

# The Dalles Dam Fishway Status Report

7/24/2016

Inspection Period: 07/17/2016-07/23/2016

## 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: 68.7 °F	
			Comments		Secchi: 5.3 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	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'	Currently set at 1.3' for shad passage			
Junction pool weir JP6	3	depth (≥ 7')	8.3	Weir adjusted to meet criteria		
East entrance differential	0	1.0' - 2.0'	1.4			
Entrance weir E1	0	No criteria	1.3			
Entrance weir E2	0	depth (≥ 8')	12.6			
Entrance weir E3	0	depth (≥ 8')	12.6			
Collection channel velocity	0	1.5 - 4 fps	2.7			
Transportation channel velocity	0	1.5 - 4 fps	2.5			
North channel velocity	0	1.5 - 4 fps	2.1			
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')	9.1			
Entrance weir W2	0	depth (≥ 8')	9.1			
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		
<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	2	Spill at 40%				
Spill Pattern	0					
Turbine Unit Priority	0	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.

Pelican numbers dropping below spillway. Low feeding gull numbers continue. Still no gull activity at powerhouse.

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:**

Gateway drawdown complete. All differentials within criteria.

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:**

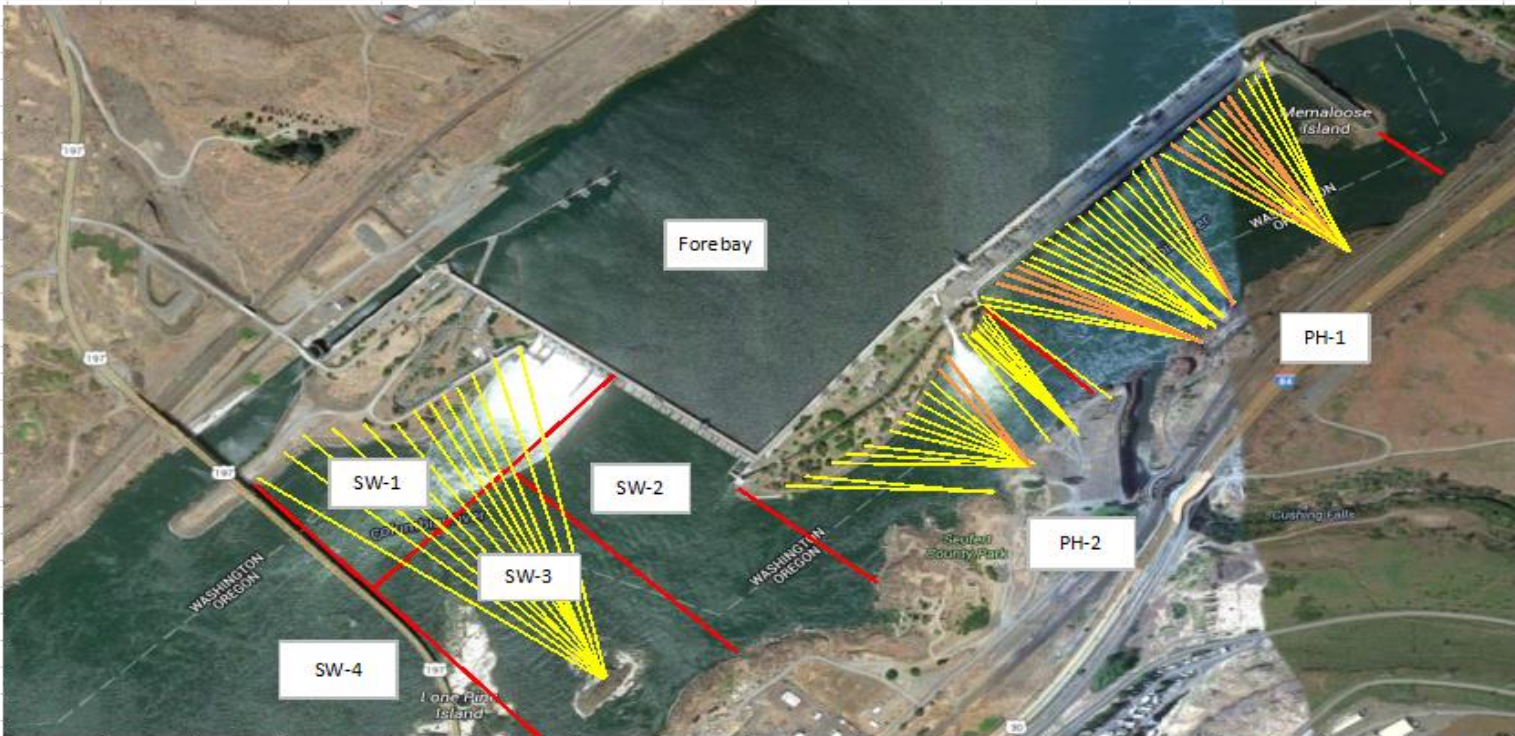
Northern Pikeminnow Management Program dam anglers caught 81 fish as of July 3 at The Dalles. Cumulative total 2,133.

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				
7/17/16	GJF	PM	FB	0	0	0	26	0	0	0	0	0	0	0	0	0	26		
			PH1	0	0	2	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	8	0	0	0	0	0	0	0	0	0	0	0	0	0		8
			SW2	0	0	4	0	0	0	0	0	0	3	0	0	0	0		7
			SW3	12	32	0	0	0	0	0	0	0	16	6	0	0	0		66
7/18/16	GJF	AM	SW4	2	154	0	0	0	0	0	0	42	76	0	0	274	osprey		
			FB	0	8	0	26	0	0	0	0	0	0	1	0	35			
			PH1	0	0	2	0	0	0	0	0	0	0	0	0	2			
			PH2	0	0	0	0	0	0	0	0	3	0	0	0	3			
			SW1	5	0	0	0	0	0	0	0	0	0	0	0	5			
			SW2	0	0	2	0	0	0	0	0	1	0	0	0	3			
7/19/16	GJF	PM	SW3	4	21	0	0	0	0	0	0	17	5	0	0	47			
			SW4	1	87	0	0	0	0	0	0	23	107	0	0	218			
			FB	0	2	1	27	0	0	0	0	0	0	0	0	30			
			PH1	0	0	0	5	0	0	0	0	0	0	0	0	5			
			PH2	6	0	0	0	0	0	0	0	0	0	0	0	6			
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0			
7/20/16	JWR	AM	SW2	0	76	1	0	0	0	0	1	1	0	0	79				
			SW3	0	21	0	0	0	0	0	0	1	0	0	0		22		
			SW4	0	56	0	0	0	0	0	0	7	30	0	0		93		
			FB	0	7	1	92	0	0	0	0	0	0	0	0		100		
			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		
7/21/16	GJF	PM	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	10	123	0	0	133			
			FB	0	4	1	11	0	0	0	0	0	0	0	0	16			
			PH1	0	0	3	11	0	0	0	0	0	0	0	0	14			
7/22/16	JWR	AM	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	0	0	0	0	0	0	0	0	0	0	0			
			SW3	1	2	0	0	0	0	0	0	3	0	0	0	6			
			SW4	0	0	0	0	0	0	0	0	20	15	0	0	35			
			FB	0	0	0	40	0	0	0	0	0	0	0	0	40			
7/23/16	JWR	PM	PH1	0	0	0	3	0	0	0	0	0	0	0	0	3			
			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	2	0	0	0	0	0	1	0	0	0	3			
			SW3	0	0	0	0	0	0	0	0	5	0	0	0	5			
			SW4	0	0	0	0	0	0	0	0	64	26	0	0	90			
7/23/16	JWR	PM	FB	0	0	0	40	0	0	0	0	0	0	0	0	40			
			PH1	0	0	0	14	0	0	0	0	0	0	0	0	14			
			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	3	0	1	0	0	0	0	0	1	0	0	0	5			
SW4	0	0	0	0	0	0	0	0	0	0	0	0	0						
										31	41	0	0	72					

## 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
7/17	753	679	74	320	163	157	0	0	0	211	0	0	26
7/18	643	541	102	495	277	218	0	0	0	299	0	0	95
7/19	630	521	109	339	197	142	0	0	0	168	0	0	65
7/20	465	400	65	358	208	150	0	0	0	290	0	0	49
7/21	571	475	96	363	212	151	0	0	0	204	0	0	34
7/22	477	442	35	333	182	151	0	0	0	166	0	0	30
7/23	755	655	100	415	241	174	0	0	0	158	0	0	98
<b>total</b>	<b>4294</b>	<b>3713</b>	<b>581</b>	<b>2623</b>	<b>1480</b>	<b>1143</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1496</b>	<b>0</b>	<b>0</b>	<b>397</b>

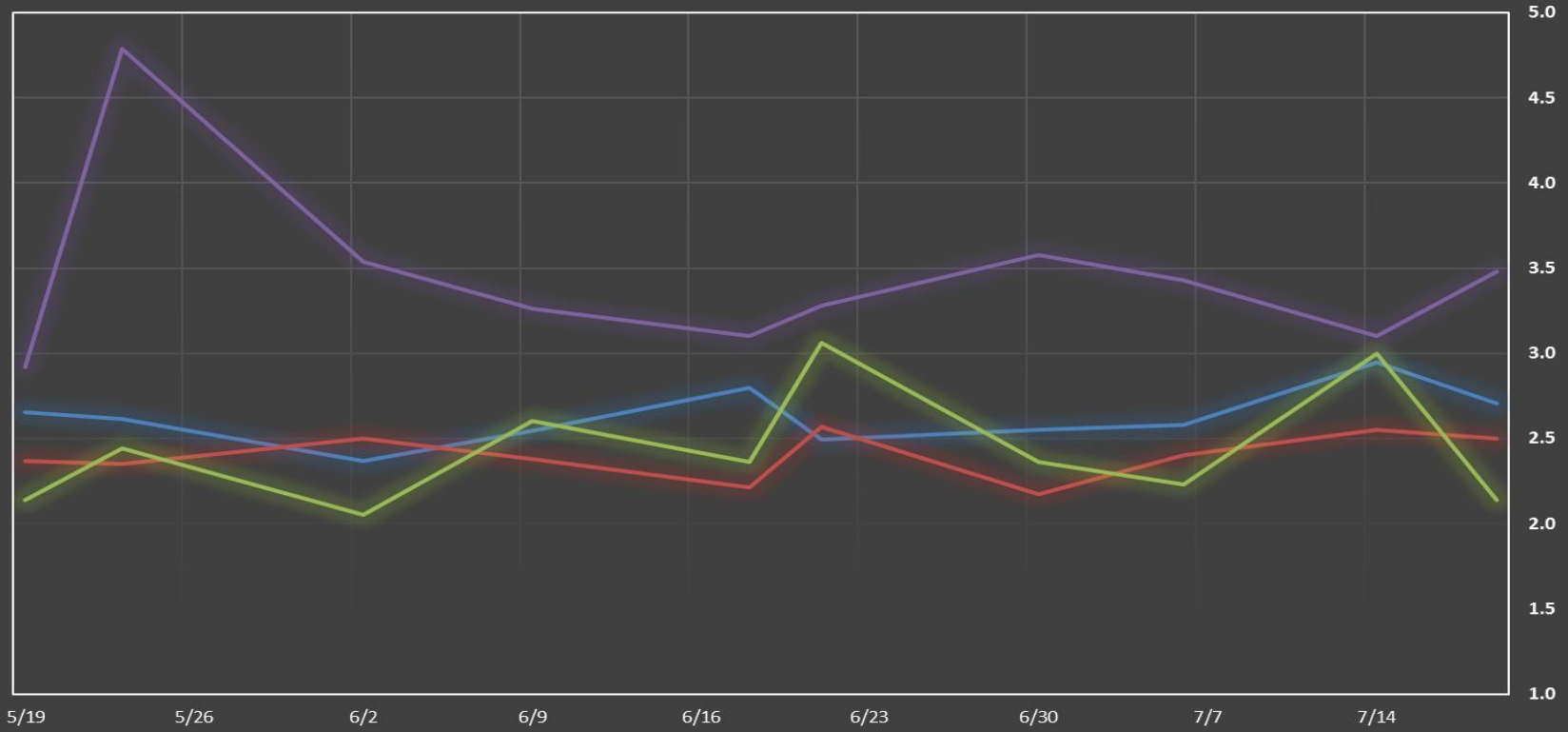
## The Dalles North

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
7/17	420	380	40	249	133	116	0	0	0	366	0	0	139
7/18	414	382	32	392	208	184	0	0	0	145	0	0	60
7/19	241	215	26	245	126	119	0	0	0	142	0	0	106
7/20	296	266	30	238	132	106	0	0	0	193	0	0	73
7/21	292	266	26	283	163	120	0	0	0	104	0	0	65
7/22	400	366	34	221	115	106	0	0	0	167	0	0	120
7/23	492	470	22	246	139	107	0	0	0	103	0	0	92
<b>total</b>	<b>2555</b>	<b>2345</b>	<b>210</b>	<b>1874</b>	<b>1016</b>	<b>858</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1220</b>	<b>0</b>	<b>0</b>	<b>655</b>
<b>% North</b>	<b>37.3</b>	<b>38.7</b>	<b>26.5</b>	<b>41.7</b>	<b>40.7</b>	<b>42.9</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>44.9</b>	<b>0.0</b>	<b>0.0</b>	<b>62.3</b>

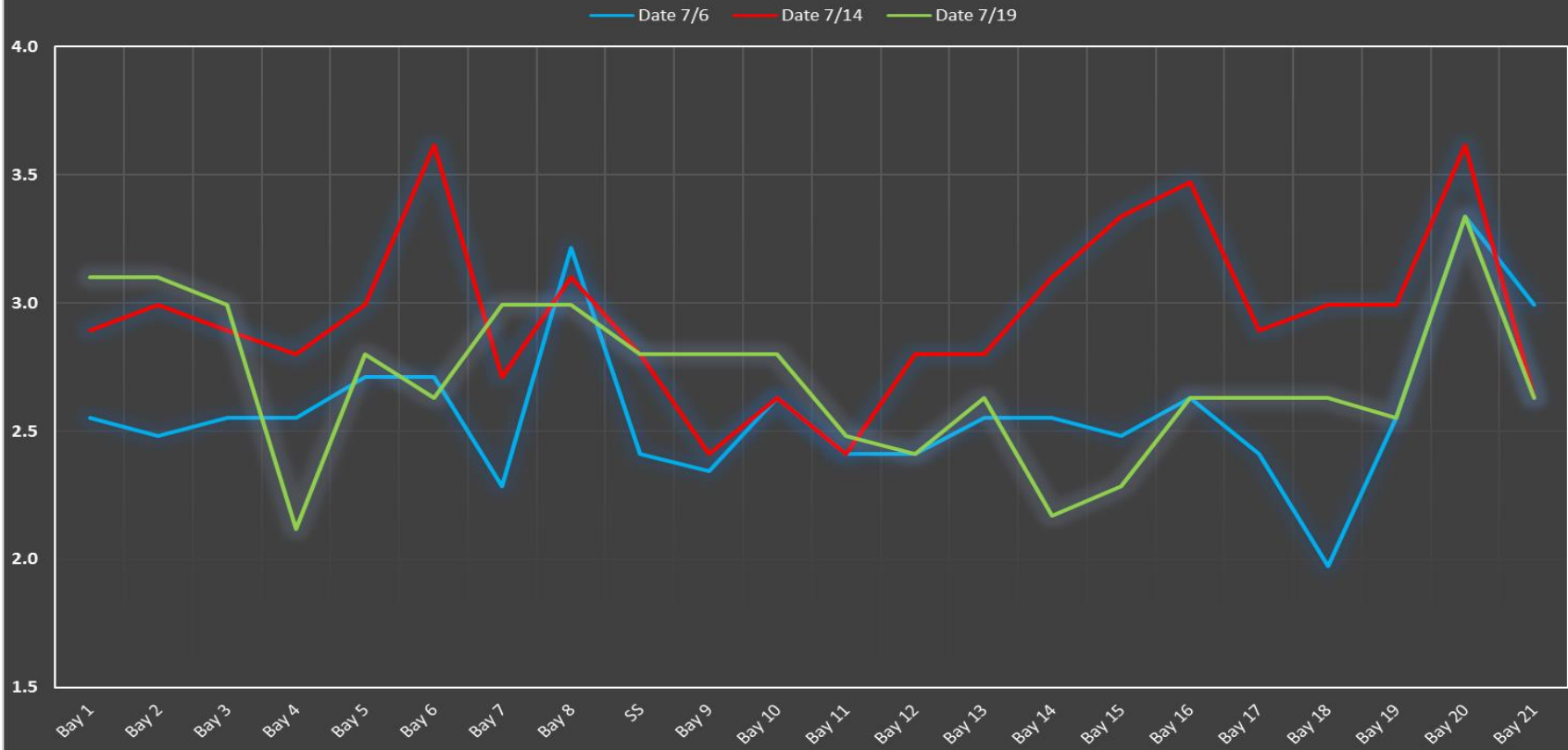
<http://www.nwp.usace.army.mil/Missions/Environment/Fish/Counts.aspx>

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

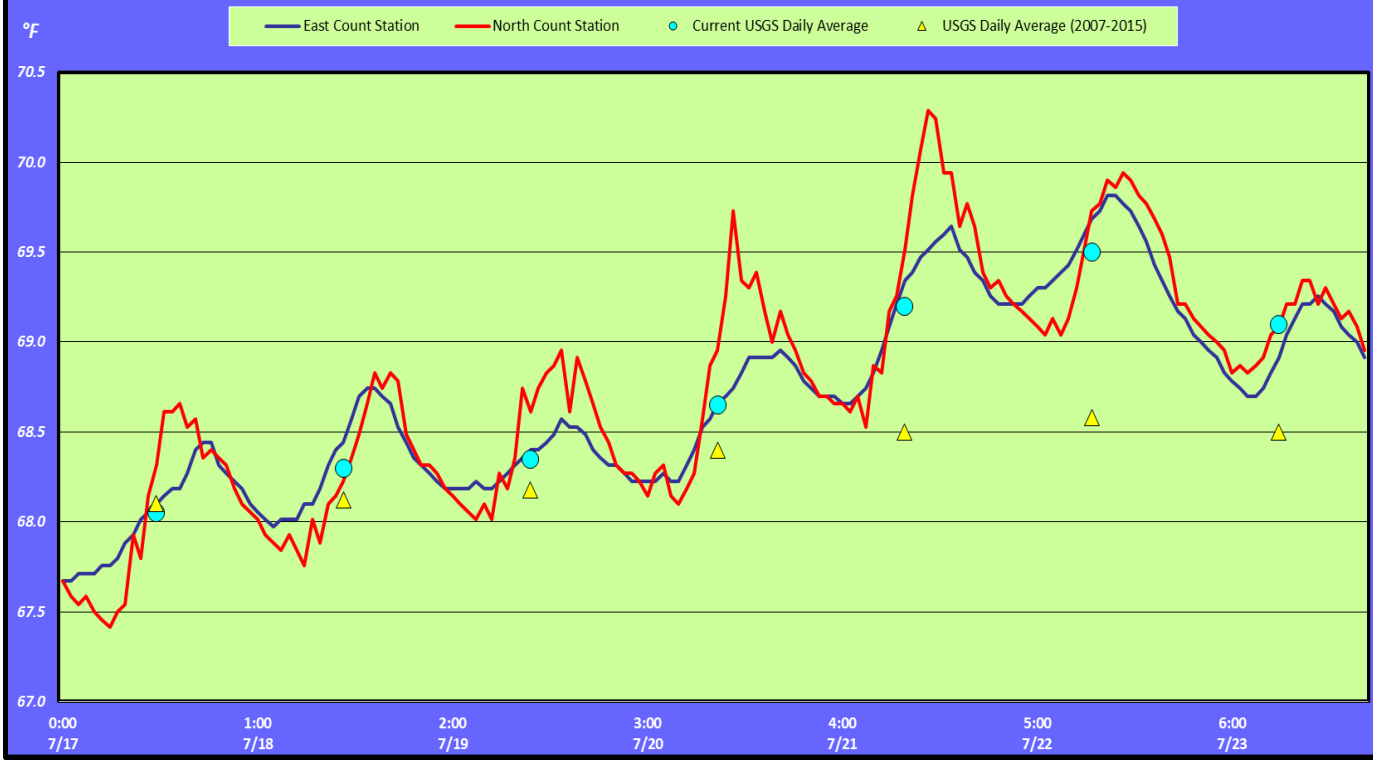
— The Dalles Collection Channel    — The Dalles Transportation Channel    — The Dalles North Entrance    — The Dalles South Rock Channel



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



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





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

Secchi:		Temperatures
5.0	Sun	68.05
5.0	Mon	68.30
5.0	Tue	68.35
5.0	Wed	68.65
5.0	Thurs	69.20
6.0	Fri	69.50
6.0	Sat	69.10
5.3	AVG	68.74

**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	
7/17			1.4	0.7	13.3	13.2	8.8	1.4	9.1	9.1		1.5	8.4	8.4	40.2
	1.4	9.7	1.3	0.3	13.3	13.2	8.4	1.5	9.0	9.0		1.4	8.6	8.6	
	1.3	9.4	1.3	0.7	13.3	13.4	8.4	1.4	9.1	9.1		1.4	8.4	8.4	
7/18			1.2	-0.3	13.4	13.3	7.8	1.3	9.0	9.0		1.4	8.5	8.5	40.0
	1.5	9.7	1.1	-0.4	13.3	13.2	7.7	1.4	9.0	9.0		1.4	8.5	8.5	
	1.3	9.5	1.5	1.7	13.3	13.3	9.8	1.4	9.6	9.6		1.4	8.4	8.6	
7/19			1.2	0.4	13.3	13.3	8.5	1.5	9.5	9.5		1.3	8.6	8.6	40.0
	1.4	9.7	1.4	0.7	12.9	12.9	8.8	1.5	9.5	9.5		1.4	8.6	8.6	
	1.4	9.8	1.5	0.5	13.0	13.0	9.5	1.5	9.4	9.5		1.5	8.4	8.4	
7/20			1.2	0.5	13.1	13.1	8.1	1.2	9.5	9.5		1.4	8.6	8.6	40.2
	1.3	9.8	1.7	1.9	12.0	12.0	8.4	1.6	9.0	9.0		1.6	8.3	8.3	
	1.4	9.8	1.6	2.1	12.0	12.0	8.4	1.5	9.1	8.9		1.5	8.4	8.4	
7/21			1.5	2.0	12.0	12.0	7.7	1.4	9.0	9.0		1.5	8.4	8.3	40.0
	1.4	9.8	1.7	2.0	11.9	11.9	8.7	1.6	8.9	8.9		1.5	8.3	8.3	
	1.5	9.8	1.5	3.6	11.9	12.0	9.0	1.6	9.1	9.1		1.6	8.3	8.3	
7/22			1.4	3.6	11.9	11.9	8.2	1.4	9.0	9.0		1.5	8.3	8.3	39.9
	1.3	9.8	1.5	2.9	11.9	11.9	8.0	1.4	9.0	9.0		1.5	8.4	8.4	
	1.4	9.7	1.4	3.1	12.0	12.0	7.7	1.4	9.0	9.0		1.4	8.4	8.4	
7/23			1.1	3.1	12.1	12.1	7.1	1.3	8.9	8.9		1.4	8.3	8.3	40.0
	1.3	9.8	1.5	-1.1	12.0	12.0	7.1	1.3	9.0	9.0		1.6	8.1	8.1	
	1.3	9.9	1.5	-1.0	12.0	12.0	7.8	1.5	9.0	9.0		1.5	8.3	8.3	
<b>AVG:</b>	<b>1.4</b>	<b>9.7</b>	<b>1.4</b>	<b>1.3</b>	<b>12.6</b>	<b>12.6</b>	<b>8.3</b>	<b>1.4</b>	<b>9.1</b>	<b>9.1</b>		<b>1.5</b>	<b>8.4</b>	<b>8.4</b>	<b>40.0</b>

*Fishways are inspected twice daily plus one SCADA inspection.*



Progress on East fishway south dewater pump rehab.