

# The Dalles Dam Fishway Status Report

7/30/2016

Inspection Period: 07/24/2016-07/30/2016

## 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: 70.5 °F
			Comments		Secchi: 5.0 feet
<b>NORTH FISHWAY</b>					
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'			
<b>EAST FISHWAY</b>					
Exit differential	0	≤ 0.5'			
Removable weirs 154-157	1	Per forebay	156 found in manual, switched to auto		
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	1	depth (≥ 7')	10.2	Weir lifted out, criteria now met	
East entrance differential	0	1.0' - 2.0'	1.6		
Entrance weir E1	0	No criteria	3.4		
Entrance weir E2	0	depth (≥ 8')	12.7		
Entrance weir E3	0	depth (≥ 8')	12.7		
Collection channel velocity	0	1.5 - 4 fps	2.6		
Transportation channel velocity	0	1.5 - 4 fps	2.4		
North channel velocity	0	1.5 - 4 fps	2.7		
South channel velocity	0	1.5 - 4 fps	3.2		
West entrance differential	0	1.0' - 2.0'	1.5		
Entrance weir W1	0	depth (≥ 8')	8.6		
Entrance weir W2	0	depth (≥ 8')	8.6		
Entrance weir W3	0	No criteria	Closed		
South entrance differential	0	1.0' - 2.0'	1.5		
Entrance weir S1	0	depth (≥ 8')	8.3		
Entrance weir S2	1	depth (≥ 8')	8.3	Adjusted	
<b>JUVENILE PASSAGE</b>					
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.

Next to no avian presence/foraging, difficult to explain as to why, efforting to find out

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. Replacement plans underway.

**Operations:**

Calibration 7/24. Minor discrepancies found, TDE notified

Fish unit 1 and 2 scheduled out of service half day for east fishway ROV grating inspection. North PUD out second half for the same.

**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 81 fish as of July3 at The Dalles. Cumulative total 2,133.

Normandeau fish counters continue through Oct 30. No issues.

Tribal lamprey trapping continues at east count station. Approx 30% catch target. Catch rates decreasing. Considering trapping at north count station.

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			
7/24/16	JWR	AM	FB	0	9	2	81	0	0	0	0	0	0	0	0	0	92	
			PH1	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	
			SW1	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	
			SW3	0	1	0	0	0	0	0	0	0	0	1	0	0	2	
			SW4	0	0	0	0	0	0	0	0	0	24	79	0	0	103	
7/25/16	JWR	PM	FB	0	9	1	39	0	0	0	0	0	0	0	0	0	49	
			PH1	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	
			SW1	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	
			SW3	0	0	0	0	0	0	0	0	0	30	86	0	0	116	
			SW4	0	1	0	0	0	0	0	0	0	0	1	0	0	2	
7/26/16	JWR	AM	FB	0	3	0	60	0	0	0	0	0	0	0	0	0	63	
			PH1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
			PH2	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	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	0	0	0	0	0	0	0	0	0	2	0	0	0	2	
			SW4	0	0	0	0	0	0	0	0	0	21	75	0	0	96	
7/27/16	JWR	PM	FB	0	3	21	30	0	0	0	0	0	0	0	0	0	54	
			PH1	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	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	0	0	1	0	0	0	0	0	1	0	0	0	0	2	
			SW3	0	0	0	0	0	0	0	0	0	1	5	0	0	6	
			SW4	0	0	0	0	0	0	0	0	0	6	88	0	0	94	
7/28/16	JWR	AM	FB	0	1	1	43	0	0	0	0	0	0	0	0	0	45	
			PH1	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	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
			SW3	0	0	0	0	0	0	0	0	0	2	0	0	0	2	
			SW4	0	0	0	0	0	0	0	0	0	14	30	0	0	44	
7/29/16	GJF	PM	FB	0	3	9	16	0	0	0	0	0	0	0	0	0	28	
			PH1	0	0	5	11	0	0	0	0	0	0	0	0	0	16	
			PH2	3	0	0	0	0	0	0	0	2	0	0	0	0	5	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	0	0	3	0	0	0	0	0	4	0	0	0	0	7	
			SW3	0	0	0	0	0	0	0	0	2	0	0	0	0	2	
			SW4	0	0	0	0	0	0	0	0	21	66	0	0	0	87	
7/30/16	GJF	AM	FB	0	0	5	26	0	0	0	0	0	0	0	0	0	31	
			PH1	0	0	2	9	0	0	0	0	1	0	0	0	0	12	
			PH2	0	0	0	0	0	0	0	0	2	0	0	0	0	2	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	0	0	0	0	0	0	0	0	4	0	0	0	0	4	
			SW3	0	0	0	0	0	0	0	0	1	2	0	0	0	3	
			SW4	0	156	0	0	0	0	0	0	0	24	51	0	0	231	

## 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
7/24	551	510	41	332	187	145	0	0	0	118	0	0	61
7/25	620	548	72	323	174	149	0	0	0	126	0	0	71
7/26	513	458	55	321	158	163	0	0	0	134	0	0	71
7/27	342	300	42	242	133	109	0	0	0	125	0	0	136
7/28	442	386	56	329	167	162	0	0	0	85	0	0	91
7/29	505	426	79	373	194	179	0	0	0	122	0	0	118
7/30	340	300	40	339	193	146	0	0	0	92	0	0	48
<b>total</b>	<b>3313</b>	<b>2928</b>	<b>385</b>	<b>2259</b>	<b>1206</b>	<b>1053</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>802</b>	<b>0</b>	<b>0</b>	<b>596</b>

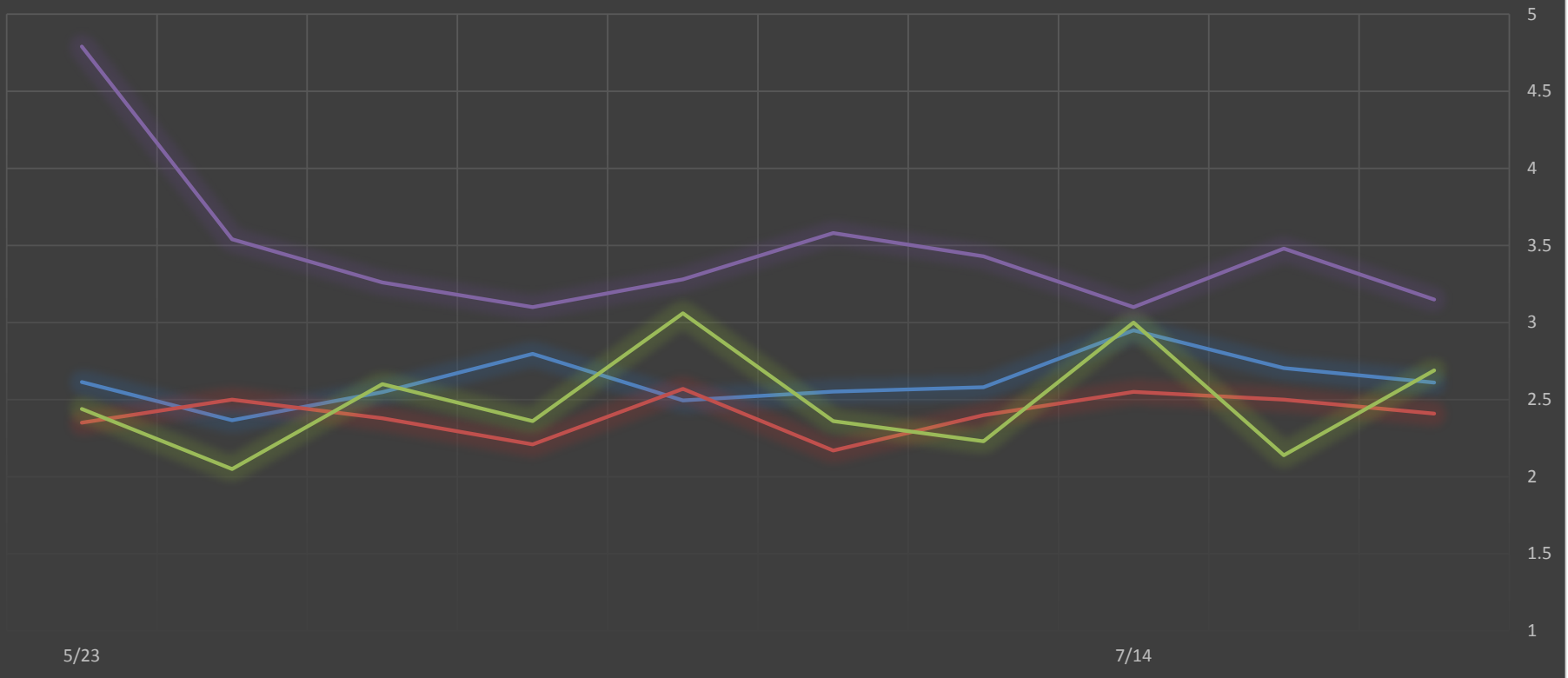
## The Dalles North

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
7/24	407	378	29	265	134	131	0	0	0	145	0	0	48
7/25	303	289	14	292	154	138	0	0	0	108	0	0	107
7/26	233	204	29	230	110	120	0	0	0	88	0	0	218
7/27	194	178	16	220	112	108	0	0	0	102	0	0	120
7/28	283	252	31	286	144	142	0	0	0	82	0	0	62
7/29	258	235	23	259	133	126	0	0	0	64	0	0	102
7/30	295	260	35	280	142	138	0	0	0	84	0	0	118
<b>total</b>	<b>1973</b>	<b>1796</b>	<b>177</b>	<b>1832</b>	<b>929</b>	<b>903</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>673</b>	<b>0</b>	<b>0</b>	<b>775</b>
<b>% North</b>	<b>37.3</b>	<b>38.0</b>	<b>31.5</b>	<b>44.8</b>	<b>43.5</b>	<b>46.2</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>45.6</b>	<b>0.0</b>	<b>0.0</b>	<b>56.5</b>

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

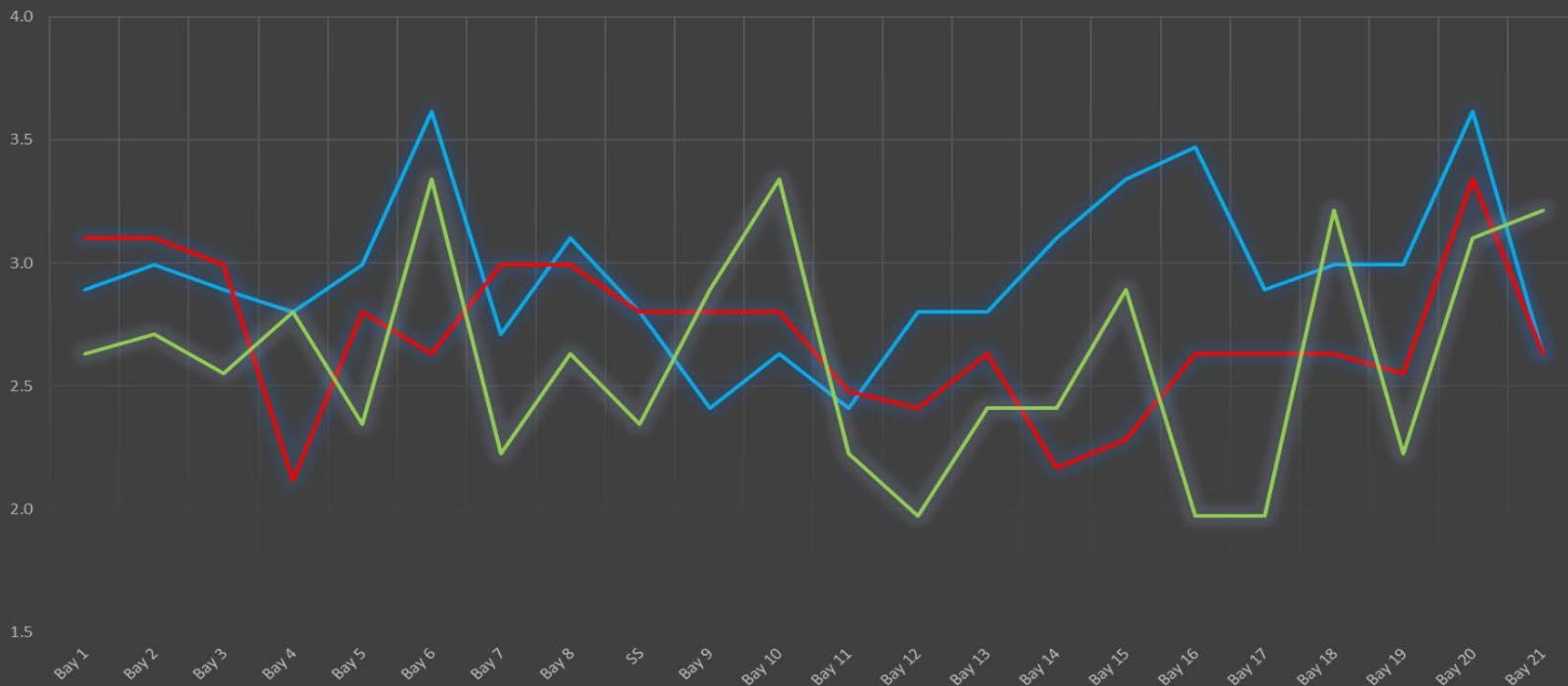
### The Dalles Dam Averages Velocities (In criteria 1.5 - 4.0 fps)

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



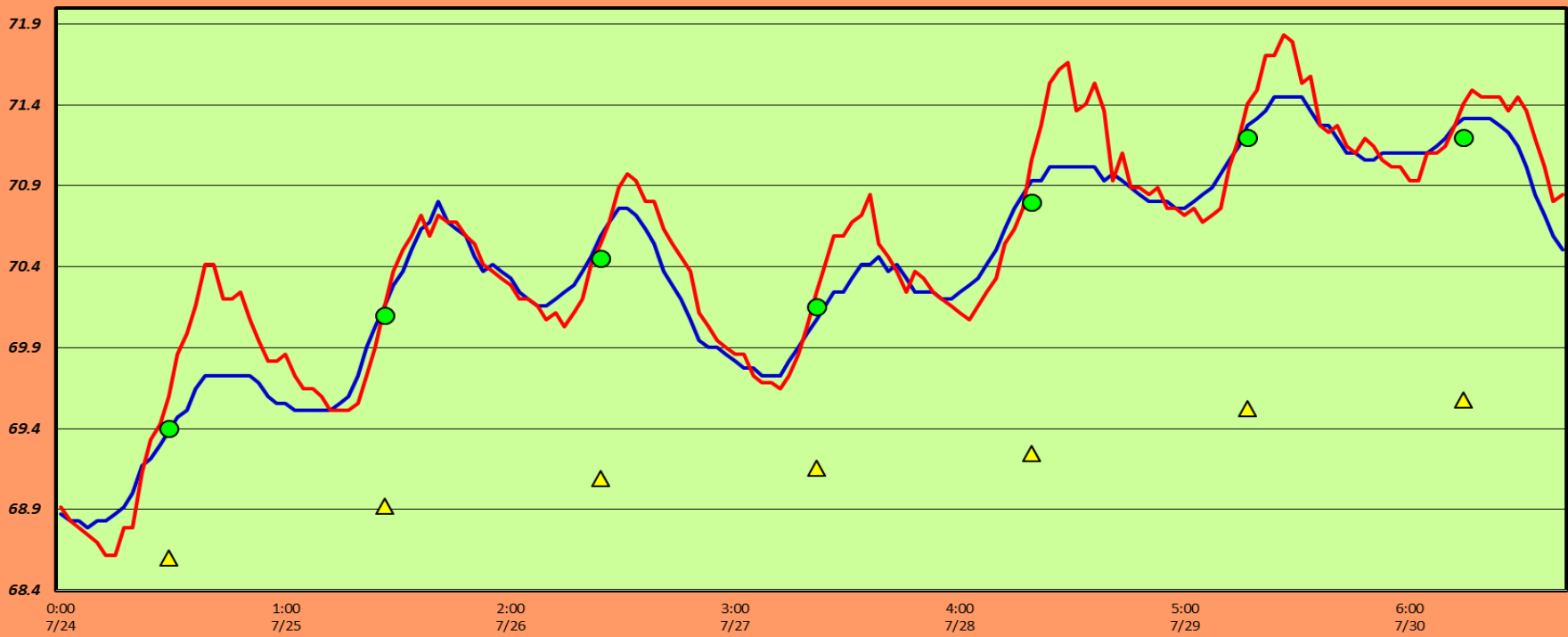
### The Dalles Dam Collection Channel Velocites (In criteria 1.5 - 4.0 fps)

— Date 7/14 — Date 7/19 — Date 7/30



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

— East Count Station    — North Count Station    ● Current USGS Daily Average    ▲ USGS Daily Average (2007-2015)





USGS: <http://www.nwd-wc.usace.army.mil/tm7/documents/ops/temp/201607/icoi.html>

Secchi:		Temperatures
5.0	Sun	69.40
5.0	Mon	70.10
5.0	Tue	70.45
5.0	Wed	70.15
5.0	Thurs	70.80
5.0	Fri	71.20
5.0	Sat	71.20
5.0	AVG	70.47

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	
7/24			1.4	0.0	11.9	11.9	6.5	1.3	8.9	8.9		1.5	8.4	8.4	39.9
	1.3	9.8	1.7	0.0	11.5	11.6	9.3	1.5	8.6	8.6		1.5	8.3	8.3	
	1.4	9.7	1.5	0.0	12.0	12.0	9.5	1.5	8.6	8.6		1.4	8.3	8.3	
7/25			1.6	0.0	11.9	11.9	8.5	1.5	8.4	8.4		1.4	8.3	8.3	40.1
	1.4	9.7	1.4	0.0	12.1	12.1	9.1	1.4	8.6	8.6		1.5	8.3	8.3	
	1.4	9.8	1.5	3.5	13.0	13.0	10.3	1.5	8.4	8.4		1.4	8.3	8.3	
7/26			1.9	3.1	12.4	12.5	10.5	1.5	8.5	8.5		1.4	8.4	8.4	40.7
	1.4	9.7	1.6	6.5	12.5	12.5	10.7	1.5	8.6	8.6		1.5	8.2	8.3	
	1.4	9.9	1.5	7.0	12.6	12.6	11.0	1.4	8.5	8.5		1.4	8.4	8.4	
7/27			1.2	7.5	12.9	13.0	10.4	1.3	8.5	8.5		1.4	8.2	8.2	39.4
	1.4	9.7	1.4	5.1	12.9	12.9	10.4	1.6	8.2	8.2		1.5	8.2	8.2	
	1.4	9.7	1.5	5.1	13.1	13.0	11.1	1.6	8.4	8.4		1.4	8.3	8.3	
7/28			1.3	5.1	13.0	12.9	10.1	1.6	8.2	8.2		1.4	8.3	8.3	39.6
	1.4	9.7	1.4	3.5	13.0	13.0	9.8	1.4	8.2	8.2		1.5	8.2	8.2	
	1.4	9.5	1.6	3.5	13.1	13.0	10.9	1.6	8.2	8.2		1.5	8.2	8.3	
7/29			1.6	3.4	12.9	12.9	10.5	1.6	8.2	8.2	1.5	8.3	8.4	39.9	
	1.3	9.7	1.8	3.6	13.0	13.0	11.0	1.6	8.3	8.3	1.5	8.4	8.3		
	1.6	9.8	1.9	3.7	13.1	13.1	12.2	1.8	8.3	8.3	1.6	8.4	8.4		
7/30			1.7	3.4	13.4	13.4	11.5	1.3	9.5	9.5	1.5	8.3	8.2	40.7	
	1.5	9.8	1.6	3.4	13.4	13.3	9.0	1.3	9.6	9.6	1.4	8.3	8.4		
	1.4	9.7	1.5	3.4	13.4	13.4	11.3	1.2	9.5	9.5	1.4	8.3	8.2		
<b>AVG:</b>	<b>1.4</b>	<b>9.7</b>	<b>1.6</b>	<b>3.4</b>	<b>12.7</b>	<b>12.7</b>	<b>10.2</b>	<b>1.5</b>	<b>8.6</b>	<b>8.6</b>		<b>1.5</b>	<b>8.3</b>	<b>8.3</b>	<b>40.0</b>

Fishways are inspected twice daily plus one SCADA inspection.