		9:43	SW4	19	30	0	0	0	0	0	0	0	4	0	0	0	53	
7/3/15	EHK	13:42	FB	0	0	0	5	0	0	0	0	0	0	0	0	0	5	
		13:13	PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		13:20	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		13:44	SW1	2	0	0	0	0	0	0	0	0	0	0	0	0	2	
		13:22	SW2	0	0	0	4	0	0	0	0	0	0	0	0	0	4	
		13:50	SW3	10	63	0	0	0	0	0	0	0	0	0	0	0	73	
		13:55	SW4	39	32	0	4	0	0	0	0	0	0	0	0	0	75	
7/4/15	EHK	8:40	FB	0	4	0	41	0	0	0	0	0	0	0	0	0	45	
		8:03	PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		8:11	PH2	3	0	0	0	0	0	0	0	0	0	0	0	0	3	
		8:43	SW1	18	34	0	0	0	0	0	0	0	0	0	0	0	52	
		8:17	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		9:06	SW3	42	78	0	0	0	0	0	0	0	0	0	0	0	120	
		9:10	SW4	62	12	0	0	0	0	0	0	0	3	0	0	0	77	

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

— East Fish Ladder — North Fish Ladder ▲ USGS daily average (2015) — TD Ladder Average (2007-2014) ● USGS daily tailwater average (2007-2014)



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



USGS:	http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201506.lcol.html	
Temperatures		Secchi:
70.0	Sun	5.0
70.2	Mon	5.0
70.2	Tue	5.0
71.0	Wed	5.0
71.7	Thurs	5.0
72.2	Fri	4.0
72.2	Sat	5.0
AVG: 71.0	AVG	4.9

**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		
6/28			1.4	7.9	12.0	12.0		1.7	9.1	9.1	closed	1.4	8.3	8.3	40.2	
	1.4	9.3	1.4	8.0	12.1	12.1	8.6	1.7	9.1	9.1		1.6	8.2	8.2		
	1.4	9.4	1.4	8.1	12.2	12.2	8.7	1.7	9.1	9.1		1.4	8.2	8.3		
6/29			1.5	8.0	11.7	11.7		1.6	9.2	9.2		1.5	8.2	8.2	39.9	
	1.4	9.3	1.5	5.0	12.5	12.5	9.0	1.5	9.7	9.7		1.5	8.2	8.2		
	1.4	9.3	1.5	5.0	12.5	12.5	9.0	1.5	9.7	9.7		1.5	8.2	8.2		
6/30			1.6	5.0	12.1	12.1		1.4	10.0	10.0		1.5	8.2	8.3	40.1	
	1.4	9.2	1.6	5.1	12.2	12.2	8.7	1.6	9.9	9.9		1.5	8.1	8.1		
	1.5	9.2	1.6	5.0	12.7	12.7	9.2	1.5	10.1	10.1		1.4	8.3	8.3		
7/1			1.8	5.1	11.4	11.4		1.4	10.0	10.0		1.4	8.4	8.4	40.0	
	1.4	9.2	1.6	6.9	11.3	11.3	7.8	1.6	9.1	9.1		1.5	8.1	8.1		
	1.4	9.3	1.5	7.0	11.8	11.8	8.3	1.6	9.2	9.2		1.4	8.2	8.2		
7/2			1.6	6.9	11.6	11.6		1.6	9.1	9.1		1.5	8.2	8.2	39.9	
	1.4	9.3	1.5	7.0	12.1	12.1	8.6	1.5	9.7	9.7		1.5	8.1	8.1		
	1.4	9.3	1.5	6.9	12.4	12.4	8.9	1.6	9.6	9.6		1.4	8.2	8.2		
7/3			1.5	6.9	11.8	11.8		1.5	9.7	9.7	1.4	8.2	8.2	40.1		
	1.3	9.4	1.6	6.9	11.6	11.6	8.1	1.5	9.6	9.6	1.5	8.1	8.1			
	1.4	9.3	1.4	7.1	12.1	12.1	8.6	1.5	9.7	9.7	1.5	8.1	8.1			
7/4			1.5	6.9	11.6	11.6		1.4	9.8	9.8	1.5	8.2	8.1	40.0		
	1.4	9.2	1.6	7.0	11.7	11.7	8.2	1.5	9.6	9.6	1.5	8.2	8.2			
	1.5	9.2	1.5	6.9	11.8	11.8	8.3	1.5	9.7	9.7	1.5	8.1	8.1			
AVG:	1.4	9.3	1.5	No criteria	12.0	12.0	8.6	1.5	9.6	9.6	closed	1.5	8.2	8.2	40.0	

Fishways are inspected twice daily plus one SCADA inspection.