

# The Dalles Dam Fishway Status Report

10/23/2016

Inspection Period: 10/23/2016 - 10/29/2016

THE DALLES DAM



US Army Corps  
of Engineers  
Portland District

*Fishways are inspected twice daily plus one SCADA inspection*

The Dalles Dam	Inspections Out of Criteria	Criteria Limit	Total Number of Inspections: 21		Temperature: 58.8 °F	
			Comments: Fall like conditions on project		Secchi: 4.6 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'	1.5			
Entrance weir N1	0	depth (≥ 8')	9.2			
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'				
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')	12.0			
East entrance differential	0	1.0' - 2.0'	1.6			
Entrance weir E1	0	No criteria	6.9			
Entrance weir E2	0	depth (≥ 8')	13.0			
Entrance weir E3	0	depth (≥ 8')	13.0			
Collection channel velocity	0	1.5 - 4 fps	2.91			
Transportation channel velocity	0	1.5 - 4 fps	2.29			
North channel velocity	0	1.5 - 4 fps	2.14			
South channel velocity	0	1.5 - 4 fps	3.70			
West entrance differential	0	1.0' - 2.0'	1.5			
Entrance weir W1	0	depth (≥ 8')	10.4			
Entrance weir W2	0	depth (≥ 8')	10.4			
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	0	depth (≥ 8')	8.3			
<b>JUVENILE PASSAGE</b>						
Sluiceway operation	0	Units 1, 8, 18				
Turbine trashrack drawdown	0					
spill off						
Turbine Unit Priority	5	per FPP				
Turbine 1% Efficiency	0	per FPP				

**Birds/Sea lions:**

No sea lions observed. Primarily non-foraging cormorants on site.  
Bird observation data collected once daily. Refer to Avian Zone map and bird count.  
Two of 13 spillway avian lines broke closest to bridge. Awaiting USDA cost estimate.

**Operations:**

Calibration 10/29, some discrepancies found, TDE notified  
Analyzing fish counts from Oct 13 powerhouse outage.

**Current Outages;**

T8 (MU15 & MU16) forced out due to transformer failure. Return unknown.  
MU3 forced out of service through 8/4/2016 due to loss of governor sump oil level  
MU21 OOS for exciter failure RTS unknown

**Maintenance:**

New east exit weir electrical panel FCQ7 installation ~50% complete. Work continues with available FY17 funding.  
Planning underway for winter dewater season, East ladder out Dec 1 through end Feb for AWS backup construction. North ladder out Jan 3 - 17.  
Modifying west entrance bulkheads in preparation for dewatering  
Planned winter work; west entrance weir and lift beam rehab, east count station brush replace, vegetation removal and routine PMs.  
*Long Term repair maintenance plans*; 154 -157 weir wheel replace, 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.  
All spillway items on Critical Infrastructure list and Unfunded Requirement list.

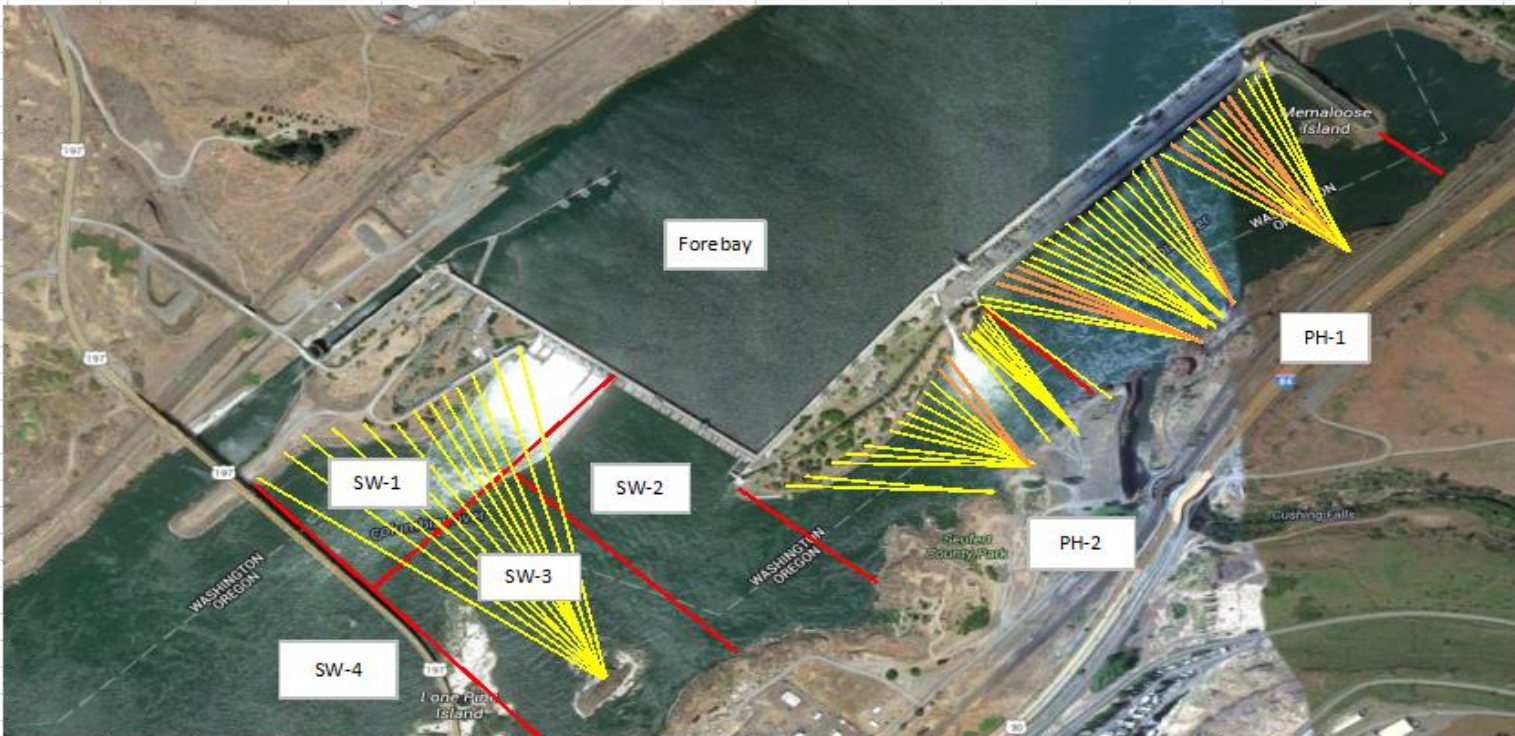
**Studies/Construction:**

Environmental acceptable grease testing on unit 1 continues. MOC coordinated through FPOM.  
North fishladder rehab/rock wall stabilizing - Awaiting funding.  
East fishladder emergency backup - Mobilization and prefab continues on north side staging area. Heavy work start in Nov 1 nights Dec 1 days  
Railroad track removal - Start in water work period 2016/17. Crane rail replacement postponed to 2021.  
Tailrace crane rehab - Work resumed. Completion Dec.  
Fish unit breaker replace.- Work start fall 2017. Swtich over Jan 2018.  
Transformer replacement - Install start May 2018. Expect 4 months per transformer bank. Reviewing sequence for least risk to fish passage.  
N Wasco Co PUD Memo of Agreement - Awaiting final.  
Fish unit rehab - Award planned for 2020. Completeion 2022.  
Fish unit breaker replacement - Start in water work period 2017/18  
Lamprey minor mods - Rounded weir caps planned for all entrances 2018. Awaiting design specs. To be constructed/installed with project labor.

**Research/Contractors:**

Normandeau fish counters continue through Oct 31. No issues.

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			
10/23/16	GJF	PM	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	COME
			PH1	0	0	6	25	0	0	0	0	0	0	0	12	0	43	
			PH2	12	0	2	0	0	0	0	0	0	0	0	0	0	14	
			SW1	0	0	3	0	0	0	0	0	0	0	0	0	0	3	
			SW2	0	0	2	0	0	0	0	0	0	0	0	0	0	2	
			SW3	0	12	0	59	0	0	0	0	0	0	0	0	0	71	
			SW4	0	102	0	35	0	0	0	0	0	0	0	0	0	137	
10/24/16	GJF	AM	FB	0	0	1	0	0	0	0	6	0	0	0	0	0	7	COME
			PH1	0	0	14	16	0	0	0	0	0	0	23	0	53		
			PH2	8	0	2	0	0	0	0	0	0	0	0	0	10		
			SW1	0	0	1	0	0	0	0	0	0	0	0	0	1		
			SW2	0	1	1	7	0	0	0	0	0	0	0	0	9		
			SW3	0	1	1	41	0	0	0	0	0	0	0	0	43		
			SW4	0	123	0	56	0	0	0	0	0	0	0	0	179		
10/25/16	GJF	PM	FB	0	0	3	0	0	0	4	0	0	0	0	0	7	COME	
			PH1	0	1	13	28	0	0	0	0	0	0	2	10	54		
			PH2	17	0	4	0	0	0	0	0	0	0	0	0	21		
			SW1	0	10	0	0	0	0	0	0	0	0	0	0	10		
			SW2	0	1	1	15	0	0	0	0	0	0	0	1	18		
			SW3	0	9	1	60	0	0	0	0	0	0	0	0	70		
			SW4	0	237	6	13	0	0	0	0	0	1	0	0	257		
10/26/16	JWR	AM	FB	0	0	0	0	0	0	0	0	0	1	0	1	Pied-billed grebe 4 COME, 1 GBHE GBHE		
			PH1	0	0	0	2	0	0	0	0	0	0	5	7			
			PH2	2	0	2	4	0	0	0	0	0	0	1	9			
			SW1	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			
			SW3	0	1	0	88	0	0	0	0	0	0	10	99			
			SW4	0	86	0	39	0	0	0	0	0	0	0	125			
10/27/16	JWR	PM	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	24 COME, 1 GBHE  GBHE	
			PH1	0	0	0	19	0	0	0	0	0	0	25	44			
			PH2	3	0	0	0	0	0	0	0	0	0	0	3			
			SW1	0	0	0	0	0	0	0	0	0	0	1	1			
			SW2	0	0	3	11	0	0	0	0	0	0	0	14			
			SW3	1	13	1	49	0	0	0	0	0	0	0	64			
			SW4	0	210	0	36	0	0	0	0	0	0	0	246			
10/28/16	JWR	AM	FB	0	0	0	20	0	0	0	0	0	0	12	32	COME		
			PH1	0	0	0	0	0	0	0	0	0	0	0	0			
			PH2	3	0	0	0	0	0	0	0	0	0	0	3			
			SW1	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			
			SW3	0	16	0	66	0	0	0	0	0	1	0	83			
			SW4	0	187	0	38	0	0	0	0	0	0	0	225			
10/29/16	JWR	PM	FB	0	0	0	0	0	0	105	0	0	0	0	105	COME  GBHE COME GBHE		
			PH1	0	0	0	34	0	0	0	0	0	0	50	84			
			PH2	28	0	0	0	0	0	0	0	0	0	0	28			
			SW1	0	32	0	0	0	0	0	0	0	0	1	33			
			SW2	0	0	0	0	0	0	0	0	0	0	0	0			
			SW3	0	77	0	76	0	0	0	0	0	0	6	159			
			SW4	0	123	0	21	0	0	0	0	0	0	1	145			
<i>daily averages</i>				1.5	25.3	1.4	17.5	0.0	0.0	0.0	2.3	0.0	0.0	0.8	2.5	51.4		

## 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
10/23	468	415	53	176	115	61	12	12	0	0	0	0	0
10/24	299	270	29	118	80	38	10	10	0	0	0	0	0
10/25	202	184	18	84	61	23	10	6	4	0	0	0	0
10/26	305	270	35	109	74	35	6	6	0	0	0	0	0
10/27	257	233	24	121	74	47	18	16	2	0	0	0	0
10/28	315	257	58	162	121	41	9	8	1	0	0	0	0
10/29	407	383	24	152	102	50	5	5	0	0	0	0	0
<b>Total</b>	<b>2253</b>	<b>2012</b>	<b>241</b>	<b>922</b>	<b>627</b>	<b>295</b>	<b>70</b>	<b>63</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

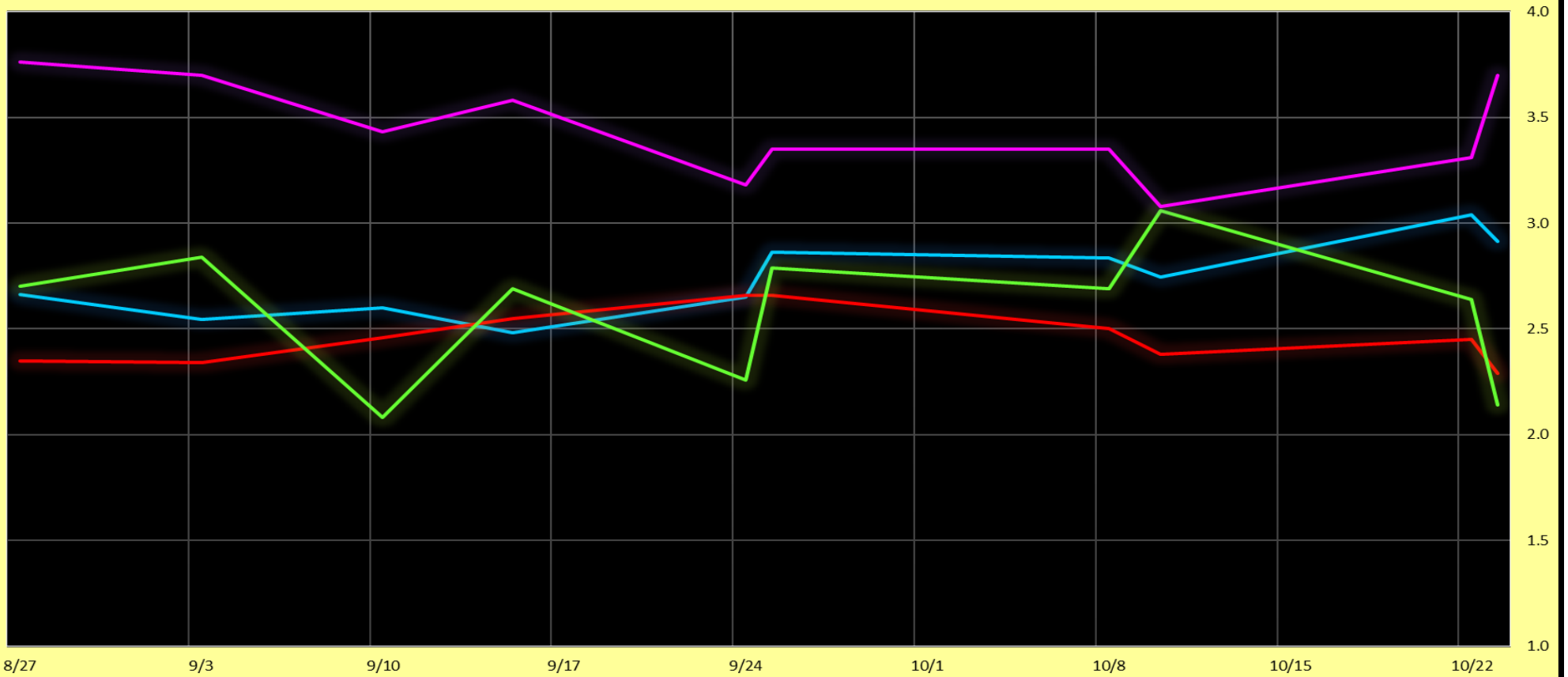
## The Dalles North

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
10/23	11	10	1	22	17	5	6	5	1	0	0	0	0
10/24	8	7	1	16	12	4	1	1	0	0	0	0	0
10/25	21	13	8	24	16	8	2	2	0	0	0	0	0
10/26	11	11	0	30	28	2	3	2	1	0	0	0	0
10/27	28	22	6	19	7	12	8	8	0	0	0	0	0
10/28	41	40	1	30	19	11	8	8	0	0	0	0	0
10/29	9	-4	13	18	12	6	4	4	0	0	0	0	0
<b>Total</b>	<b>129</b>	<b>99</b>	<b>30</b>	<b>159</b>	<b>111</b>	<b>48</b>	<b>32</b>	<b>30</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
% North	5.4	4.7	11.1	14.7	15.0	14.0	31.4	32.3	22.2	0.0	0.0	0.0	0.0

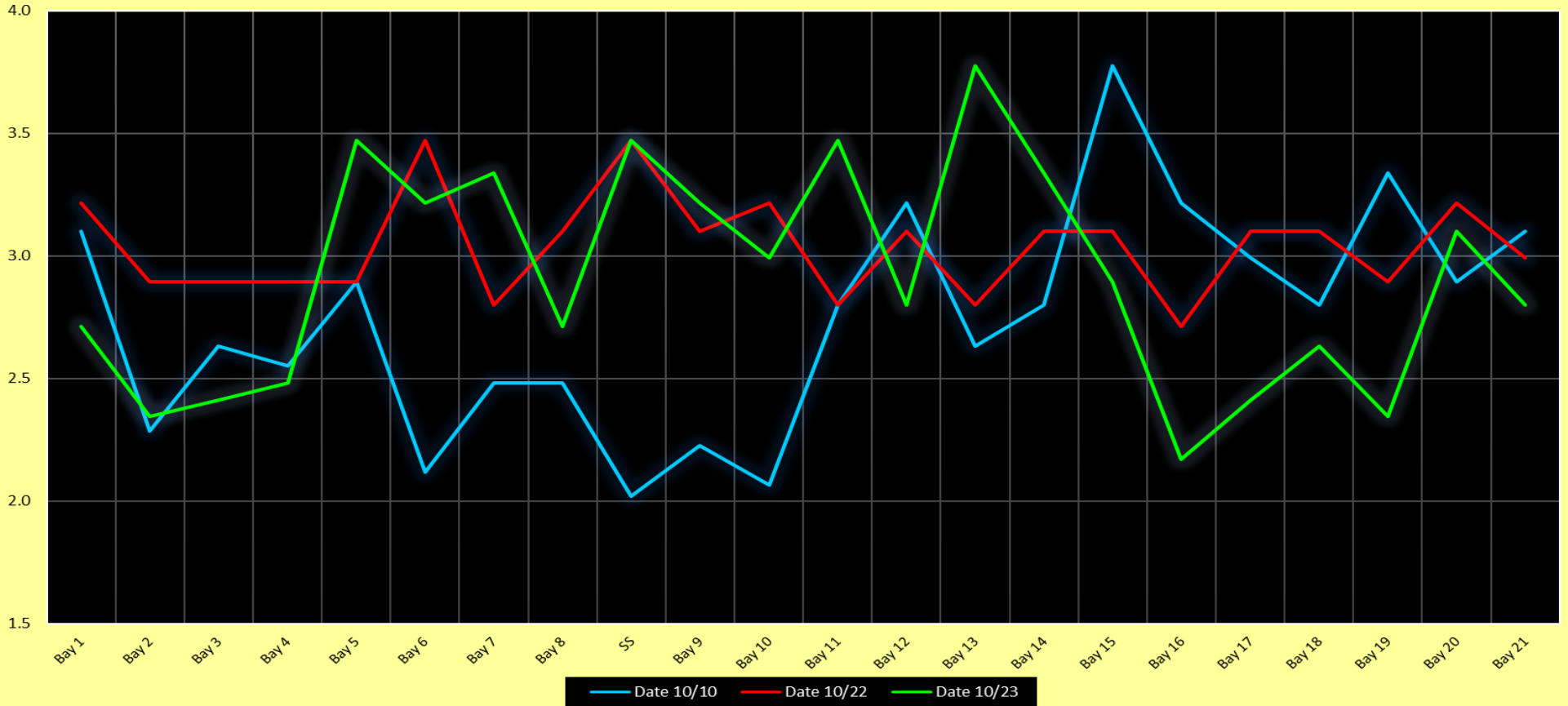
<http://www.nwp.usace.army.mil/Missions/Environment/Fish/Counts/>

## 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

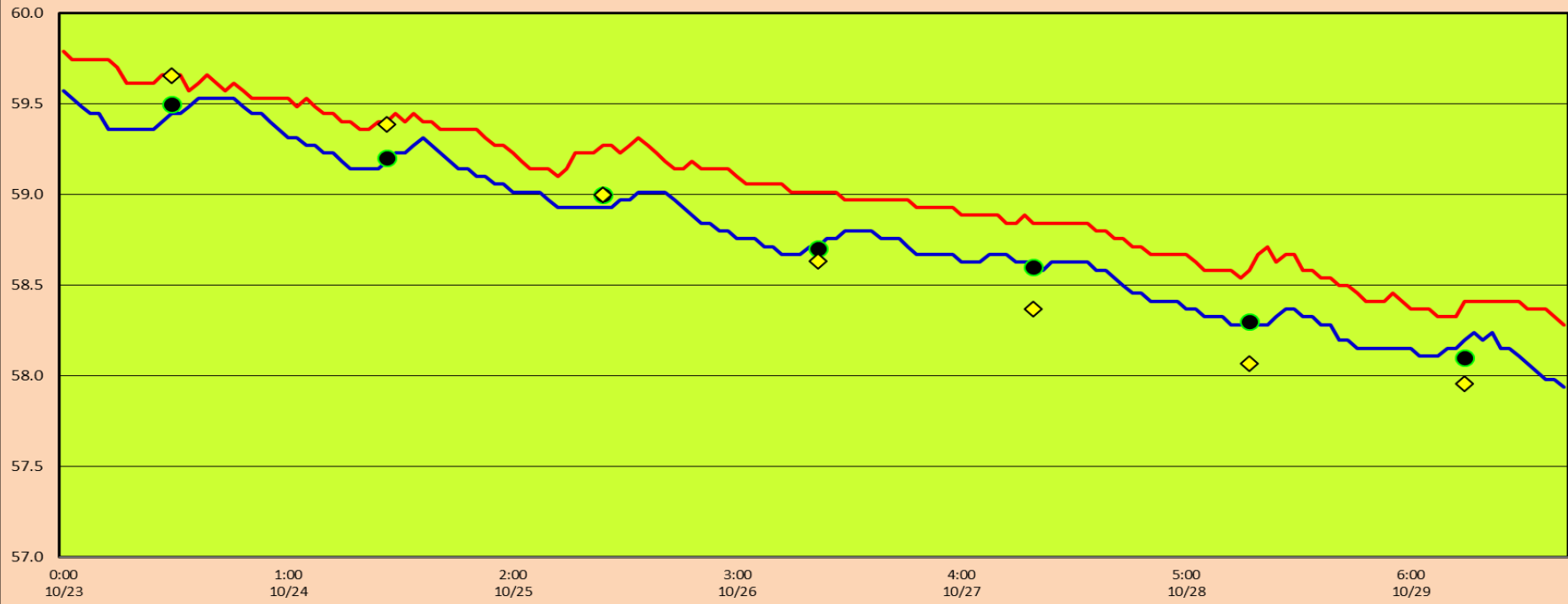


The Dalles Dam Collection Channel Velocites (In criteria 1.5 - 4.0 fps)



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

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





		USGS:	(Oct) <a href="http://www.nwd-wc.usace.army.mil/tmi/documents/ops/temp/201610.lcol.html">http://www.nwd-wc.usace.army.mil/tmi/documents/ops/temp/201610.lcol.html</a>
Secchi:		Temperatures	
10/23	5.0	Sun	59.5
10/24	5.0	Mon	59.2
10/25	5.0	Tue	59.0
10/26	5.0	Wed	58.7
10/27	4.0	Thurs	58.6
10/28	4.0	Fri	58.3
10/29	4.0	Sat	58.1
	4.6	AVG	58.8

**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		
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
10/23			1.7	5.0	13.0	13.0	12.1	1.5	10.7	10.7	SPILL OFF	1.5	8.2	8.3
	1.5	9.2	1.7	5.1	13.1	13.0	12.0	1.5	10.6	10.6		1.4	8.4	8.3
	1.5	9.1	1.7	5.0	13.0	13.0	12.1	1.4	10.7	10.7		1.5	8.3	8.2
10/24			1.8	5.1	13.2	13.2	12.7	1.5	10.8	10.8		1.4	8.4	8.4
	1.5	9.2	1.6	7.1	13.1	13.1	13.2	1.6	10.7	10.5		1.5	8.3	8.4
	1.5	9.1	1.7	7.1	13.1	13.1	13.2	1.6	10.6	10.6		1.5	8.4	8.3
10/25			1.6	7.0	13.0	13.0	11.8	1.3	10.7	10.7		1.4	8.3	8.3
	1.4	9.1	1.4	7.1	13.1	13.1	11.9	1.3	10.7	10.7		1.4	8.3	8.3
	1.5	9.1	1.6	6.9	12.9	12.7	11.5	1.4	10.6	10.6		1.5	8.3	8.3
10/26			1.4	7.0	13.1	13.1	11.9	1.6	9.9	9.9		1.5	8.3	8.2
	1.4	9.2	1.5	7.0	13.1	13.1	11.9	1.6	9.9	9.9		1.5	8.3	8.3
	1.4	9.3	1.5	7.5	13.0	13.0	12.0	1.5	10.5	10.5		1.5	8.3	8.3
10/27			1.5	7.6	13.0	13.0	10.8	1.1	10.7	10.7		1.2	8.4	8.4
	1.4	9.2	1.5	6.5	13.0	13.0	11.3	1.6	9.9	9.9		1.5	8.2	8.2
	1.4	9.2	1.6	8.0	13.0	13.0	11.4	1.5	10.0	10.0		1.5	8.2	8.2
10/28			1.5	8.0	12.9	12.9	12.1	1.7	10.0	10.0	1.6	8.3	8.3	
	1.4	9.3	1.5	7.5	12.9	12.9	12.1	1.4	10.5	10.5	1.5	8.2	8.2	
	1.5	9.1	1.5	7.4	12.9	12.9	12.0	1.5	10.5	10.5	1.6	8.3	8.3	
10/29			1.4	7.6	13.0	13.0	11.7	1.5	10.5	10.6	1.5	8.3	8.3	
	1.4	9.1	1.6	7.4	13.0	13.0	11.9	1.5	10.0	10.0	1.5	8.2	8.2	
	1.5	9.1	1.6	7.5	12.9	12.9	12.2	1.7	10.0	10.0	1.6	8.2	8.2	
<b>AVG:</b>	<b>1.5</b>	<b>9.2</b>	<b>1.6</b>	<b>6.9</b>	<b>13.0</b>	<b>13.0</b>	<b>12.0</b>	<b>1.5</b>	<b>10.4</b>	<b>10.4</b>		<b>1.5</b>	<b>8.3</b>	<b>8.3</b>

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



Prefab of intakes blocks continues for EFL AWS.

