

# The Dalles Dam Fishway Status Report

6/18/2016

Inspection Period: 06/12 - 18/2016

## 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: 63.9 °F	
			Comments		Secchi: 5.4 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')	9.8			
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 out at forebay 158.3 Auto adjusts 1' increments.			
Weir 158-159 differential	1	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	0	depth (≥ 7')	9.4			
East entrance differential	1	1.0' - 2.0'	1.5			
Entrance weir E1	0	No criteria	4.5			
Entrance weir E2	0	depth (≥ 8')	12.4			
Entrance weir E3	0	depth (≥ 8')	12.4			
Collection channel velocity	0	1.5 - 4 fps	2.4			
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'	1.5	FU 1 forced out at 20:00 - 01:00 on 6/2 to clean slip ring area		
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	FU 1 forced out at 20:00 - 01:00 on 6/2 to clean slip ring area		
Entrance weir S1	0	depth (≥ 8')	8.5			
Entrance weir S2	0	depth (≥ 8')	8.5			
<b>JUVENILE PASSAGE</b>						
Sluiceway operation	0	Units 1, 8, 18				
Turbine trashrack drawdown	0	<1.5', wkly	range: 0.2-0.7'			
Spill volume	0	Spill at 40%				
Spill Pattern	0					
Turbine Unit Priority	12	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. USDA hazing to continue through mid August.  
Gull predation low downstream of spillway and moderate upstream of bridge at end of spillway. No gull activity at powerhouse.  
Investigating possibility of limited lethal gull removal at project. District meeting 6/16 to determine best path forward. FPOM supports lethal gull removal.

**Operations:**

Gateway drawdown complete. All differentials within criteria.  
Calibration performed 6/17, Minor discrepancies found, TDE notified  
Spill 40% continues.

**Current Outages:**

T8 (MU15 & MU16) forced out due to transformer failure. Return unknown.  
MU3 forced out through 6/9/2016 due to loss of governor sump oil level

**Maintenance:**

South entrance dewater pump rehab postponed to next season. Remains operable but in need of preventative maintenance.  
East exit weir electrical panel FCQ7 panel delivered. To be installed in gallery. Connection as funding allows.  
Tailrace crane repair near west entrance delay continues. Return date unknown, Minimal work activity, therefore no fish passage concerns.  
East exit 158 weir automation has intermittent failures. Manually adjusted as needed. New sensor being installed.  
*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.

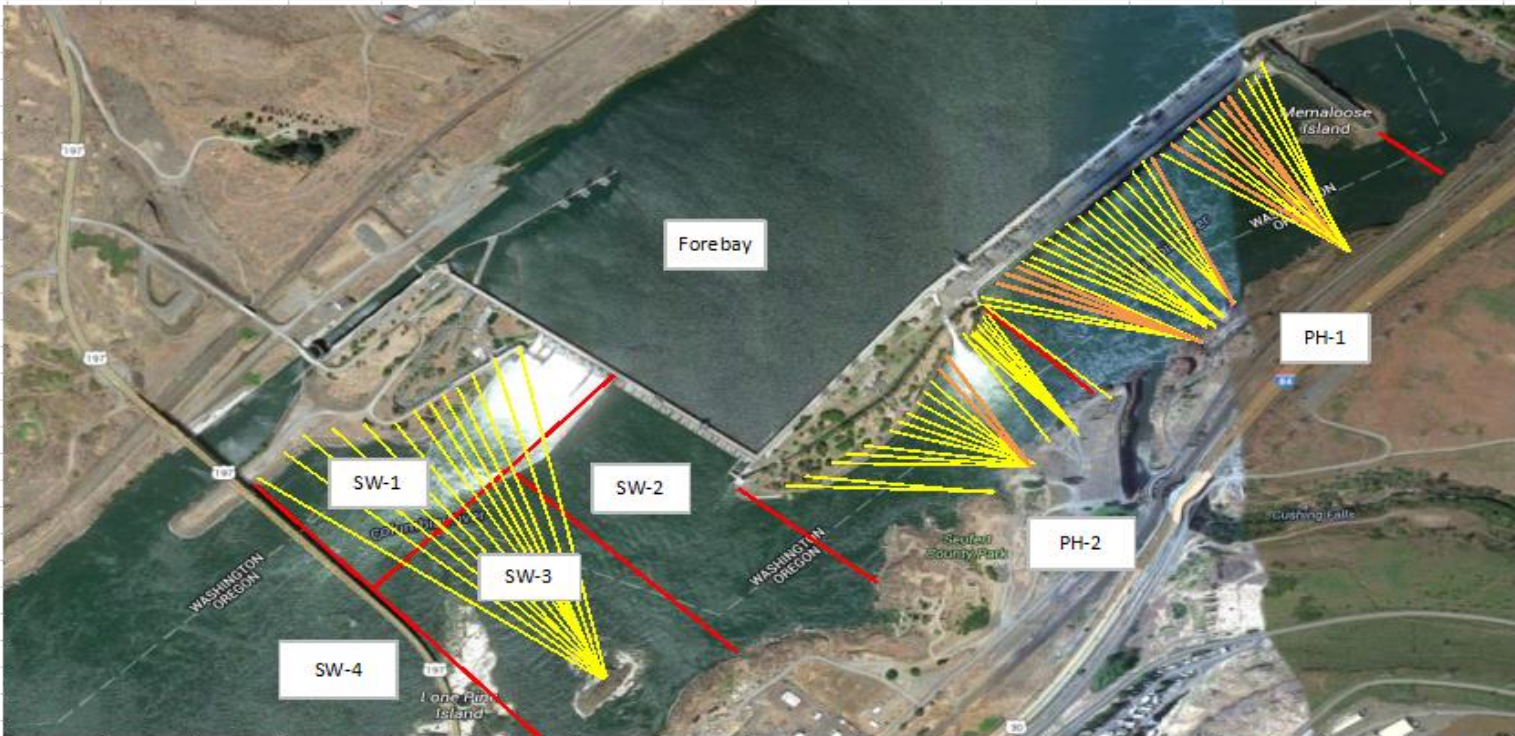
**Studies:**

North fishladder rehab/rock wall stabilizing. No new development.  
East fishladder emergency backup construction this winter. Planning meetings 6/22. Forebay platform install prior to Dec1. To be FPOM coordinated.  
Crane rail replacement on tailrace and intake for in water work period 2016/17.  
Transformer replacement planning underway. Eliminate fish unit TA transformers and tie to T1 and T3. Install start 2017.  
No new developments for north lighting video counting improvements.  
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  
East exit fishing boundary marker plan continues. Awaiting feedback from Washington for boundary distance.

**Research/Contractors:**

Northern Pikeminnow Management Program dam anglers caught 314 fish this week at The Dalles Dam powerhouse. Cumulative total 1,716.  
Normandeau fish counters continue through Oct 30. No issues.  
USDA avian hazer start delayed 2 weeks. Boat appears to successfully move gulls. Will extend hazing 2 weeks at end of season.  
Tribal lamprey trapping started at east count station. Project fisheries assisting until all safety requirements are met. Hoist purchased and implemented.

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				
6/12/16	EHK	AM	FB	0	0	0	52	0	0	0	0	0	0	0	0	0	52		
			PH1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
			PH2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
			SW1	10	0	0	0	0	0	0	0	0	0	0	0	0	0	10	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	34	39	0	0	0	0	0	0	0	0	0	0	0	0	73	
6/13/16	EHK	PM	SW4	10	0	0	0	0	0	0	0	2	0	0	0	0	12		
			FB	0	0	0	10	0	0	0	0	0	0	0	0	0	10		
			PH1	0	0	0	4	0	0	0	0	0	0	0	0	0	4		
			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	
6/14/16	EHK	AM	SW3	20	35	0	0	0	0	0	0	0	0	0	0	0	55		
			SW4	3	0	0	0	0	0	0	0	0	8	0	0	0	11		
			FB	0	0	0	17	0	0	0	0	0	0	0	0	0	17		
			PH1	0	0	0	1	0	0	0	0	0	0	0	0	0	1		
			PH2	0	0	0	2	0	0	0	0	0	0	0	0	0	2		
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6/15/16	GJF	PM	SW2	0	0	0	2	0	0	0	0	0	0	0	0	0	2		
			SW3	12	47	0	0	0	0	0	0	0	0	0	0	0	59		
			SW4	17	0	0	0	0	0	0	0	0	0	0	0	0	17		
			FB	0	3	5	9	0	0	0	0	0	0	0	0	0	17		
			PH1	0	0	2	0	0	0	0	0	0	0	0	1	1	4	GBH NF, osprey F	
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6/16/16	JWR	AM	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			SW2	0	0	2	0	0	0	0	0	0	0	0	0	0	2		
			SW3	23	45	0	0	0	0	0	0	0	4	0	0	0	72		
			SW4	1	0	0	0	0	0	0	0	0	4	0	0	0	5		
			FB	0	0	0	27	0	0	0	0	0	0	0	0	0	27	dead osprey on PUD intake	
			PH1	0	0	0	7	0	0	0	0	0	0	0	0	0	7		
6/17/16	GJF	PM	PH2	0	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	0	2		
			SW2	0	0	4	0	0	0	0	0	0	0	0	0	0	4		
			SW3	27	0	0	0	0	0	0	0	0	0	0	0	0	27		
			SW4	4	0	0	0	0	0	0	0	0	0	0	0	0	4		
			FB	0	0	0	16	0	0	0	0	0	0	0	0	0	16		
6/18/16	GJF	AM	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	6	0	0	0	0	0	0	0	0	0	0	0	0	6		
			SW2	2	0	3	0	0	0	0	0	0	0	0	0	0	5		
			SW3	41	56	0	0	0	0	0	0	0	5	0	0	0	102		
			SW4	5	0	0	0	0	0	0	0	0	0	6	0	0	11		

## The Dalles East

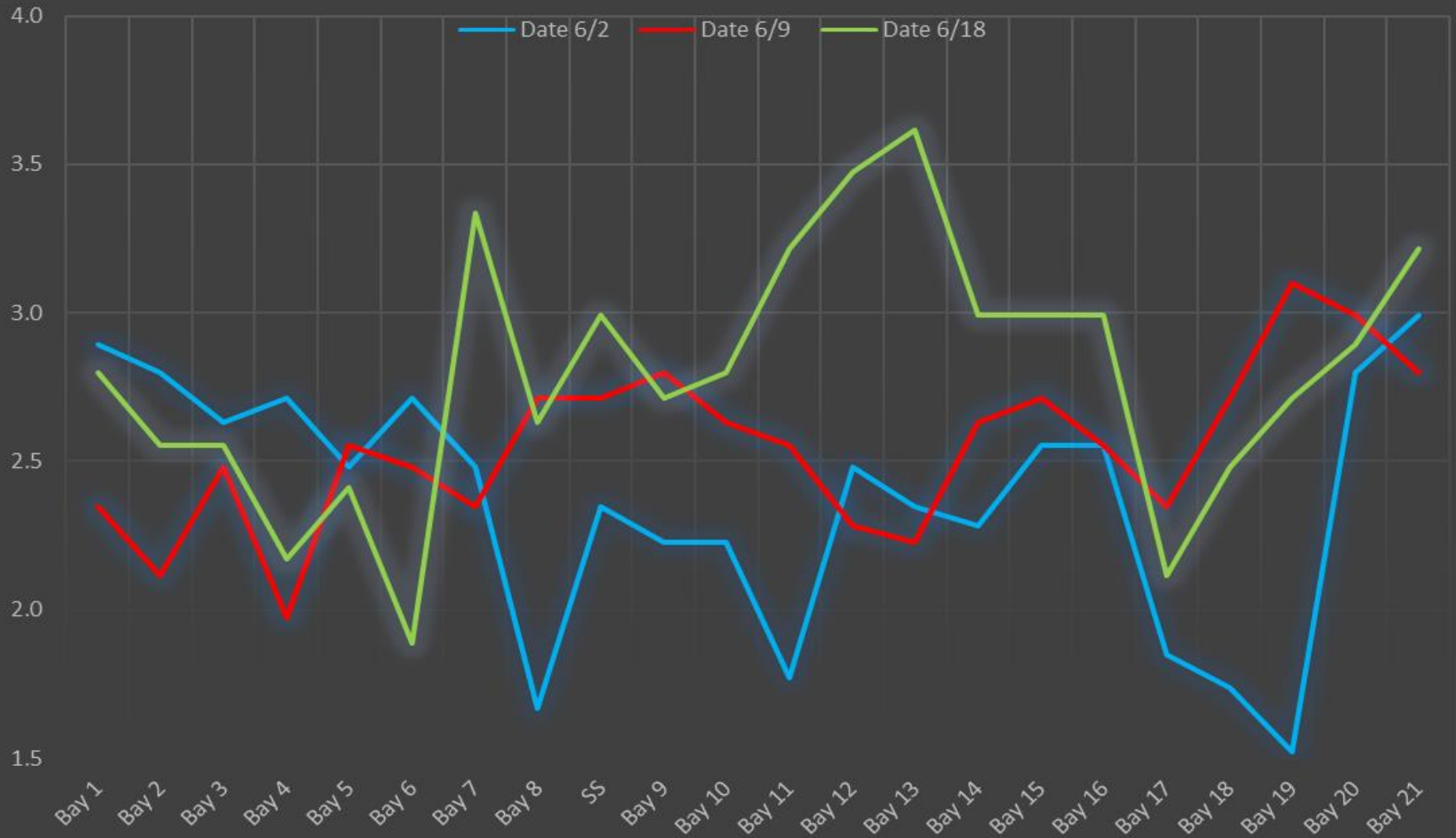
Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
6/12	1241	1175	66	19	8	11	0	0	0	1805	0	0	4
6/13	2139	1982	157	35	19	16	0	0	0	3703	0	0	90
6/14	1368	1324	44	38	14	24	0	0	0	3736	0	0	1
6/15	1447	1309	138	69	34	35	0	0	0	4147	0	0	78
6/16	2070	1970	100	44	16	28	0	0	0	5369	0	0	56
6/17	2024	1843	181	66	34	32	0	0	0	5305	0	0	16
6/18	2239	1982	257	82	42	40	0	0	0	9156	0	0	28
<b>total</b>	<b>12528</b>	<b>11585</b>	<b>943</b>	<b>353</b>	<b>167</b>	<b>186</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>33221</b>	<b>0</b>	<b>0</b>	<b>273</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
6/12	728	702	26	12	6	6	0	0	0	1225	0	0	22
6/13	898	852	46	20	7	13	0	0	0	2230	0	0	72
6/14	736	700	36	31	8	23	0	0	0	2149	0	0	35
6/15	588	574	14	9	4	5	0	0	0	1555	0	0	13
6/16	907	857	50	18	1	17	0	0	0	2810	0	0	12
6/17	458	439	19	16	8	8	0	0	0	2714	0	0	24
6/18	1392	1288	104	40	23	17	0	0	0	4632	0	0	23
<b>total</b>	<b>5707</b>	<b>5412</b>	<b>295</b>	<b>146</b>	<b>57</b>	<b>89</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>17315</b>	<b>0</b>	<b>0</b>	<b>201</b>
<b>% North</b>	<b>31.3</b>	<b>31.8</b>	<b>23.8</b>	<b>29.3</b>	<b>25.4</b>	<b>32.4</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>34.3</b>	<b>0.0</b>	<b>0.0</b>	<b>42.4</b>

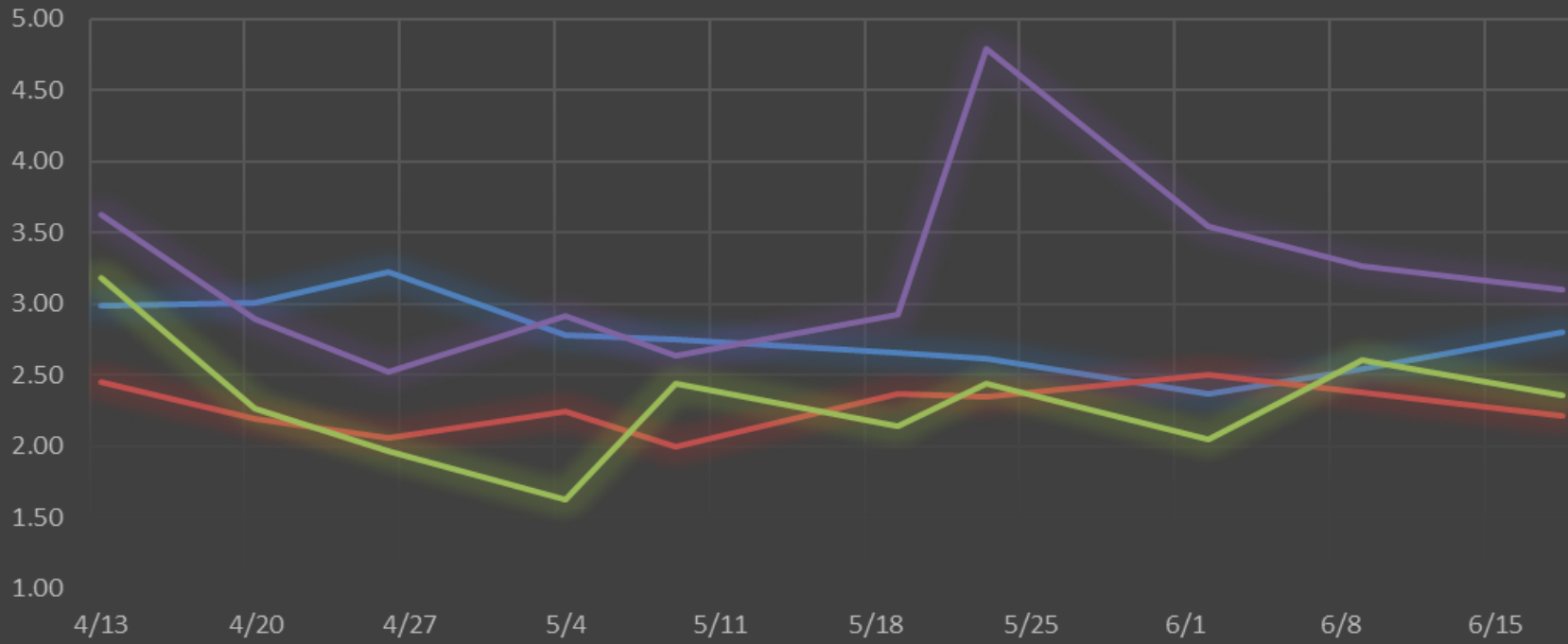
<http://www.nwp.usace.army.mil/Missions/Environment/Fish/Counts.aspx>

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

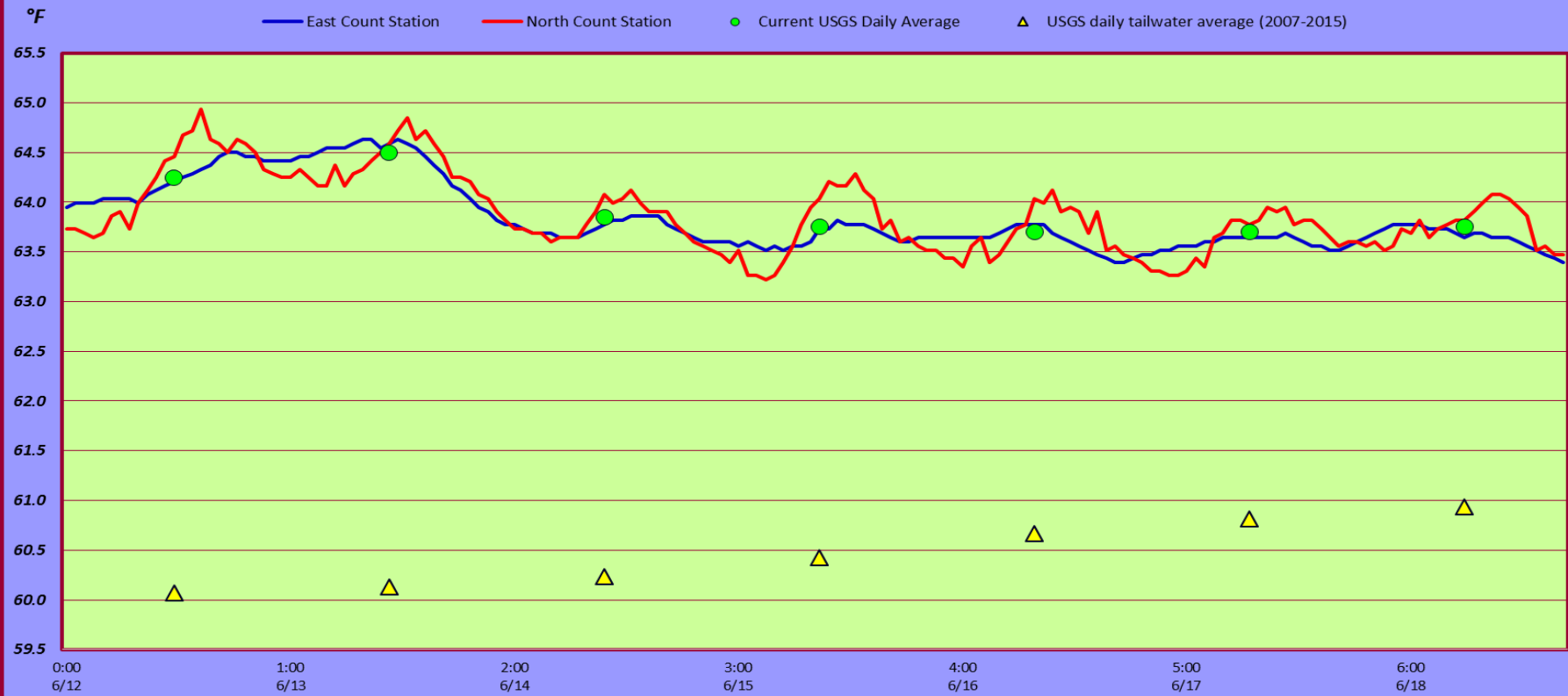


## The Dalles Dam Averages Velocities (In criteria 1.5 - 4.0 fps)

— 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 Temperatures





USGS: <http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201605.lcol.html>

Secchi:		Temperatures
6.0	Sun	64.25
5.0	Mon	64.50
6.0	Tue	63.85
5.0	Wed	63.75
5.0	Thurs	63.70
5.0	Fri	63.70
6.0	Sat	63.75
5.4	AVG	63.93

**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	
6/12			1.4	4.5	12.5	12.5	9.5	1.6	9.1	9.1		1.5	8.5	8.5	39.5
	1.4	9.8	1.5	4.5	12.4	12.4	9.5	1.4	9.2	9.2		1.5	8.6	8.6	
	1.4	9.7	1.4	4.5	12.4	12.4	9.5	1.5	9.1	9.1		1.4	8.6	8.6	
6/13			1.3	4.5	12.5	12.5	8.2	1.3	9.0	9.0		1.4	8.5	8.5	40.1
	1.4	9.9	1.5	0.5	12.5	12.5	8.1	1.6	8.7	8.7		1.5	8.4	8.4	
	1.4	9.8	1.4	1.1	12.6	12.6	8.2	1.5	9.0	9.0		1.4	8.5	8.5	
6/14			1.8	1.0	12.5	12.5	9.8	1.7	9.0	9.0		1.6	8.5	8.5	39.7
	1.4	9.9	1.6	3.5	12.5	12.5	10.2	1.4	9.9	9.9		1.5	8.6	8.6	
	1.5	9.9	1.6	3.4	12.5	12.5	10.2	1.5	9.7	9.8		1.5	8.4	8.4	
6/15			1.5	3.6	12.6	12.6	9.2	1.3	8.0	8.0		1.5	8.5	8.5	39.9
	1.5	9.8	1.5	6.1	12.6	12.6	10.5	1.6	9.5	9.5		1.5	8.6	8.6	
	1.4	9.9	1.4	6.9	12.6	12.6	10.5	1.4	9.8	9.7		1.5	8.5	8.5	
6/16			0.9	7.1	12.6	12.6	8.0	1.1	9.8	9.8		1.4	8.5	8.5	39.6
	1.5	9.9	1.5	5.6	12.6	12.6	10.0	1.6	9.2	9.2		1.5	8.5	8.5	
	1.4	9.9	1.8	5.4	12.4	12.5	10.6	1.6	9.3	9.3		1.5	8.5	8.6	
6/17			1.2	5.5	12.5	12.5	8.9	1.3	9.3	9.3	1.4	8.5	8.5	40.3	
	1.4	9.8	1.5	3.0	12.0	12.0	9.0	1.6	9.3	9.3	1.5	8.6	8.6		
	1.6	9.8	1.7	6.5	12.1	12.0	10.6	1.6	8.3	8.3	1.5	8.5	8.5		
6/18			1.4	5.5	11.9	11.9	8.9	1.4	9.2	9.2	1.4	8.6	8.6	39.7	
	1.4	9.8	1.4	5.6	12.1	12.1	9.5	1.5	8.3	8.3	1.5	8.5	8.5		
	1.4	9.8	1.4	5.5	12.0	12.0	9.0	1.4	9.4	9.4	1.5	8.5	8.5		
<b>AVG:</b>	<b>1.4</b>	<b>9.8</b>	<b>1.5</b>	<b>4.5</b>	<b>12.4</b>	<b>12.4</b>	<b>9.4</b>	<b>1.5</b>	<b>9.1</b>	<b>9.1</b>	<b>1.5</b>	<b>8.5</b>	<b>8.5</b>	<b>39.8</b>	

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