

The Dalles Dam Fishway Status Report

8/21/2016

Inspection Period: 08/14/2016-08/20/2016

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: 71.3 °F	
			Comments		Secchi: 5.0 feet	
NORTH FISHWAY						
Exit differential	7	≤ 0.5'		TDS raked Thursday and Saturday-heavy milfoil		
Count station differential	0	≤ 0.3'				
Weir crest depth	0	1.0' ± 0.1'				
Entrance differential	0	1.0' - 2.0'	1.4			
Entrance weir N1	0	depth (≥ 8')	9.7			
Entrance weir N2	0	Closed				
PUD Intake differential	0	≤ 0.5'				
EAST FISHWAY						
Exit differential	0	≤ 0.5'				
Removable weirs 154-157	0	Per forebay				
Weir 158-159 differential	0	1.0' ± 0.1'	158 manually adjusted as needed. New sensor purchased and being installed.			
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')	10.9			
East entrance differential	0	1.0' - 2.0'	1.5			
Entrance weir E1	0	No criteria	5.8			
Entrance weir E2	0	depth (≥ 8')	13.0			
Entrance weir E3	0	depth (≥ 8')	13.0			
Collection channel velocity	0	1.5 - 4 fps	2.5			
Transportation channel velocity	0	1.5 - 4 fps	2.6			
North channel velocity	0	1.5 - 4 fps	2.4			
South channel velocity	0	1.5 - 4 fps	3.6			
West entrance differential	0	1.0' - 2.0'	1.4			
Entrance weir W1	0	depth (≥ 8')	8.3			
Entrance weir W2	0	depth (≥ 8')	8.3			
Entrance weir W3	0	No criteria	Closed			
South entrance differential	0	1.0' - 2.0'	1.4			
Entrance weir S1	0	depth (≥ 8')	8.3			
Entrance weir S2	0	depth (≥ 8')	8.3	Adjusted		
JUVENILE PASSAGE						
Sluiceway operation	0	Units 1, 8, 18				
Turbine trashrack drawdown	0	<1.5', wkly	range: 0.2-0.6'			
Spill volume	0	Spill at 40%				
Spill Pattern	0					
Turbine Unit Priority	0	per FPP				
Turbine 1% Efficiency	0	per FPP				

Birds/Sea lions:

Bird observation data collected once daily. Refer to Avian Zone map.

District investigating possibility of limited lethal gull removal at project. To be discussed at FPOM.

USDA gull hazing ended August 18. Mostly immature gulls present below spillway.

Two of 13 spillway avian lines broke closest to bridge. Replacement to occur after spillway closure.

Operations:

Calibration done 8/19, minor discrepancy on east entrance channel

Gateway drawdown 8/20 within criteria limits.

Current Outages:

T8 (MU15 & MU16) forced out due to transformer failure. Return unknown.

MU3 FOOS through 8/4/2016 due to loss of governor sump oil level, O/H and SCC upgrade

Maintenance:

South entrance dewater pump rehab complete, install next week.

New east exit weir electrical panel FCQ7 panel installed in gallery. Design completion in August. Electrical connection labor in September.

Long Term repair maintained plans; 154 -157 weir wheel mods, collection channel diffusers decommission, repair failed diffusers - all awaiting funding

Fish related /non-fish funded items; Spillway crane rehab priority over spillgate 9, both awaiting funding.

Fish unit breaker replace, Fish unit rehab and transformer replace in planning.

All spillway items on Critical Infrastructure list and Unfunded Requirement list.

Studies/Construction:

Environmental acceptable grease testing underway on unit 1. Outage planned this fall for analysis. Approved through FPOM.

North fishladder rehab/rock wall stabilizing. No new development.

East fishladder emergency backup construction this winter. Weekly planning meetings underway.

Crane rail replacement on tailrace and intake for in water work period 2016/17.

Transformer replacement planning continues. Eliminate fish unit TA transformers and tie to T1 and T3. Install start 2017.

In process of updating N Wasco Co PUD Memo of Agreement. Final awaiting PUD comments.

Fish unit rehab project plan to restart late Oct, early Nov. Will increase reliability of fish units and potential redundancy.

Fish unit breaker replace planned for in water work period 2017/18

Research/Contractors:

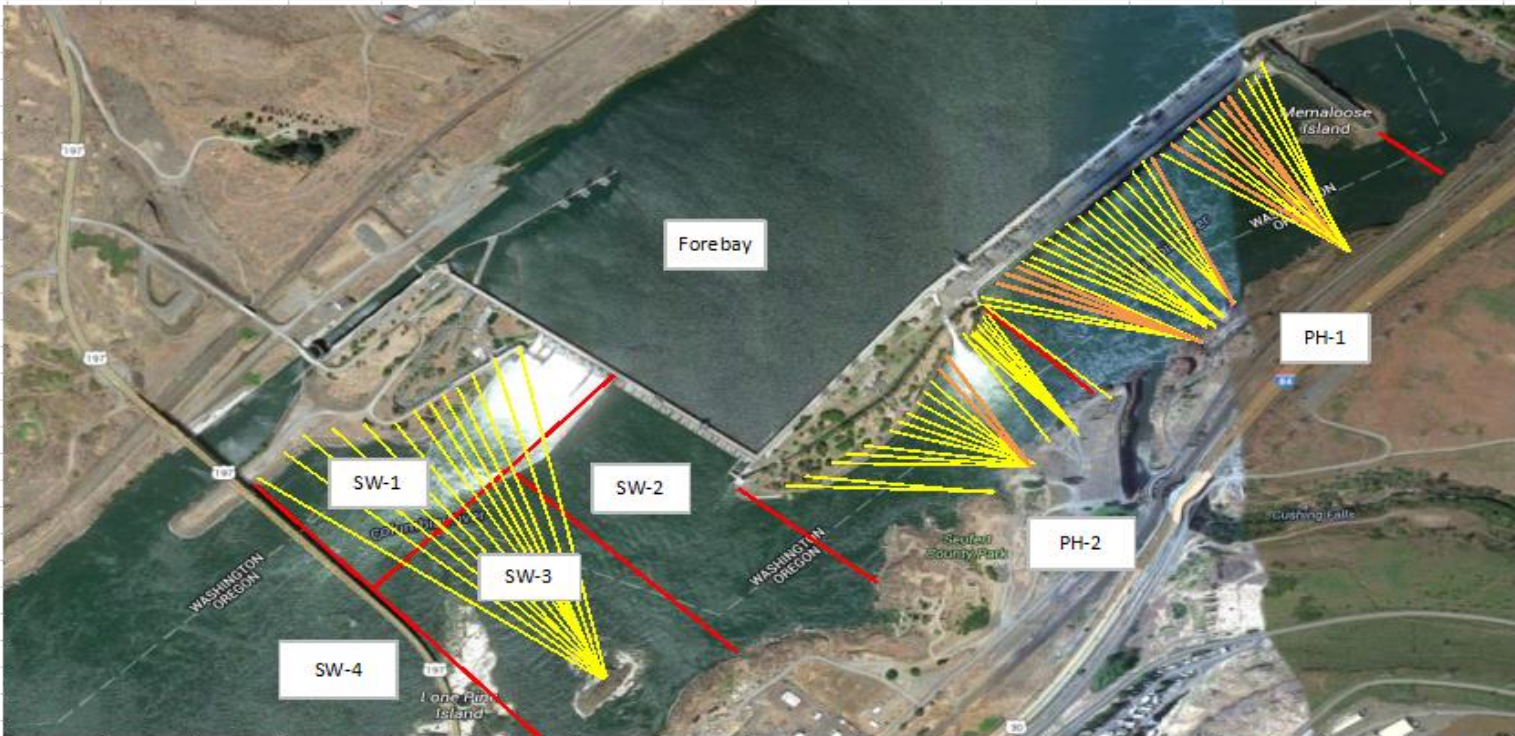
Northern Pikeminnow Management Program dam anglers caught 143 pikeminnow week of Aug1 at The Dalles. Cumulative total 3,015 through Aug 14.

Normandeau fish counters continue through Oct 30. No issues.

Tribal lamprey trapping continues at east count station. Catch rate low. Trapping expected into October.

Approved by: Ron Twiner

Operation Project Manager The Dalles Dam



Yellow lines= present avian lines

red lines= Barriers between observation zones

Orange lines= Missing or down avian lines

2016 Piscivorous Bird Counts

F=foraging, NF=non-foraging

Date	Observer	AM/PM	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		
8/14/16	GJF	PM	FB	0	0	5	16	0	0	0	0	0	0	2	0	23	osprey
			PH1	0	0	2	13	0	0	0	0	0	0	0	0	15	
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW1	2	0	0	0	0	0	0	0	0	0	0	0	2	
			SW2	0	0	2	0	0	0	0	0	0	0	0	0	2	
			SW3	85	5	0	0	0	0	0	0	0	3	0	0	93	
			SW4	16	35	0	0	0	0	0	27	59	0	0	137		
8/15/16	BC	AM	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	
			PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	0	88	0	0	0	0	0	0	0	0	0	0	88	
			SW4	0	22	0	0	0	0	0	0	18	0	0	40		
8/16/16	JWR	PM	FB	0	0	0	23	0	0	0	0	0	0	0	0	23	
			PH1	0	0	0	6	0	0	0	0	0	0	0	0	6	
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW1	5	0	0	0	0	0	0	0	0	0	0	0	5	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	53	59	1	0	0	0	0	0	0	1	0	0	114	
			SW4	3	0	0	0	0	0	0	1	12	0	0	16		
8/17/16	JWR	AM	FB	0	2	5	28	0	0	0	0	0	0	0	35		
			PH1	0	0	1	15	0	0	0	0	0	0	0	0		16
			PH2	0	0	0	0	0	0	0	0	0	0	0	0		0
			SW1	11	0	0	0	0	0	0	0	0	0	0	0		11
			SW2	0	0	0	0	0	0	0	0	0	0	0	0		0
			SW3	18	22	0	0	0	0	0	0	0	0	0	0		40
			SW4	16	7	0	0	0	0	0	9	19	0	0	51		
8/18/16	JWR	PM	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	
			PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW4	0	0	0	0	0	0	0	0	0	0	0			
8/19/16	JWR	AM	FB	0	0	2	48	0	0	0	0	0	0	0	50		
			PH1	0	0	1	5	0	0	0	0	0	0	0	0		6
			PH2	0	0	0	0	0	0	0	0	0	0	0	0		0
			SW1	1	0	0	0	0	0	0	0	0	0	0	0		1
			SW2	0	0	1	0	0	0	0	0	0	0	0	0		1
			SW3	28	41	0	0	0	0	0	0	1	0	0	0		70
			SW4	7	9	0	0	0	0	0	0	29	0	0	45		
8/20/16	JWR	PM	FB	0	2	4	24	0	0	0	0	0	0	0	30		
			PH1	0	0	0	7	0	0	0	0	0	0	0	0		7
			PH2	0	0	0	0	0	0	0	0	0	0	0	0		0
			SW1	0	0	0	0	0	0	0	0	0	0	0	0		0
			SW2	0	0	1	0	0	0	0	0	0	0	0	0		1
			SW3	8	3	0	0	0	0	0	0	0	0	0	0		11
			SW4	2	16	1	2	0	0	0	0	9	20	0	0	50	
Daily Averages				5	6	1	4	0	0	0	0	1	3	0	0	20	

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
8/14	673	601	72	271	181	90	0	0	0	13	0	0	38
8/15	618	552	66	227	160	67	2	0	2	5	0	0	37
8/16	852	744	108	292	206	86	13	8	5	14	0	0	101
8/17	570	500	70	204	136	68	5	0	5	7	0	1	19
8/18	1001	840	161	361	240	121	1	0	1	7	0	0	72
8/19	1183	961	222	259	199	60	2	2	0	4	0	0	35
8/20	1531	1314	217	434	304	130	6	1	5	1	0	0	74
total	6428	5512	916	2048	1426	622	29	11	18	51	0	1	376

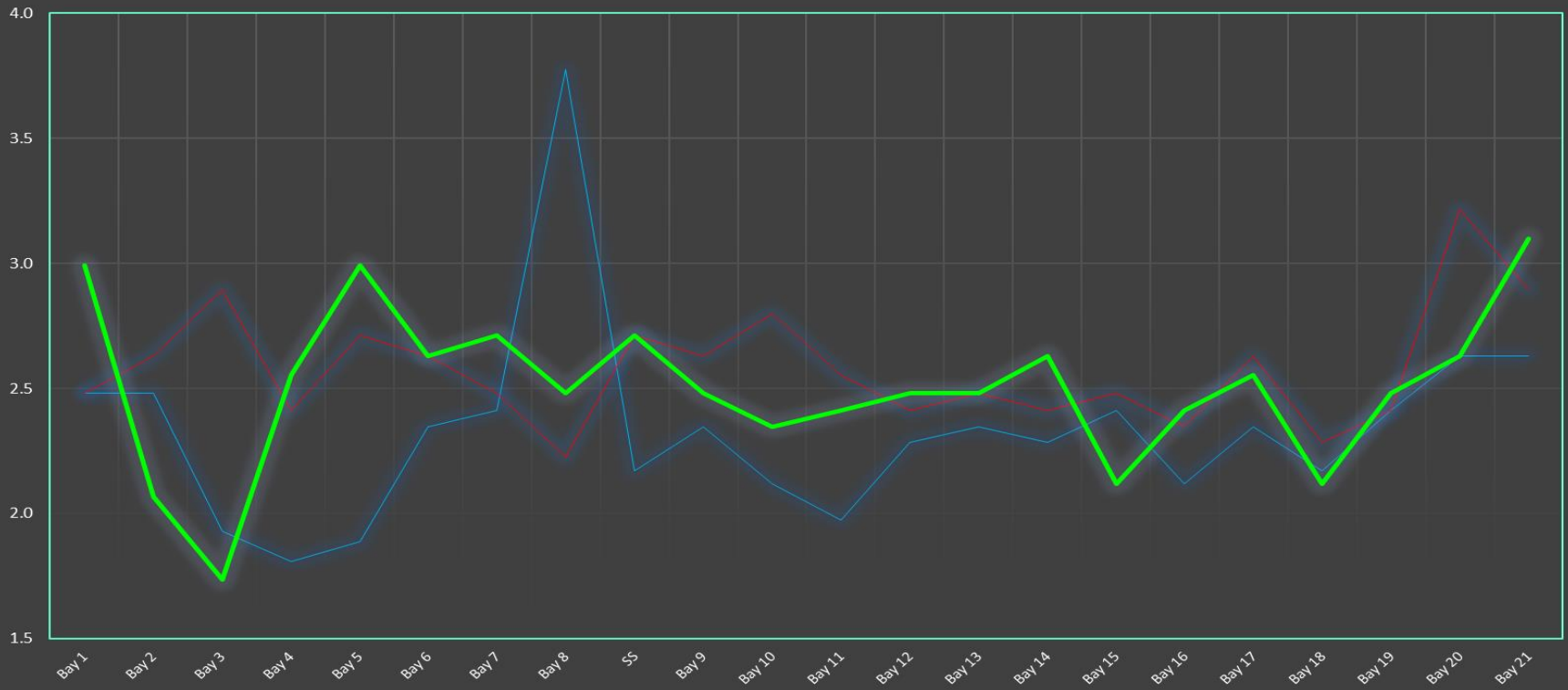
The Dalles North

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
8/14	319	294	25	184	112	72	1	1	0	10	0	0	6
8/15	390	362	28	182	124	58	1	1	0	10	0	0	19
8/16	331	301	30	143	84	59	0	0	0	8	0	0	12
8/17	424	365	59	265	188	77	0	0	0	11	0	0	74
8/18	584	556	28	265	182	83	0	0	0	4	0	0	36
8/19	1228	1134	94	326	230	96	7	6	1	2	0	0	43
8/20	2236	2106	130	408	271	137	0	0	0	2	0	0	38
total	5512	5118	394	1773	1191	582	9	8	1	47	0	0	228
% North	46.2	48.1	30.1	46.4	45.5	48.3	23.7	42.1	5.3	48.0	0.0	0.0	37.7

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

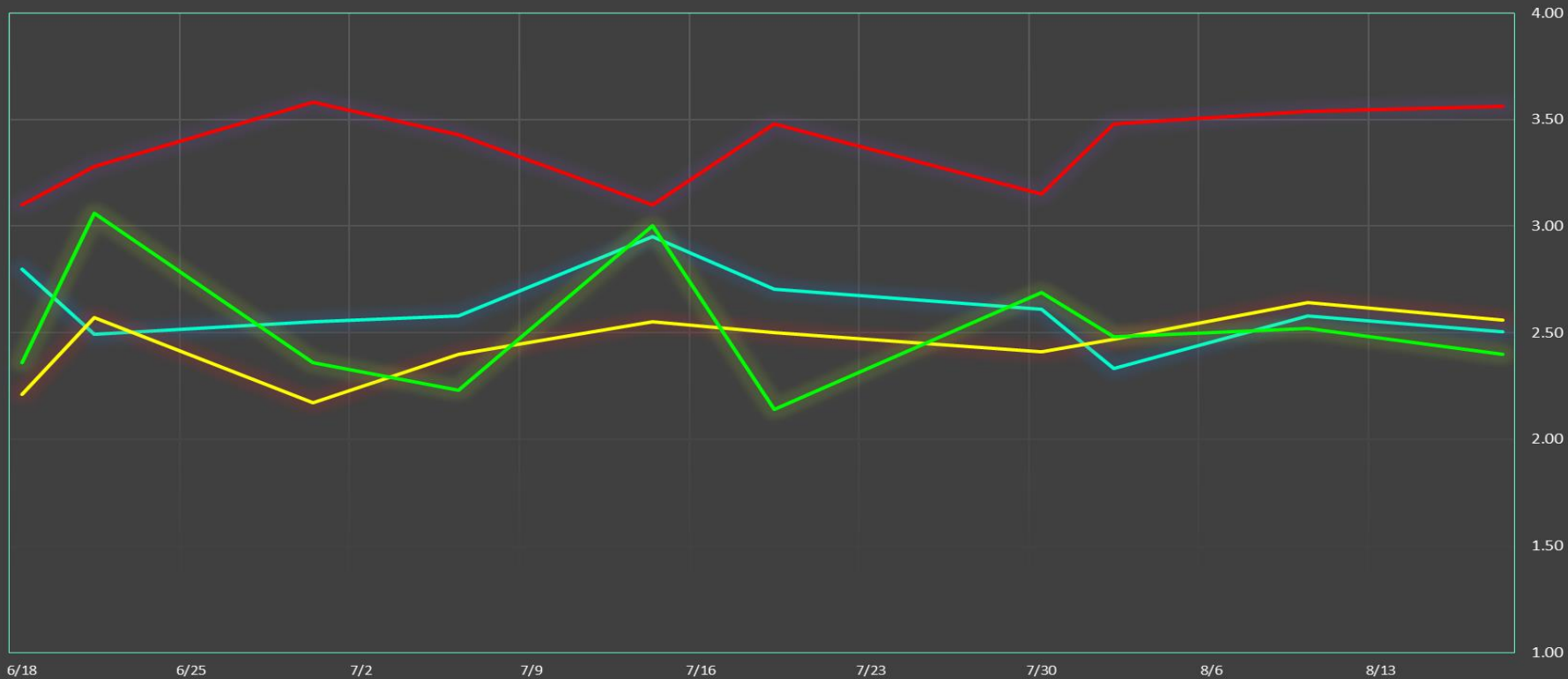
The Dalles Dam Collection Channel Velocites (In criteria 1.5 - 4.0 fps)

— Date 8/2 — Date 8/10 — Date 8/18

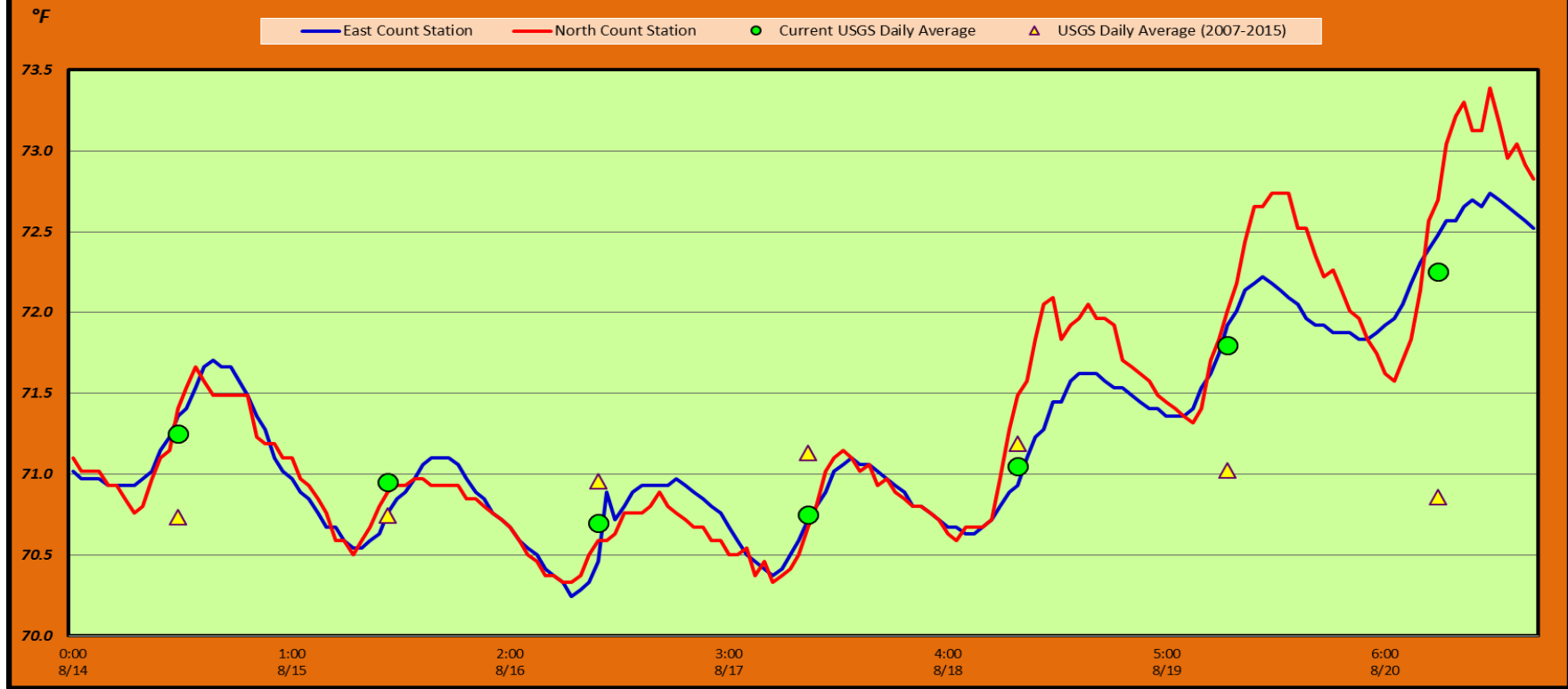


The Dalles Dam Averages Velocities (In criteria 1.5 - 4.0 fps)

The Dalles Collection Channel The Dalles Transportation Channel The Dalles North Entrance The Dalles South Rock Channel



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



USGS: <http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201608/col.html>

Secchi:		Temperatures
8/14	5.0	Sun 71.25
8/15	5.0	Mon 70.95
8/16	5.0	Tue 70.70
8/17	5.0	Wed 70.75
8/18	5.0	Thurs 71.05
8/19	5.0	Fri 71.80
8/20	5.0	Sat 72.25
	5.0	AVG 71.25

**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	
8/14			1.4	7.0	12.9	12.9	10.6	1.4	8.2	8.2		1.3	8.3	8.4	40.0
	1.5	9.8	1.4	7.0	12.9	12.9	10.6	1.4	8.2	8.2		1.3	8.3	8.4	
	1.4	9.8	1.5	7.1	13.0	13.0	10.7	1.4	8.2	8.2		1.3	8.3	8.4	
8/15			1.5	6.9	12.9	12.9	10.7	1.5	8.2	8.2		1.4	8.2	8.3	40.1
	1.4	9.7	1.5	6.9	12.8	12.9	10.7	1.5	8.2	8.2		1.4	8.2	8.3	
	1.4	9.7	1.2	8.1	13.0	13.1	10.5	1.2	8.2	8.3		1.3	8.3	8.4	
8/16			1.2	6.9	13.0	13.0	10.2	1.3	8.2	8.2		1.3	8.3	8.3	39.9
	1.3	9.7	1.4	2.9	12.9	12.9	10.1	1.3	8.2	8.2		1.3	8.3	8.3	
	1.4	9.7	1.5	3.0	13.0	13.0	10.2	1.3	8.3	8.3		1.4	8.3	8.3	
8/17			1.8	3.0	13.0	13.0	11.2	1.5	8.2	8.2		1.4	8.3	8.4	39.9
	1.4	9.8	1.6	5.5	13.0	13.0	11.3	1.5	8.3	8.3		1.4	8.3	8.3	
	1.4	9.7	1.6	6.6	13.0	13.0	11.7	1.4	8.3	8.3		1.4	8.3	8.3	
8/18			1.5	6.4	13.0	13.0	10.8	1.4	8.3	8.3		1.4	8.2	8.2	39.8
	1.3	9.8	1.4	3.9	13.0	13.0	10.1	1.3	8.3	8.3		1.4	8.3	8.3	
	1.5	9.7	1.6	4.0	13.0	13.0	11.0	1.5	8.2	8.2		1.4	8.3	8.3	
8/19			1.6	4.0	13.0	13.0	10.9	1.4	8.3	8.3		1.5	8.3	8.3	40.0
	1.4	9.7	1.6	5.5	13.0	13.0	11.1	1.5	8.3	8.3		1.5	8.3	8.3	
	1.4	9.8	1.6	7.0	13.0	13.0	11.7	1.4	8.4	8.4		1.4	8.3	8.3	
8/20			1.5	6.9	13.0	13.0	11.7	1.5	8.4	8.4		1.5	8.2	8.2	39.8
	1.3	9.7	1.5	6.9	13.0	13.0	11.7	1.5	8.2	8.2		1.4	8.3	8.3	
	1.4	9.8	1.5	6.9	13.0	13.0	11.7	1.5	8.2	8.2		1.4	8.3	8.3	
AVG:	1.4	9.7	1.5	5.8	13.0	13.0	10.9	1.4	8.3	8.3		1.4	8.3	8.3	39.9

Fishways are inspected twice daily plus one SCADA inspection.

Spill % http://www.nwd-wc.usace.army.mil/dd/nwdp/project_hourly/webexec/rep?r=tda&aqo=3