

The Dalles Dam Fishway Status Report

5/18/2015

Inspection Period: 5/10/2015 to 5/16/2015

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: 56.5	F
			Comments		Secchi: 4.0	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	9.7		
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	8.9		
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	11.7		
Entrance weir E3	1	depth (≥ 8')	Average	9.8	out at 7.8'. manually adjusted.	
Collection channel velocity	0	1.5 - 4 fps	Average	3.3		
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	10.2		
Entrance weir W2	0	depth (≥ 8')	Average	10.2		
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	8.6		
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: 0.3-0.9'			
Spill volume	0	40%+1%	Average	40.0		
Spill Pattern	0					
Turbine Unit Priority.	1	per FPP	MU7 OOS for a 5 yr overhaul			
Turbine 1% Efficiency	0	per FPP				

OTHER ISSUES:**Birds/Sea lions:**

Bird observation data collected once daily. Refer to Avian Zone Map. Sea lion 5/13 swimming near west entrance, no ID observed.

Operations:

All fishways in operation per Fish Passage Plan requirements.

Gatewell differential check completed May 10 all reading within criteria. Calibration found east entrance tailwater off. Maintenance corrected.

Current Outages:

Current Outages:

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

MU7 out 5/4/2015 to 6/25/2015 for overhaul

T3 forced out due to relay settings and testing through 5/11/2015

T2 is limited to 150 MVA due to relay settings and testing through 5/11/2015

Maintenance:

East fishway entrances 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 for installation next outage season.

Future repair plans; Upgrade east exit weirs 154-157, removal/permanent closure of collection channel diffusers, repair north failed diffusers,

Fish related but non-fish funded items; spillway evaluation, spillway crane rehab, spillgate 9 trunnion pin replacement, HDC updated fish unit reliability assessment, planning upgrade fish unit breakers and fish unit transformer replacement.

Studies:

North fishladder rehab of rock walls product development team initial meetings starting. Construction expected in 2018.

March fish count video at north count station completed. Night video to start July 1 pending lighting installation. To be used with new software application.

BCOES review site visit for east fishladder backup system Apr30. Construction start this winter. FPOM coordination meeting June 2.

Crane rail replacement on tailrace and intake decks winter of 2016-2017. Schedule planning underway. FPOM coordination meeting June 2.

Research/Contractors:

USDA gull hazer's on site 12 hours/day, primarily hazing from the navlock peninsula. Hazing sealion at entrances as needed.

Fish counters at east and north count stations 16 hr/day. North count station video counting to resume 7/15 (night only) after inferred light install.

PSMFC PUD weekly sampling 5/13; 9 Chinook yearling, 23 subyearling smolts, 7 fry, 2 clipped Steelhead, and 2 Coho.

Columbia River Northern Pikeminnow Management Program dam angling 5/10; total NPM - 380, NPM \geq 230 - 380, game fish - 5, non-game fish - 4.

University of Idaho maintaining antennas and monitoring movements of adult steelhead outfitted with radio-tags and Pacific lamprey outfitted with half-duplex (HDX) PIT tags.

ODFW Northern Pikeminnow Management Program evaluation electrofishing 5/10; # NPM tagged - 32, adult salmonids - 17, juvenile salmonids - 1,334, sturgeon - 43, game fish - 2,646, non-game fish - 6,901.

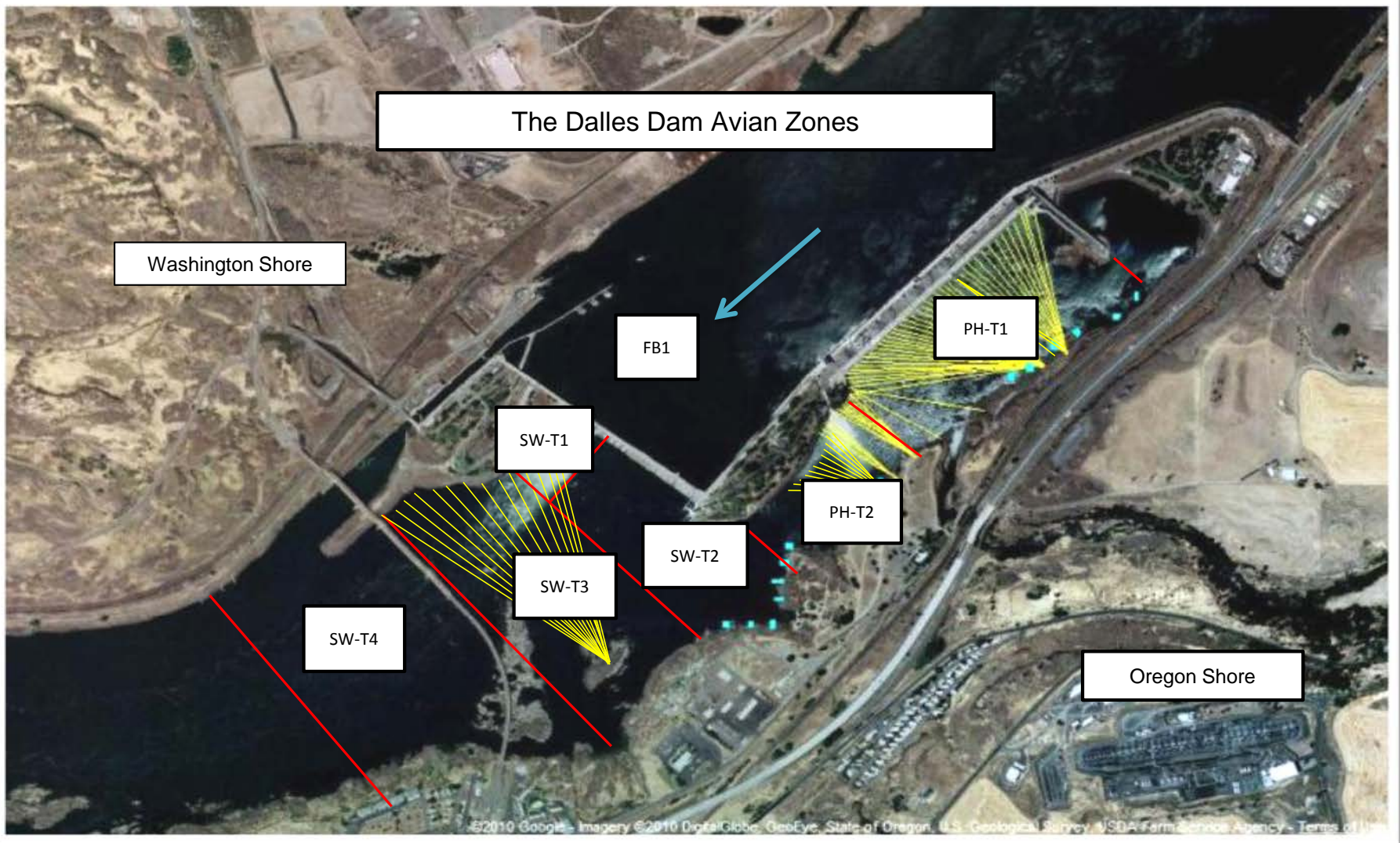
Coordination underway for tribal lamprey trapping at east count station.

USGS total dissolved gas monitoring.

PSMFC monitoring and maintaining thin walled PIT tag antennas and computer equipment.

Approved by: Ron Twiner

Operation Project Manager The Dalles Dam



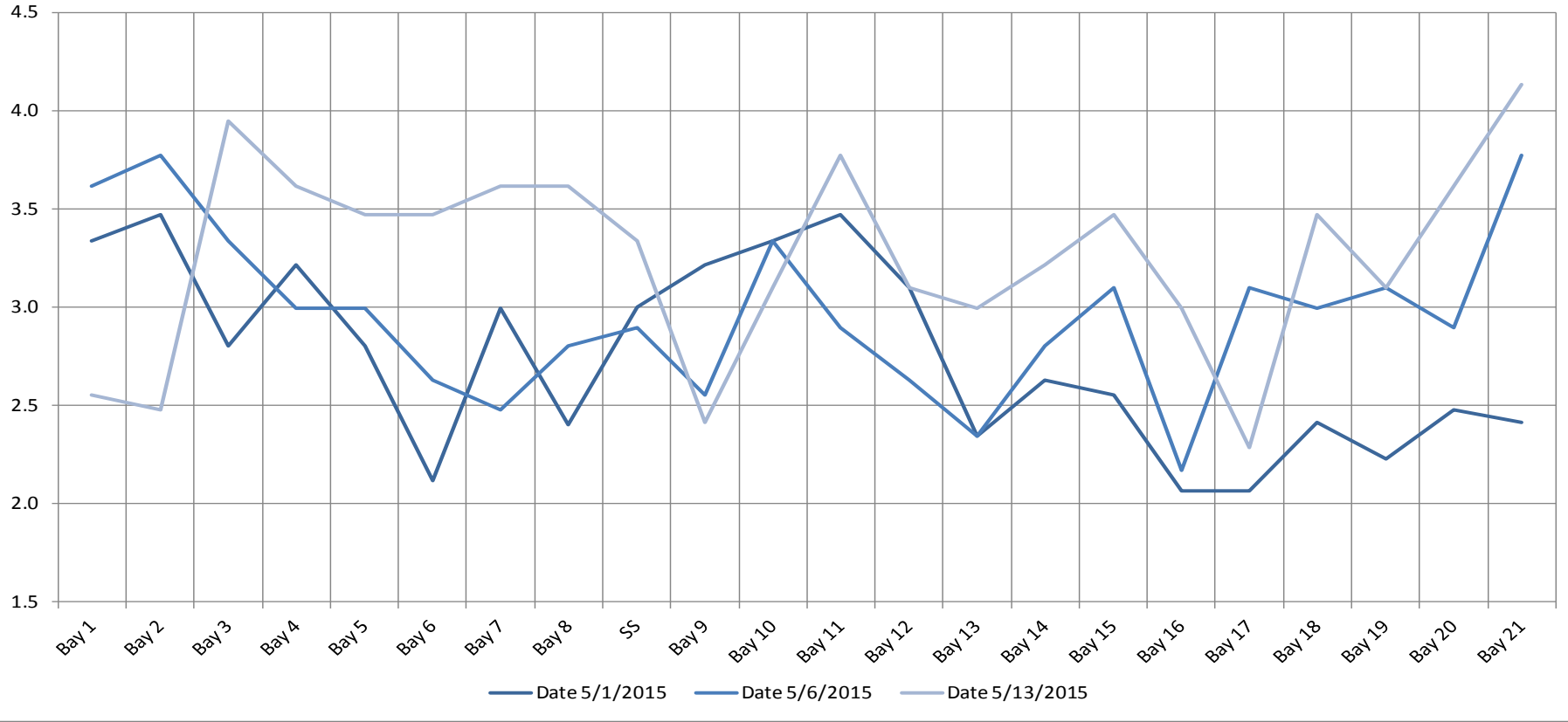
Avian lines in yellow, zones in red, river flow in blue.

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 zone	Notes
				F	NF	F	NF	F	NF	F	NF	F	NF	F	NF		
5/10/15	EHK	8:48	FB	0	0	0	11	0	0	0	0	0	0	0	1	12	1 osprey
		8:15	PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		8:24	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	
		9:00	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		8:26	SW2	0	0	0	1	0	0	0	0	0	0	0	0	1	
		9:14	SW3	3	44	0	0	0	0	0	0	0	0	0	0	47	
		9:28	SW4	0	52	0	0	0	0	0	0	0	0	0	52		
5/11/15	PSK	14:58	FB	7	0	0	13	0	0	0	0	0	0	0	0	20	
		13:45	PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		14:07	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	
		15:31	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		14:10	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	
		14:12	SW3	3	44	0	0	0	0	0	0	0	0	0	0	47	
		14:14	SW4	77	0	0	0	0	0	0	0	0	0	0	77		
5/12/15	JWR	11:04	FB	0	0	0	23	0	0	0	0	0	0	0	0	23	
		10:22	PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		10:26	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	
		11:00	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		10:30	SW2	1	0	2	0	0	0	0	0	0	0	0	0	3	
		10:32	SW3	18	56	0	0	0	0	0	0	0	0	0	0	74	
		10:34	SW4	66	3	0	0	0	0	0	0	0	0	0	69		
5/13/15	PSK	14:25	FB	0	1	0	19	0	0	0	0	0	0	0	0	20	Osprey
		13:53	PH1	0	0	0	0	0	0	0	0	0	0	0	2	2	
		14:43	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	
		14:10	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		14:57	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	
		14:15	SW3	18	0	0	0	0	0	0	0	0	0	0	0	18	
		14:16	SW4	89	0	0	0	0	0	0	0	0	0	0	89		
5/14/15	JWR	10:27	FB	0	0	0	9	0	0	0	5	0	0	0	0	14	
		9:56	PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		10:03	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	
		10:39	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		10:08	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	
		10:09	SW3	12	15	0	0	0	0	0	0	0	0	0	0	27	
		10:12	SW4	50	30	0	0	0	0	0	0	0	0	0	80		
5/15/15	PSK	15:25	FB	0	0	0	10	0	0	0	0	0	0	0	0	10	
		12:16	PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		12:36	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	
		13:42	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		12:49	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	
		13:54	SW3	3	55	0	0	0	0	0	0	0	0	0	0	58	
		13:58	SW4	63	0	0	0	0	0	0	0	0	0	0	63		
5/16/15	JWR	10:57	FB	0	0	0	16	0	0	0	0	0	0	0	0	16	
		10:16	PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		10:23	PH2	3	0	0	0	0	0	0	0	0	0	0	0	3	
		11:03	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		10:28	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	
		10:29	SW3	11	35	0	0	0	0	0	0	0	0	0	0	46	
		10:31	SW4	76	13	0	0	0	0	0	0	0	0	0	89		
Week totals:				500	348	2	102	0	0	0	5	0	0	0	3	960	

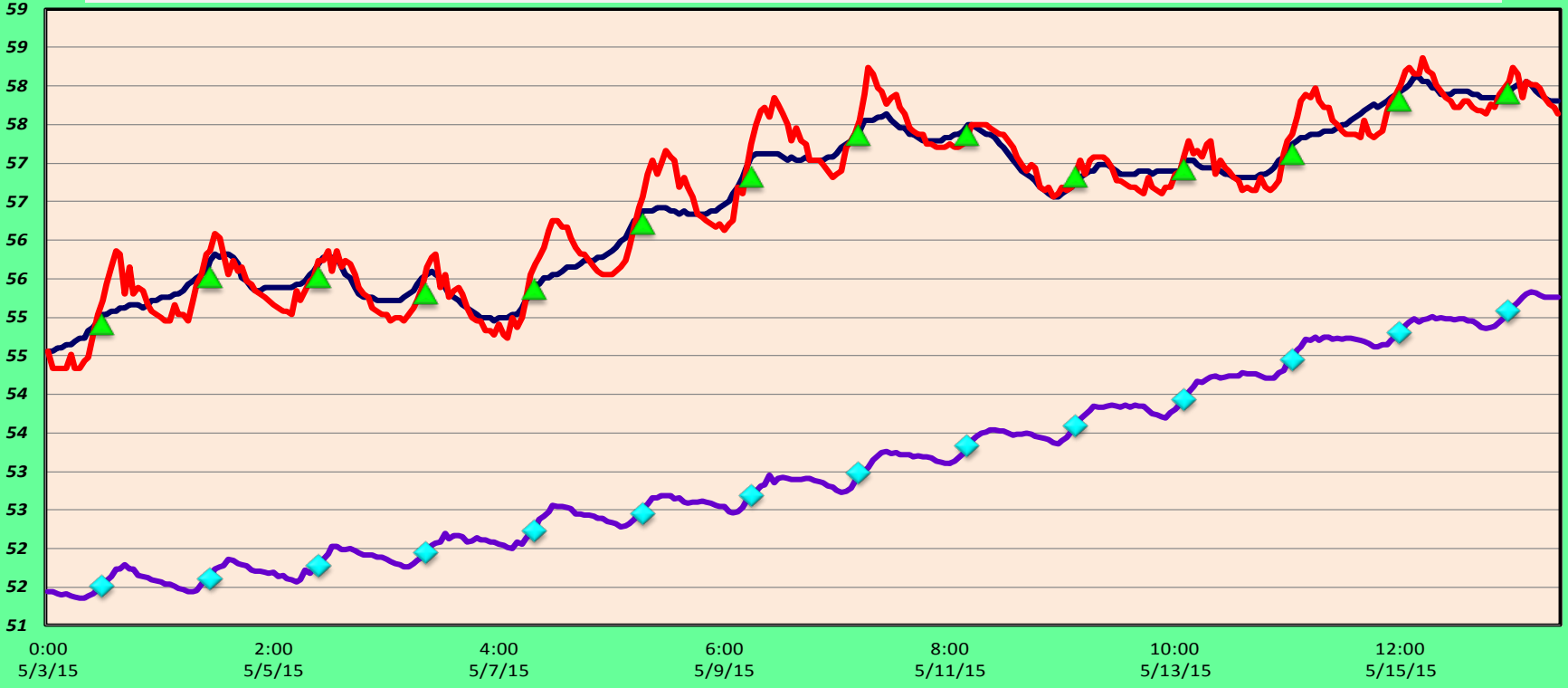
The Dalles Dam Collection Channel Velocites (In criteria 1.5 - 4.0 fps)



The Dalles Dam Adult Fish Ladder-River Temperatures

°F

— East Fish Ladder — North Fish Ladder ▲ USGS Daily Average (2015) — TD Ladder Average (2007-2014) ◆ USGS Daily Average (2007-2014)



USGS:	Temperatures		
5/3-5/9	5/10-5/16		Secchi:
54.9	57.4	Sun	4.0
55.5	57.4	Mon	4.5
55.5	56.8	Tue	3.5
55.3	56.9	Wed	4.0
55.4	57.1	Thurs	4.0
56.2	57.8	Fri	4.0
56.8	57.9	Sat	4.0
AVG:	56.5	AVG	4.0

<http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201504.lcol.html>

**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-24hr avg
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	
5/10			1.5	5.0	13.1	8.0	7.9	1.4	10.0	10.0	closed	1.5	8.6	8.6	39.9
	1.4	9.5	1.5	5.0	12.9	8.0	8.1	1.5	10.0	9.9		1.5	8.4	8.4	
	1.4	9.6	1.4	5.1	13.0	8.4	8.5	1.5	10.0	10.0		1.5	8.6	8.6	
5/11			1.5	5.0	13.0	7.9	8.0	1.4	10.0	10.0		1.5	8.5	8.6	40.0
	1.4	9.6	1.4	5.0	13.0	8.7	8.8	1.6	10.0	9.8		1.5	8.5	8.5	
	1.3	9.7	1.4	4.9	13.0	8.6	8.6	1.5	9.9	10.0		1.5	8.4	8.4	
5/12			1.5	5.0	13.0	8.5	8.5	1.5	10.0	10.0		1.5	8.6	8.6	40.1
	1.4	9.8	1.6	5.0	13.1	9.0	9.0	1.6	9.9	9.9		1.5	8.5	8.5	
	1.4	9.7	1.3	7.7	11.0	11.0	9.2	1.4	10.1	10.0		1.5	8.4	8.5	
5/13			1.4	7.1	10.2	10.1	8.6	1.5	10.0	10.2		1.4	8.6	8.6	40.0
	1.4	9.6	1.6	6.1	10.1	10.4	8.9	1.6	10.0	9.9		1.5	8.6	8.6	
	1.3	9.8	1.5	7.0	10.0	10.4	9.0	1.6	10.3	10.3		1.5	8.5	8.5	
5/14			1.5	6.5	10.0	9.2	7.7	1.5	9.5	9.5		1.6	8.4	8.4	40.0
	1.4	9.7	1.5	5.0	11.0	10.2	8.7	1.6	9.9	9.9		1.5	8.6	8.6	
	1.4	9.7	1.5	4.0	11.0	11.0	9.5	1.7	9.9	9.9		1.6	8.5	8.5	
5/15			1.6	4.1	11.0	11.4	9.9	1.6	10.4	10.4	1.5	8.5	8.5	39.8	
	1.4	9.8	1.5	4.1	11.4	11.2	9.7	1.5	10.8	10.8	1.5	9.0	9.0		
	1.5	9.6	1.5	3.6	11.5	11.2	9.8	1.5	10.7	10.8	1.6	8.4	8.6		
5/16			1.4	3.6	11.7	10.8	9.3	1.4	10.7	10.7	1.4	8.7	8.7	40.0	
	1.4	9.6	1.4	2.5	11.5	11.0	9.6	1.5	10.6	10.6	1.6	8.4	8.5		
	1.4	9.6	1.5	2.4	11.4	11.1	9.7	1.5	10.7	10.7	1.6	8.5	8.5		
AVG:	1.4	9.7	1.5	No criteria	11.7	9.8	8.9	1.5	10.2	10.2	closed	1.5	8.5	8.6	40.0

Fishways are inspected twice daily plus one SCADA inspection.

Completion of infrared light installation
used for night video fish counts at North
count station.

