The Dalles Dam Fishway Status Report

6/7/2015

Inspection Period: 5/31/2015 to 6/6/2015

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 / Comments	Temperature: 63.7 F / Secchi: 4.6 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'		
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 9.5	
East entrance differential	0	1.0' - 2.0'	Average 1.6	
Entrance weir E1	0	No criteria	Average No criteria; manually adjusted as needed.	
Entrance weir E2	0	depth (≥ 8')	Average 12.2	
Entrance weir E3	0	depth (≥ 8')	Average 12.8	
Collection channel velocity	0	1.5 - 4 fps	Average 3.0	
Transportation channel velocity	0	1.5 - 4 fps	Average 2.6	
North channel velocity	0	1.5 - 4 fps	Average 2.6	
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 10.0	
Entrance weir W2	0	depth (≥ 8')	Average 10.0	
Entrance weir W3	0	No criteria	Average No criteria; manually adjusted as needed.	
South entrance differential	0	1.0' - 2.0'	Average 1.4	
Entrance weir S1	0	depth (≥ 8')	Average 8.2	
Entrance weir S2	0	depth (≥ 8')	Average 8.2	
JUVENILE PASSAGE				
Sluicegate operation	0	Units 1, 8, 18	Sluicegates 1-1,2,3, 8-1,2, and 18-2 open.	
Turbine trashrack drawdown	0	<1.5', wkly	Range: 0.0' - 0.6'	
Spill volume	0	40%+-1%	Average	
Spill Pattern	0	per FPP	All spill north of spillwall (bays 1-8)	
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. Avian lines seem to be losing effectiveness and more gulls are working just downstream of the spillwall, out of range from the hazers. This is primarily due to lower spill volume.

Operations:

All fishways in operation per Fish Passage Plan requirements.
Calibration check 5/27. East entrance weir E2, east entrance channel, and tailwater off, but still withing criteria.
Gatewell differential check done 5/31 all reading within criteria.

Current Outages:

T8 (MU15 & MU16) de-rated to 85MW operation.
MU7 out 5/4/2015 to 6/25/2015 for overhaul and inspection.

Maintenance:

East fishway entrance work to resume next winter.
Three collection channel dewatering pumps on deck for rehab, awaiting 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.
Long term 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 starting kickoff meetings. 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.
AWS backup construction start this winter. Work schedule approved through FPOM.
Crane rail replacement on tailrace and intake decks winter of 2016-2017. Schedule planning underway. FPOM coordination continues.
Studies Review Work Group (SRWG) meeting scheduled for June 4 Westrick.
Tailrace crane rehab to start this summer on west end of powerhouse. FPOM coordination forthcoming.

Research/Contractors:

USDA gull hazer's on site 12 hours/day from the navlock peninsula. No sea lion hazing done this week. Pigeon and rodent removal continues.
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 5/27; 1 Chinook yearling, 18 subyearling smolts, 1 fry, 1 clipped Steelhead, and 1 Coho.
Columbia River Northern Pikeminnow Management Program dam angling 5/24. Catch rates remain high.
University of Idaho maintaining antennas and monitoring adult steelhead outfitted with radio-tags and Pacific lamprey outfitted with half-duplex PIT tags.
ODFW Northern Pikeminnow Management Program evaluation electrofishing - nothing to report.
Coordination underway for tribal lamprey trapping at east count station. Meeting 6/23.
USGS total dissolved gas monitoring ongoing.
PSMFC monitoring and maintaining thin walled PIT tag antennas and computer equipment.

Approved by: Ron Twiner
Operation Project Manager The Dalles Dam

The Dalles Dam Adult Fish Ladder Daily Counts

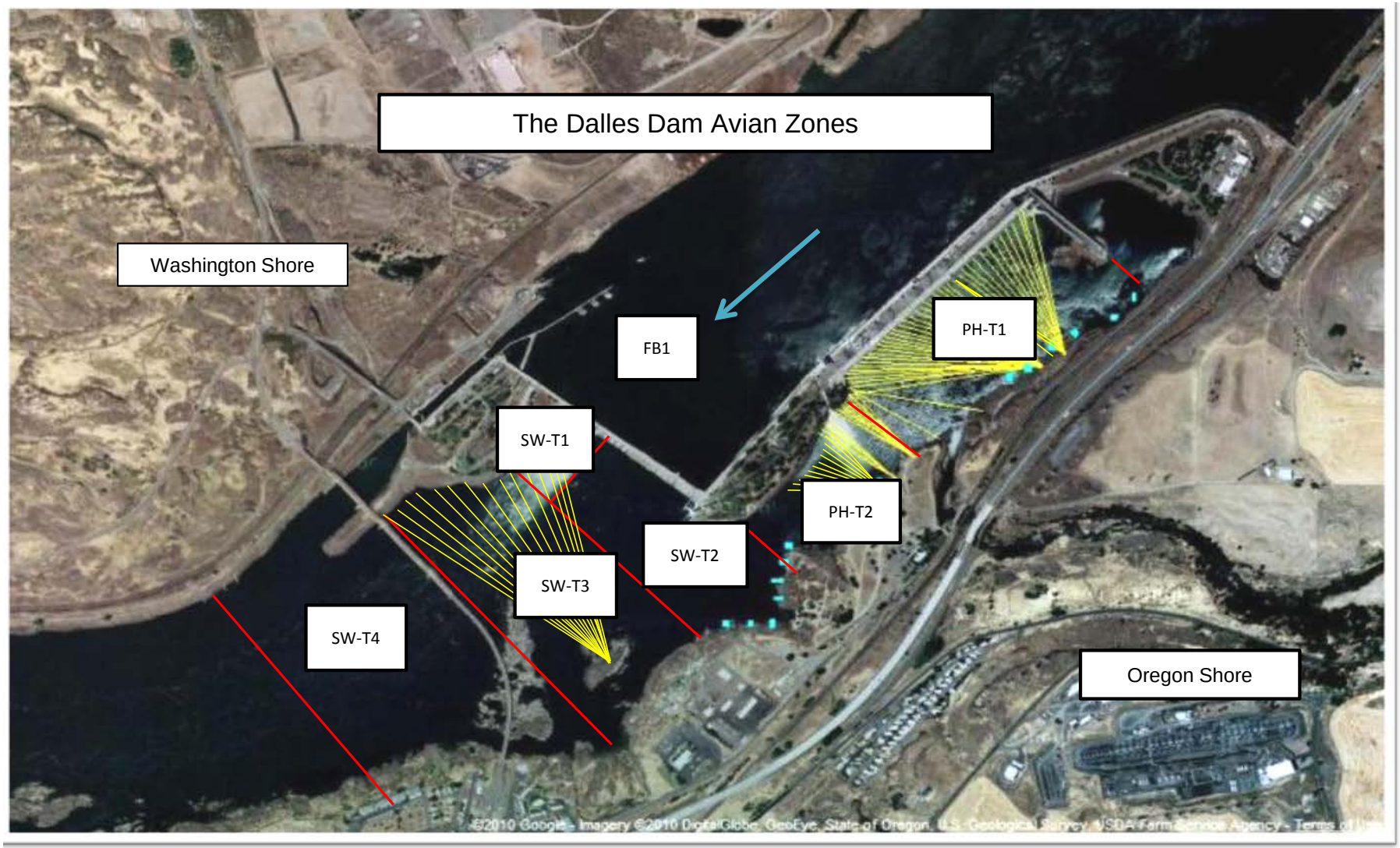
East

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
5/31	1619	1469	150	7	6	1	0	0	0	35	0	0	4
6/1	1962	1716	246	19	11	8	0	0	0	47	0	0	14
6/2	1309	1187	122	17	12	5	0	0	0	46	0	0	22
6/3	1317	1129	188	13	13	0	0	0	0	59	0	0	29
6/4	1093	996	97	7	6	1	0	0	0	85	0	0	29
6/5	1446	1297	149	16	11	5	0	0	0	138	0	0	24
6/6	1372	1228	144	15	13	2	0	0	0	253	0	0	31
total	**10118**	**9022**	**1096**	**94**	**72**	**22**	**0**	**0**	**0**	**663**	**0**	**0**	**153**

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

North

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
5/31	1088	970	118	2	2	0	0	0	0	31	0	0	12
6/1	907	854	53	7	5	2	0	0	0	37	0	0	22
6/2	767	718	49	14	10	4	0	0	0	23	0	0	47
6/3	674	634	40	-3	1	-4	0	0	0	28	0	0	53
6/4	742	678	64	7	5	2	0	0	0	52	0	0	37
6/5	587	547	40	6	5	1	0	0	0	76	0	0	38
6/6	633	584	49	5	5	0	0	0	0	170	0	0	44
total	**5398**	**4985**	**413**	**38**	**33**	**5**	**0**	**0**	**0**	**417**	**0**	**0**	**253**

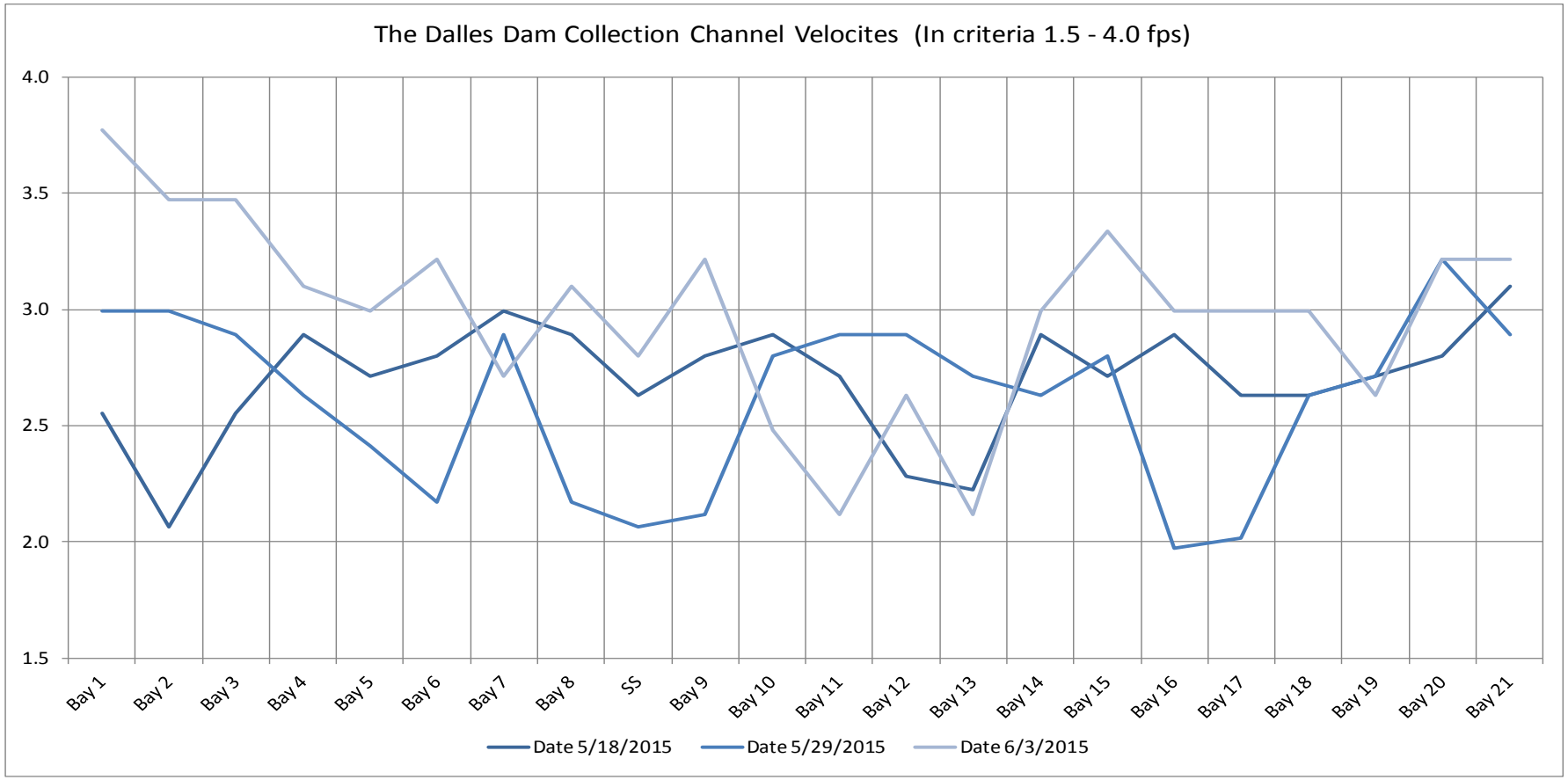


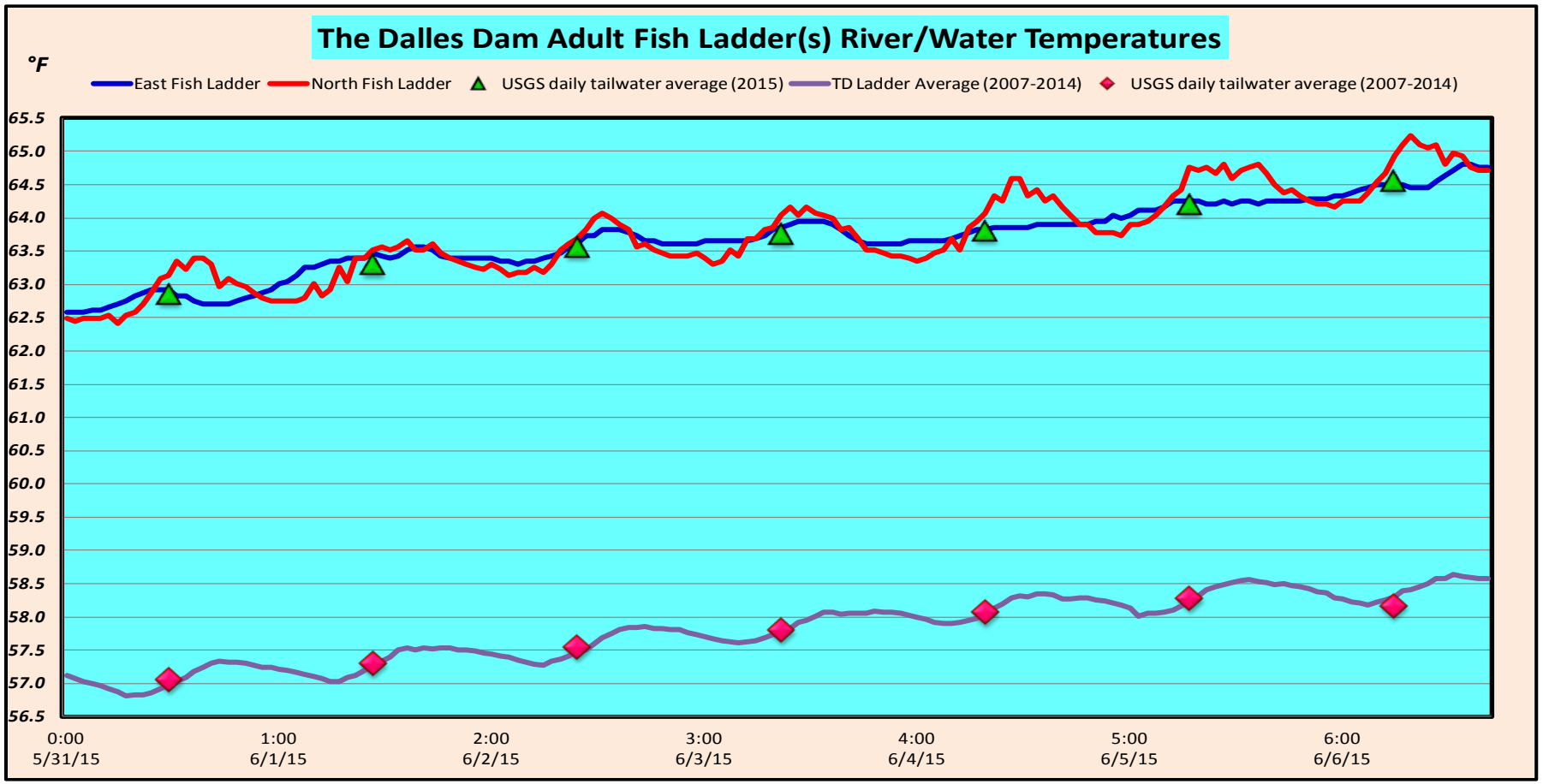
Avian lines in yellow, zones in red, river flow in blue.

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		
5/31/15	PSK	9:05	FB	0	0	0	44	0	0	0	0	0	0	0	0	44	
		7:57	PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		8:08	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	
		9:19	SW1	4	0	0	0	0	0	0	0	0	0	0	0	4	
		8:12	SW2	0	0	0	1	0	0	0	0	0	0	0	0	1	
		8:14	SW3	12	32	0	0	0	0	0	0	0	0	0	0	44	
		8:17	SW4	77	0	0	0	0	0	0	0	0	0	0	0	77	
6/1/15	JWR	13:26	FB	0	0	1	48	0	0	0	0	0	0	0	0	49	
		12:47	PH1	0	0	1	5	0	0	0	0	0	0	0	0	6	
		13:02	PH2	0	0	1	0	0	0	0	0	0	0	0	0	1	
		13:28	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		13:10	SW2	0	0	1	0	0	0	0	0	0	0	0	0	1	
		13:11	SW3	17	81	0	0	0	0	0	0	0	0	0	0	98	
		13:14	SW4	9	0	0	0	0	0	0	0	0	0	0	0	9	
6/2/15	JWR	11:43	FB	0	0	1	30	0	0	0	0	0	0	0	0	31	
		11:10	PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		11:14	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	
		11:38	SW1	1	0	0	0	0	0	0	0	0	0	0	0	1	
		11:17	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	
		11:18	SW3	19	57	0	0	0	0	0	0	0	0	0	0	76	
		11:19	SW4	15	0	0	0	0	0	0	0	0	0	0	0	15	
6/3/15	PSK	13:38	FB	0	0	0	28	0	0	0	8	0	0	0	0	36	
		13:47	PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		14:38	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	
		15:50	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		14:45	SW2	0	0	0	1	0	0	0	0	0	0	0	0	1	
		14:47	SW3	2	0	0	0	0	0	0	0	0	0	0	0	2	
		14:49	SW4	28	0	0	0	0	0	0	0	0	0	0	0	28	
6/4/15	JWR	9:55	FB	0	0	2	36	0	0	0	5	0	0	0	0	43	
		9:37	PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		9:43	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	
		10:05	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		9:47	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	
		9:48	SW3	26	37	0	0	0	0	0	0	0	0	0	0	63	
		9:50	SW4	0	17	0	0	0	0	0	0	0	0	0	0	17	
6/5/15	JWR	1341	FB	0	0	1	6	0	0	0	0	0	0	0	0	7	
		13:18	PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		13:23	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	
		13:27	SW1	0	2	0	0	0	0	0	0	0	0	0	0	2	
		13:28	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	
		13:30	SW3	12	25	0	0	0	0	0	0	0	0	0	0	37	
		13:44	SW4	0	14	0	0	0	0	0	0	0	1	0	0	15	
6/6/15	JWR	10:06	FB	1	0	3	48	0	0	0	0	0	0	0	0	52	
		9:39	PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		9:44	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	
		10:09	SW1	0	6	0	0	0	0	0	0	0	0	0	0	6	
		9:48	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	
		9:50	SW3	43	30	0	0	0	0	0	0	0	0	0	0	73	
		9:52	SW4	0	23	0	0	0	0	0	0	0	4	0	0	27	
		week total:		**266**	**324**	**11**	**247**	**0**	**0**	**0**	**13**	**0**	**5**	**0**	**0**	**866**	


The Dalles Dam Collection Channel Velocites (In criteria 1.5 - 4.0 fps)
4.0
3.5
3.0
2.5
2.0
1.5
Bay 1
Bay 2
Bay 3
Bay 4
Bay 5
Bay 6
Bay 7
Bay 8
SS
Bay 9
Bay 10
Bay 11
Bay 12
Bay 13
Bay 14
Bay 15
Bay 16
Bay 17
Bay 18
Bay 19
Bay 20
Bay 21
Date 5/18/2015
Date 5/29/2015
Date 6/3/2015


The Dalles Dam Adult Fish Ladder(s) River/Water Temperatures
°F
East Fish Ladder
North Fish Ladder
USGS daily tailwater average (2015)
TD Ladder Average (2007-2014)
USGS daily tailwater average (2007-2014)
65.5
65.0
64.5
64.0
63.5
63.0
62.5
62.0
61.5
61.0
60.5
60.0
59.5
59.0
58.5
58.0
57.5
57.0
56.5
0:00
5/31/15
1:00
6/1/15
2:00
6/2/15
3:00
6/3/15
4:00
6/4/15
5:00
6/5/15
6:00
6/6/15

USGS: http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201506.lcol.html

Temp °F		Secchi:
62.9	Sun 5/31	4.2
63.3	Mon 6/1	4.5
63.6	Tue 6/2	5.0
63.8	Wed 6/3	5.0
63.8	Thurs 6/4	4.5
64.2	Fri 6/5	4.5
64.6	Sat 6/6	4.5
AVG: 63.7	AVG	4.6

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			
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	% Spill-24hr avg
5/31	SCADA		1.5	4.1	12.5	14.2	10.2	1.6	10.1	10.1		1.4	8.2	8.2	
	1.4	9.6	1.5	3.9	12.5	14.4	10.4	1.6	10.0	10.0		1.4	8.2	8.2	40.0
	1.4	9.5	1.5	4.1	12.5	14.7	10.8	1.6	10.1	10.0		1.4	8.2	8.2	
6/1	SCADA		1.5	4.0	12.5	15.4	11.4	1.7	9.9	9.9		1.4	8.2	8.2	
	1.4	9.6	1.7	3.9	12.4	14.7	11.7	1.6	11.0	11.0		1.4	8.1	8.1	39.9
	1.4	9.6	1.5	3.9	12.4	15.5	11.5	1.5	11.0	11.0		1.3	8.3	8.3	
6/2	SCADA		1.6	5.1	12.4	12.8	9.8	1.3	11.0	11.0		1.4	8.2	8.2	
	1.4	9.5	1.6	2.1	12.7	12.7	9.7	1.5	10.0	10.0		1.5	8.1	8.1	40.1
	1.5	9.4	1.5	6.0	12.7	12.7	9.7	1.5	10.0	9.9		1.4	8.3	8.3	
6/3	SCADA		1.6	6.1	11.4	11.4	8.4	1.3	10.0	10.0		1.5	8.2	8.2	
	1.4	9.4	1.6	2.1	12.7	12.7	9.7	1.5	10.0	10.0		1.5	8.1	8.1	40.0
	1.4	9.5	1.6	6.0	11.8	11.8	8.8	1.5	9.5	9.7		1.4	8.2	8.6	
6/4	SCADA		1.6	6.0	11.3	11.3	8.3	1.5	9.5	9.5		1.5	8.2	8.2	
	1.4	9.4	1.6	6.0	11.7	11.7	8.7	1.6	9.5	9.5		1.4	8.2	8.2	39.9
	1.4	9.5	1.5	6.0	12.5	12.5	9.5	1.6	9.6	9.5		1.4	8.2	8.2	
6/5	SCADA		1.7	5.9	11.7	11.7	8.7	1.7	9.5	9.5		1.6	8.1	8.1	
	1.4	9.4	1.5	7.0	11.6	11.6	8.6	1.5	9.9	9.9		1.6	8.2	8.2	40.1
	1.4	9.4	1.5	6.9	11.8	11.8	8.3	1.5	10.0	10.0		1.4	8.2	8.2	
6/6	SCADA		1.5	6.9	12.0	12.1	8.5	1.5	9.4	9.4		1.5	8.1	8.1	
	1.4	9.4	1.4	7.0	11.9	11.9	8.4	1.7	9.5	9.5		1.5	8.2	8.2	40.1
	1.5	9.4	1.6	6.4	12.2	12.2	8.7	1.5	9.6	9.6		1.4	8.2	8.2	
AVG:	1.4	9.5	1.6	No criteria	12.2	12.8	9.5	1.5	10.0	10.0	closed	1.4	8.2	8.2	

Fishways are inspected twice daily plus one SCADA inspection.