

The Dalles Dam Fishway Status Report

8/7/2016

Inspection Period: 07/31/2016-08/06/2016

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: 71.1 °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'	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')	11.9			
East entrance differential	0	1.0' - 2.0'	1.6			
Entrance weir E1	0	No criteria	5.9			
Entrance weir E2	0	depth (≥ 8')	13.1			
Entrance weir E3	0	depth (≥ 8')	13.1			
Collection channel velocity	0	1.5 - 4 fps	2.3			
Transportation channel velocity	0	1.5 - 4 fps	2.5			
North channel velocity	0	1.5 - 4 fps	2.5			
South channel velocity	0	1.5 - 4 fps	3.5			
West entrance differential	0	1.0' - 2.0'	1.4			
Entrance weir W1	0	depth (≥ 8')	8.7			
Entrance weir W2	0	depth (≥ 8')	8.7			
Entrance weir W3	0	No criteria	Closed			
South entrance differential	0	1.0' - 2.0'	1.5			
Entrance weir S1	0	depth (≥ 8')	8.4			
Entrance weir S2	1	depth (≥ 8')	8.4	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	4	per FPP	MU 3, 13, 14, 15 & 16 forced out. Affects turbine block priority order.			
Turbine 1% Efficiency	0	per FPP				

Birds/Sea lions:

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

Decrease in gull and pelican numbers.

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

USDA gull hazing by boat continues through August 19.

Two of 13 spillway avian lines broke closest to bridge. Replacement plans underway with in house labor.

Operations:

Unable to perform calibration due to high winds

ROV inspected all ladder gratings junction pool, east, west, south and north ladder entrances

Lamprey mortalities observed impinged on east weir during ROV inspection. Memo provided to FPOM. Lamprey mod PDT consulted for corrective ideas.

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 removed for rehab. To be complete for this winter outage.

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

Long Term repair maintained plans; 154 -157 weir 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.

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

East fishladder emergency backup construction this winter. Weekly planning meetings underway. Winter fishway dewatering schedule being developed.

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 started. Will increase reliability of fish units and potential redundancy.

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

Research/Contractors:

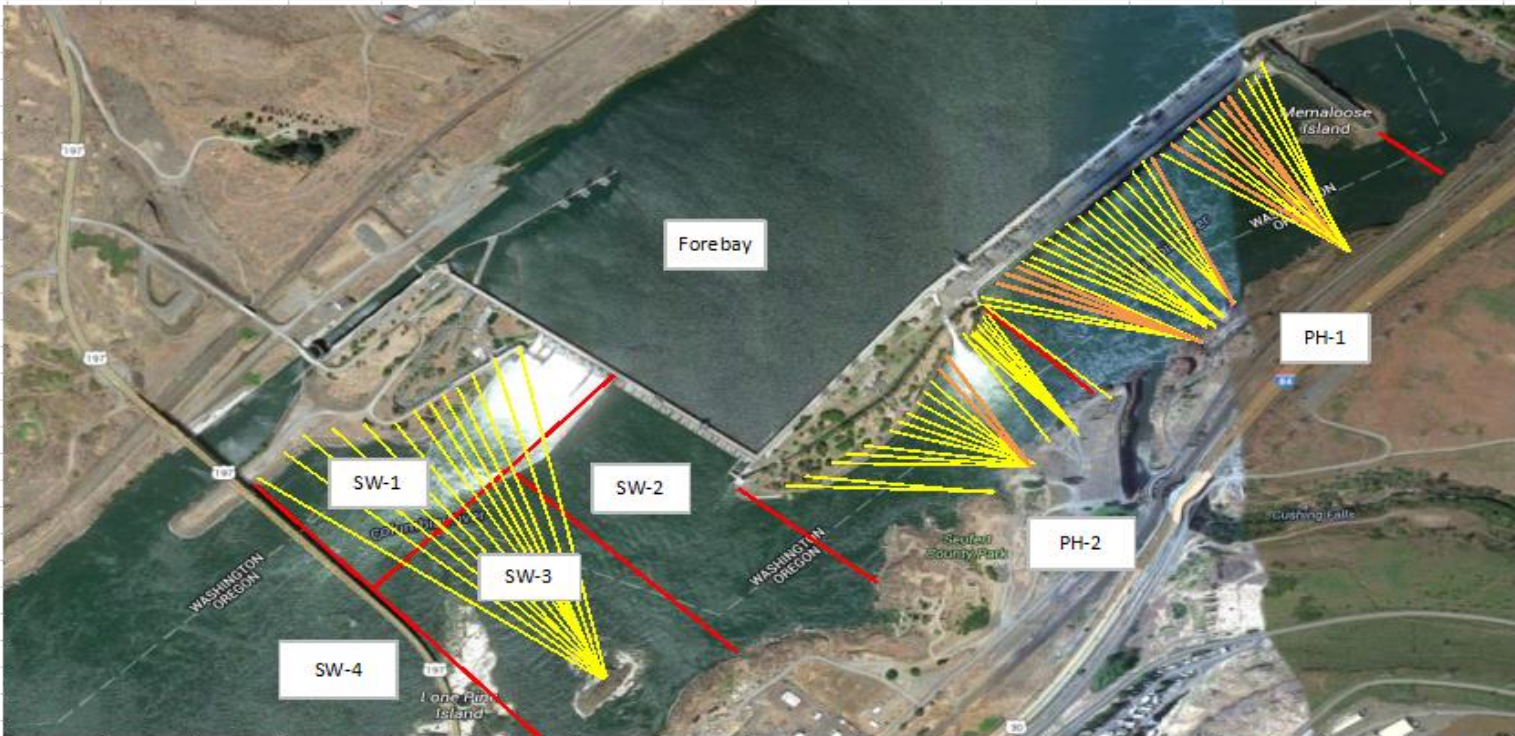
Northern Pikeminnow Management Program dam anglers caught 223 pikeminnow week of Aug1 at The Dalles. Cumulative total 2,873 through Aug 7.

Normandeau fish counters continue through Oct 30. No issues.

Tribal lamprey trapping continues at east count station. Catch rates decreasing. Started trapping at north count station to increase catch rate.

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				
7/31/16	GJF	PM	FB	0	5	2	27	0	0	0	0	0	0	0	0	0	34		
			PH1	2	0	0	0	0	0	0	0	0	0	0	0	0	0		2
			PH2	0	0	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	0		0
			SW2	0	0	0	0	0	0	0	0	0	0	2	0	0	0		2
			SW3	0	0	0	0	0	0	0	0	0	0	4	1	0	0		5
			SW4	0	120	0	0	0	0	0	0	24	75	0	0	219			
8/1/16	GJF	AM	FB	0	0	2	31	0	0	0	0	0	0	0	0	0	33		
			PH1	0	0	0	3	0	0	0	0	0	0	0	0	0	0		3
			PH2	0	0	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	0		0
			SW2	0	0	0	5	0	0	0	0	0	1	0	0	0	0		6
			SW3	0	0	0	0	0	0	0	0	0	2	0	0	0	0		2
			SW4	0	94	0	0	0	0	0	0	15	21	0	0	130			
8/2/16	GJF	PM	FB	0	0	0	19	0	0	0	0	0	0	0	0	0	19		
			PH1	0	0	2	7	0	0	0	0	0	0	0	0	0	9		
			PH2	0	0	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	0		0
			SW2	0	0	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	0		0
			SW4	0	0	0	0	0	0	0	0	0	32	0	0	32			
8/3/16	GJF	AM	FB	0	0	2	24	0	0	0	0	0	0	0	0	0	26		
			PH1	0	0	1	4	0	0	0	0	0	0	0	0	0	0		5
			PH2	0	0	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	0		0
			SW2	0	0	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	0		0
			SW4	0	0	0	0	0	0	0	0	0	41	0	0	41			
8/4/16	GJF	PM	FB	0	2	7	18	0	0	0	0	0	0	0	0	0	27		
			PH1	0	0	2	13	0	0	0	0	0	0	0	0	0	0		15
			PH2	0	0	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	0		0
			SW2	0	0	8	0	0	0	0	0	0	1	0	0	0	0		9
			SW3	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
			SW4	0	0	0	0	0	0	0	0	5	37	0	0	42			
8/5/16	JWR	AM	FB	0	1	0	24	0	0	0	0	0	0	0	0	0	25		
			PH1	0	0	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	0		0
			SW1	0	0	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	0		0
			SW3	0	0	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	0	0			
8/6/16	JWR	PM	FB	1	0	0	26	0	0	0	0	0	0	0	0	0	27		
			PH1	0	0	0	3	0	0	0	0	0	0	0	0	0	0		3
			PH2	0	0	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	0		0
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
			SW3	11	0	0	0	0	0	0	0	0	0	0	0	0	0		11
			SW4	24	12	0	0	0	0	0	0	0	0	0	0	36			
Daily Averages				1	5	1	4	0	0	0	0	1	4	0	0	16			

The Dalles East

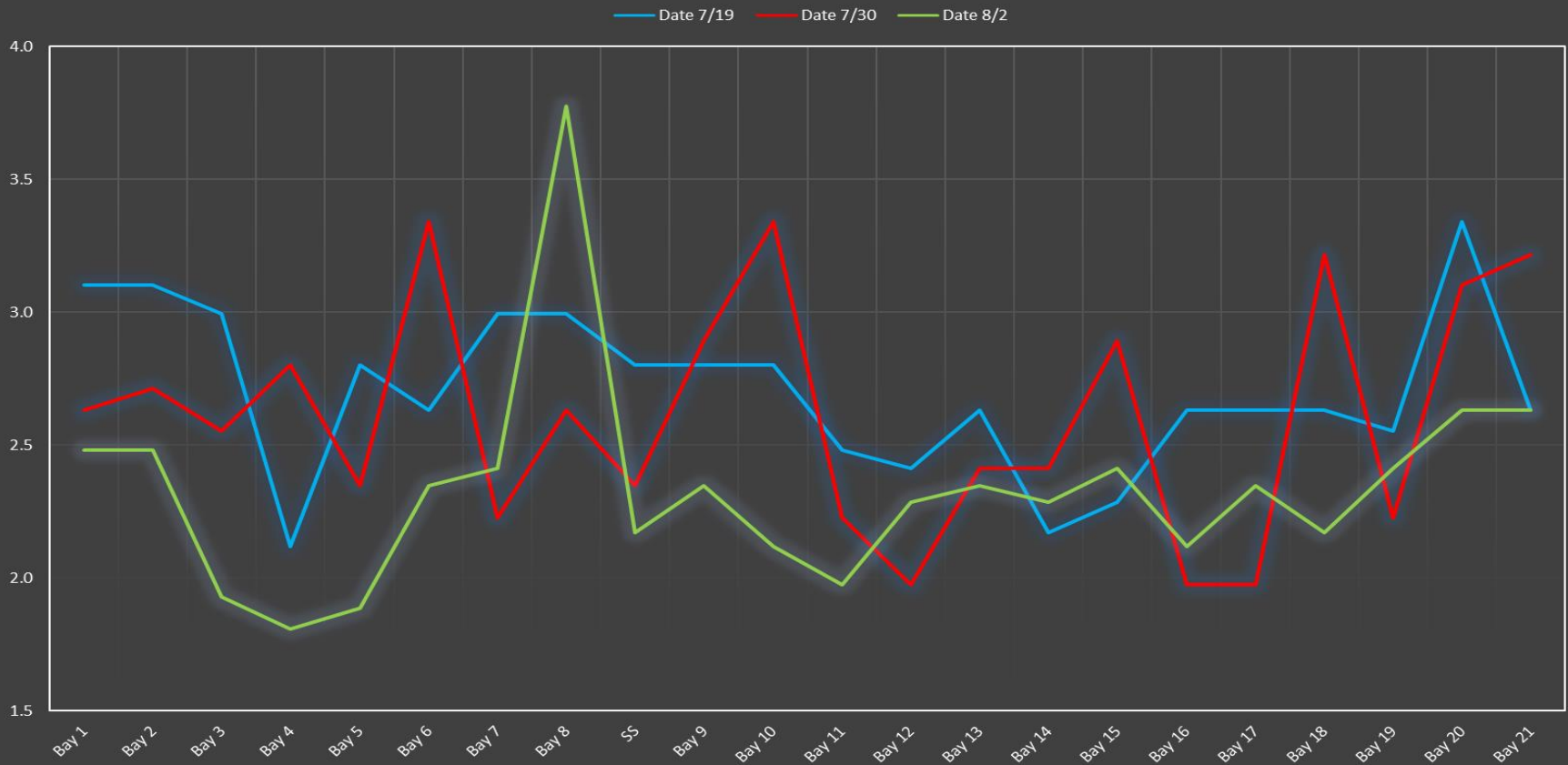
Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
7/31	336	290	46	288	166	122	0	0	0	71	0	0	91
8/1	459	406	53	262	184	78	0	0	0	60	0	0	56
8/2	482	444	38	322	200	122	0	0	0	41	0	0	79
8/3	319	288	31	220	136	84	0	0	0	43	0	0	43
8/4	367	326	41	231	140	91	0	0	0	43	0	0	58
8/5	373	319	54	193	120	73	0	0	0	31	0	0	70
8/6	388	347	41	150	92	58	0	0	0	28	0	0	80
total	2724	2420	304	1666	1038	628	0	0	0	317	0	0	477

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
7/31	286	257	29	159	86	73	0	0	0	70	0	0	112
8/1	203	184	19	252	136	116	0	0	0	48	0	0	223
8/2	72	65	7	190	106	84	0	0	0	32	0	0	77
8/3	177	151	26	203	112	91	0	0	0	43	0	0	126
8/4	289	271	18	190	113	77	0	0	0	35	0	0	109
8/5	162	154	8	133	80	53	0	0	0	26	0	0	96
8/6	251	223	28	129	74	55	0	0	0	29	0	0	88
total	1440	1305	135	1256	707	549	0	0	0	283	0	0	831
% North	34.6	35.0	30.8	43.0	40.5	46.6	0.0	0.0	0.0	47.2	0.0	0.0	63.5

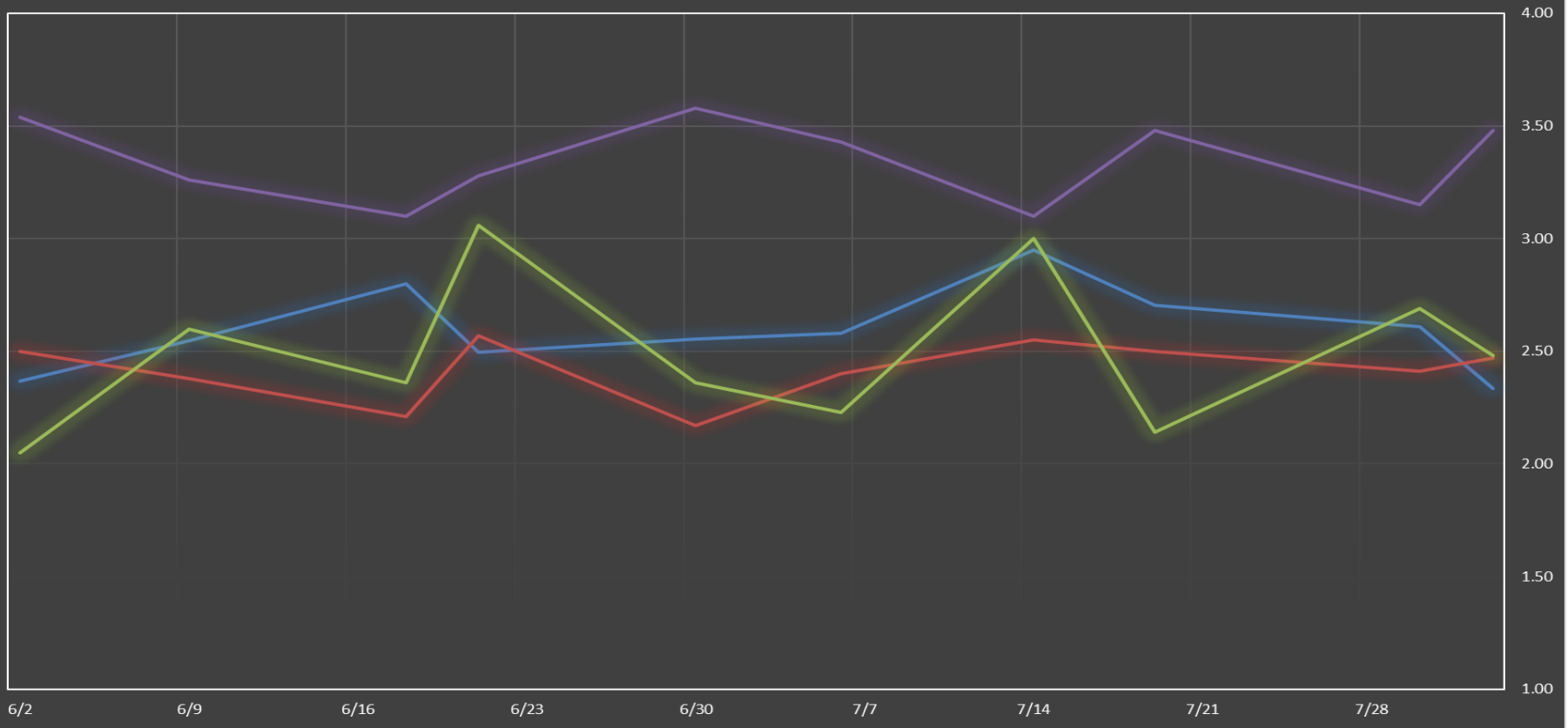
<http://www.nwp.usace.army.mil/Missions/Environment/Fish/Counts.aspx>

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

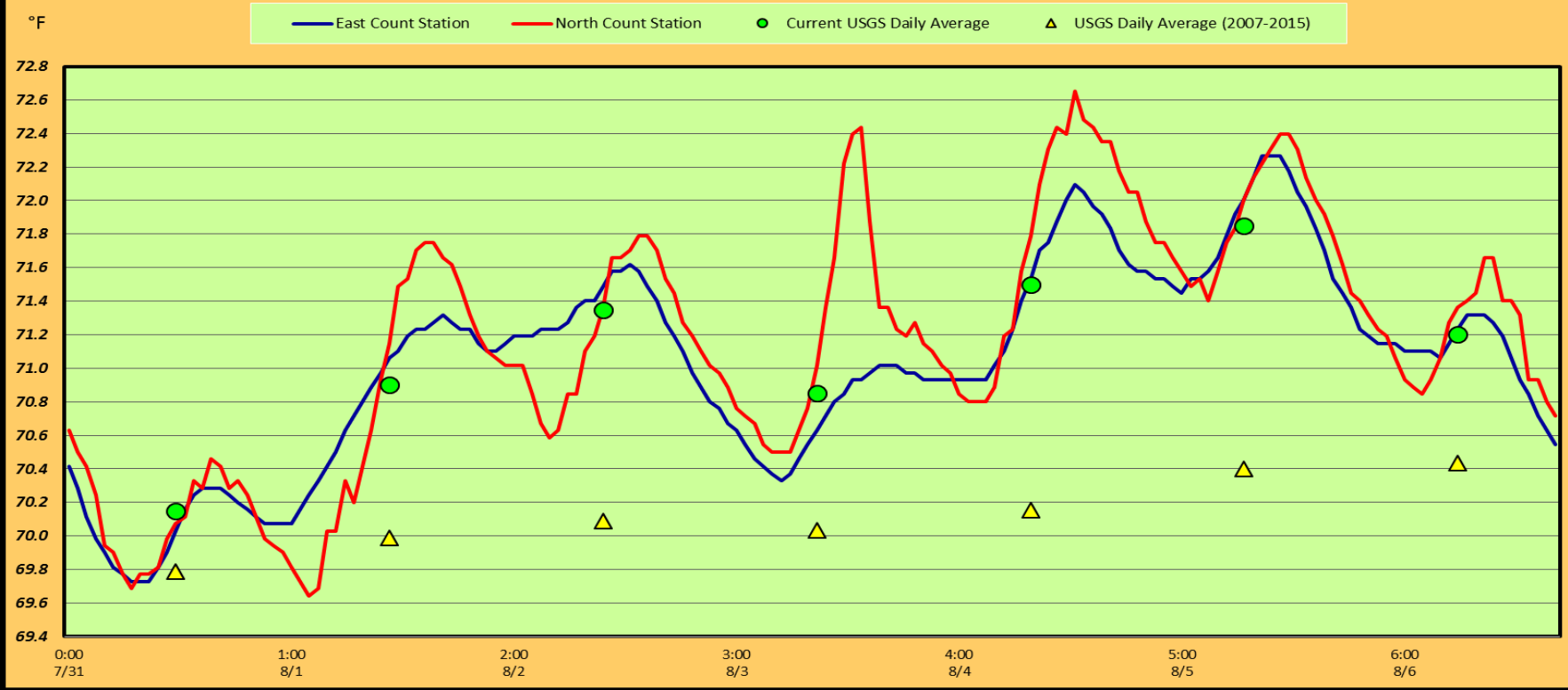


The Dalles Dam Averages Velocities (In criteria 1.5 - 4.0 fps)

— 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 Temperature



USGS: <http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201607/ico1.html>

Secchi:		Temperatures
7/31	5.0	Sun 70.15
8/1	5.0	Mon 70.90
8/2	5.0	Tue 71.35
8/3	5.0	Wed 70.85
8/4	5.0	Thurs 71.50
8/5	5.0	Fri 71.85
8/6	5.0	Sat 71.20
	5.0	AVG 71.11

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

= Out of criteria

Date:	North Ladder							East Ladder							% Spill
	North Entrance		East Entrance					West Entrance			South Entrance				
	Differential	N1 Depth	Differential	E1 Depth	E2 Depth	E3 Depth	JP 6	Differential	W1 Depth	W2 Depth	W3 Depth	Differential	S1 Depth	S2 Depth	
7/31			1.7	3.4	13.5	13.3	12.0	1.4	9.4	9.4		1.5	8.2	8.3	40.0
	1.5	9.8	1.7	1.7	13.4	13.4	11.9	1.4	9.6	9.6		1.5	8.4	8.3	
	1.4	9.7	1.9	3.5	13.5	13.4	12.7	1.4	9.5	9.5		1.4	8.3	8.2	
8/1			1.5	6.1	13.3	13.3	12.0	1.2	9.5	9.5		1.5	8.2	8.3	40.2
	1.4	9.7	1.5	6.0	13.4	13.4	11.9	1.2	9.5	9.5		1.4	8.4	8.3	
	1.5	9.7	1.5	6.0	13.4	13.5	12.8	1.4	9.4	9.6		1.5	8.3	8.4	
8/2			1.5	5.8	13.4	13.2	11.2	1.1	9.6	9.6		1.4	8.3	8.3	40.1
	1.4	9.8	1.6	6.0	13.0	13.0	11.2	1.5	8.2	8.2		1.4	8.2	8.2	
	1.4	9.7	1.5	5.9	12.9	12.9	11.1	1.5	8.3	8.3		1.5	8.2	8.2	
8/3	ROV'd all ladder fishway entrances														40.2
	1.3	9.7	1.4	3.4	13.0	13.0	10.5	1.4	8.2	8.2		2.0	10.3	10.3	
8/4			1.5	3.6	13.0	13.0	10.4	1.3	8.4	8.4		1.4	8.2	8.3	40.1
	1.3	9.7	1.5	3.5	13.0	13.0	10.7	1.5	8.3	8.3		1.5	8.3	8.3	
	1.4	9.8	1.7	5.6	13.0	13.0	11.9	1.5	8.4	8.3		1.4	8.3	8.4	
8/5			1.8	5.5	12.9	13.0	12.4	1.5	8.3	8.3		1.5	8.2	8.3	39.9
	1.4	9.7	1.6	7.0	13.0	13.0	12.4	1.6	8.2	8.2		1.4	8.3	8.3	
	1.4	9.8	1.6	9.6	13.0	13.0	13.0	1.6	8.3	8.3		1.5	8.3	8.3	
8/6			1.5	9.5	13.1	13.1	12.4	1.5	8.3	8.3		1.4	8.3	8.3	40.0
	1.3	9.8	1.7	9.6	13.0	13.0	12.7	1.6	8.3	8.3		1.4	8.3	8.3	
	1.4	9.7	1.6	9.5	13.0	13.0	12.8	1.6	8.3	8.3		1.5	8.3	8.3	
AVG:	1.4	9.7	1.6	5.9	13.1	13.1	11.9	1.4	8.7	8.7		1.5	8.4	8.4	40.1

Fishways are inspected twice daily plus one SCADA inspection.