

# The Dalles Dam Fishway Status Report

11/26/2016

Inspection Period: 11/20/2016 - 11/26/2016

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: 19		Temperature: 53.7 °F	
			Comments: Fall like conditions on project		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'	1.3			
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	1	Per forebay	OOC at forebay 158.1'			
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')	10.7			
East entrance differential	0	1.0' - 2.0'	1.5			
Entrance weir E1	0	No criteria	0.0			
Entrance weir E2	0	depth (≥ 8')	12.5			
Entrance weir E3	0	depth (≥ 8')	12.5			
Collection channel velocity	0	1.5 - 4 fps	2.87			
Transportation channel velocity	0	1.5 - 4 fps	2.64			
North channel velocity	0	1.5 - 4 fps	2.69			
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')	10.2			
Entrance weir W2	0	depth (≥ 8')	10.2			
Entrance weir W3	0	No criteria	Closed			
South entrance differential	0	1.0' - 2.0'	1.5			
Entrance weir S1	0	depth (≥ 8')	8.6			
Entrance weir S2	0	depth (≥ 8')	8.6			
<b>JUVENILE PASSAGE</b>						
Sluiceway operation	0	Units 1, 8, 18				
Turbine trashrack drawdown	0					
spill off						
Turbine Unit Priority	4	per FPP	MU's 3, 15, and 16 OOS			
Turbine 1% Efficiency	0	per FPP				

**Birds/Sea lions:**

No sea lions observed. High numbers of Cormorants.  
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:**

Preparing for east fishway dewatering Dec 1 and 2. Additional operator for overnight pump monitoring. Pump levels sensors to be calibrated Nov28.

**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 out for exciter failure RTS unknown

**Maintenance:**

New east exit weir electrical panel FCQ7 installation ~50% complete. Work to continue 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.

Planned winter work; west entrance weir and lift beam rehab, 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.

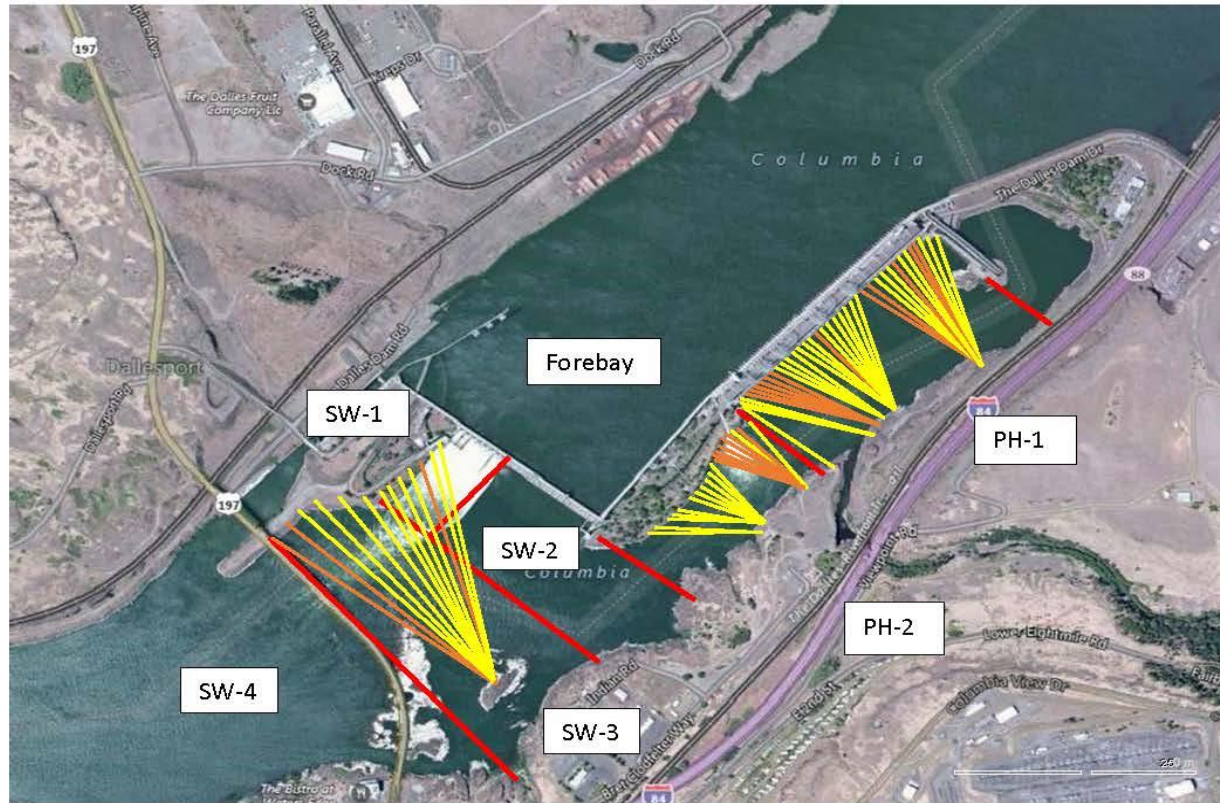
**Research/Construction:**

Unit 1 environmental acceptable grease - Coordinated and approved through FPOM.  
North fishladder rehab/rock wall stabilizing - Awaiting funding.  
East fishladder emergency backup - Prefab continues north staging area. Uncovered derelict beams removed via rock hammer. FPOM coordinated.  
Forebay scaffold installation continues.  
Railroad track removal - Start in water work period 2016. Possible work over sluiceway next summer. Crane rail replacement postponed to 2021.  
Tailrace crane rehab - Work resumed. Completion Dec.  
Fish unit breaker replace.- Work start fall 2017. Switch over Jan 2018.  
Transformer replacement - Install start May 2018. Requires 4 months per transformer bank. Reviewing sequence for least risk to fish passage.  
N Wasco Co PUD Memo of Agreement - Reviewing for final.  
Fish unit rehab - Award planned for 2020. Completion 2022.  
Fish unit breaker replacement - Start in water work period 2017/18  
Lamprey minor mods - Rounded weir caps planned for all entrances 2018. Fab and install with project labor. Planning meeting Dec 12.

**Research/Contractors:**

Kiewit on site for AWS backup. Monitoring work progress.

Approved by: Ron Twiner  
Operation Project Manager The Dalles Dam



Red lines = avian zones

Yellow lines = current wires

Orange lines = down or missing wires

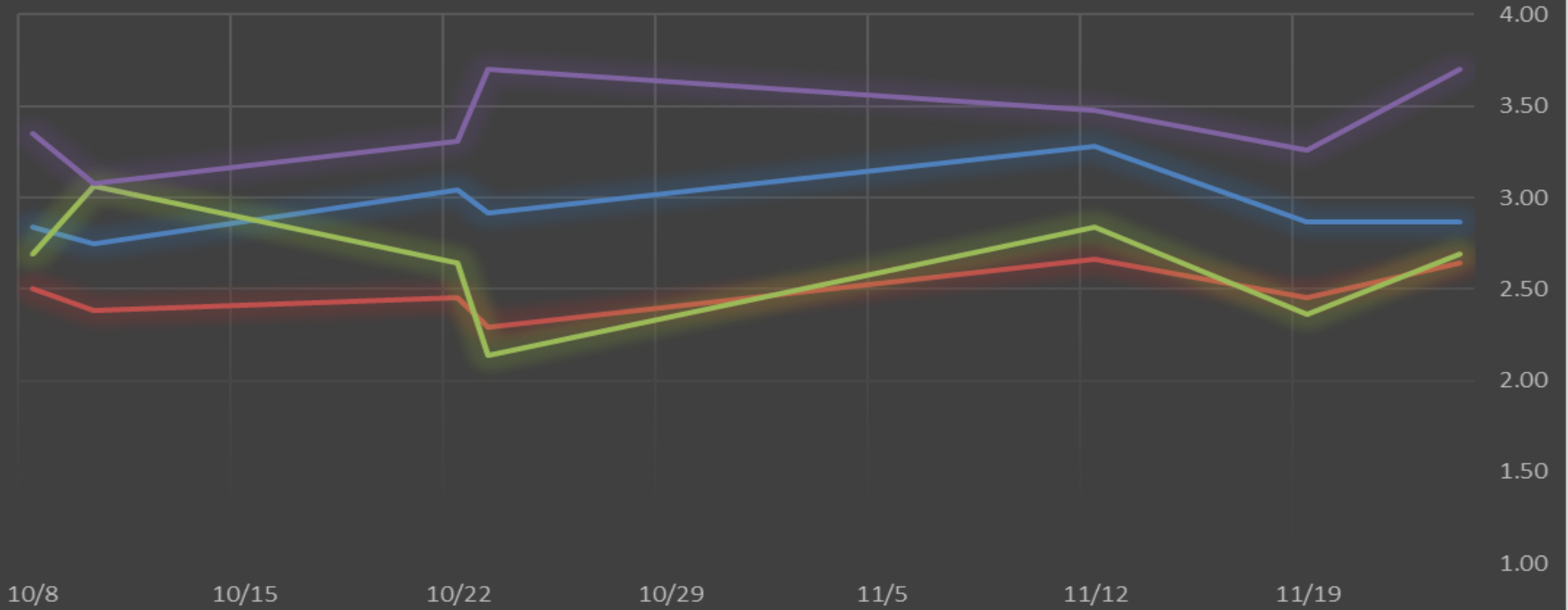
## 2016 Piscivorous Bird Counts

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		
11/20/16	GJF	PM	FB	0	64	0	0	0	0	0	19	0	0	0	0	83	COME
			PH1	0	6	12	19	0	0	0	0	0	18	22	77		
			PH2	22	0	5	0	0	0	0	0	0	0	0	27		
			SW1	0	15	1	0	0	0	0	0	0	0	0	16		
			SW2	0	4	3	0	0	0	0	0	0	0	0	7		
			SW3	0	4	0	65	0	0	0	0	0	0	0	69		
			SW4	0	48	0	14	0	0	0	0	0	0	0	62		
11/21/16	JWR	AM	FB	0	16	1	0	0	0	0	13	0	0	0	30	1 GBHE, 35 COME GBHE	
			PH1	0	0	3	50	0	0	0	0	0	0	36	89		
			PH2	0	0	0	0	0	0	0	0	0	0	0	0		
			SW1	0	0	0	0	0	0	0	0	0	0	2	2		
			SW2	0	0	0	0	0	0	0	0	0	0	0	0		
			SW3	0	4	0	49	0	0	0	0	0	0	0	53		
			SW4	0	0	0	2	0	0	0	0	0	1	0	3		
11/22/16	EHK	PM	FB	0	0	0	0	0	0	0	0	0	0	0	0	51 come & 1 gbh 1 gbh	
			PH1	0	0	0	33	0	0	0	0	0	0	52	85		
			PH2	21	0	0	0	0	0	0	0	0	0	0	21		
			SW1	0	84	0	0	0	0	0	0	0	0	0	84		
			SW2	0	23	0	38	0	0	0	0	1	0	0	62		
			SW3	0	67	0	46	0	0	0	0	0	0	0	113		
			SW4	0	0	0	10	0	0	0	0	0	0	1	11		
11/23/16	JWR	AM	FB	1	5	1	0	0	0	0	22	0	0	0	29	COME	
			PH1	1	0	3	31	0	0	0	0	0	0	60	95		
			PH2	0	0	0	0	0	0	0	0	0	0	0	0		
			SW1	0	6	0	0	0	0	0	0	0	0	0	6		
			SW2	0	0	0	0	0	0	0	0	0	0	0	0		
			SW3	0	0	0	55	0	0	0	0	0	0	0	55		
			SW4	0	0	0	0	0	0	0	0	0	0	0	0		
11/24/16	GJF	PM	FB	0	15	0	1	0	0	0	18	0	0	0	34	come gbhe	
			PH1	0	4	9	24	0	0	0	0	0	5	44	86		
			PH2	18	0	0	0	0	0	0	0	0	0	0	18		
			SW1	0	22	0	0	0	0	0	0	0	0	2	24		
			SW2	0	0	0	0	0	0	0	0	0	0	0	0		
			SW3	0	0	0	29	0	0	0	0	0	0	0	29		
			SW4	0	4	0	14	0	0	0	0	0	1	0	19		
11/25/16	JWR	AM	FB	0	9	0	0	0	0	0	46	0	0	0	55	COME GBHE	
			PH1	0	0	1	41	0	0	0	0	0	4	27	73		
			PH2	1	0	0	0	0	0	0	0	0	0	0	1		
			SW1	0	14	0	0	0	0	0	0	0	0	1	15		
			SW2	0	0	0	0	0	0	0	0	0	0	0	0		
			SW3	0	0	0	65	0	0	0	0	0	0	0	65		
			SW4	0	0	0	1	0	0	0	0	0	0	0	1		
11/26/16	EHK	PM	FB	0	52	0	0	0	0	53	0	0	0	0	105	1 GBH & 31 come	
			PH1	0	4	0	36	0	0	0	0	0	0	32	72		
			PH2	0	0	0	0	0	0	0	0	0	0	0	0		
			SW1	0	108	0	0	0	0	0	0	0	0	0	108		
			SW2	0	0	0	0	0	0	0	0	0	0	0	0		
			SW3	0	38	0	38	0	0	0	0	0	0	0	76		
			SW4	0	0	0	10	0	0	0	0	0	0	0	10		
<i>daily averages</i>				1.3	12.6	0.8	13.7	0.0	0.0	0.0	3.5	0.0	0.1	0.6	5.7	38.2	

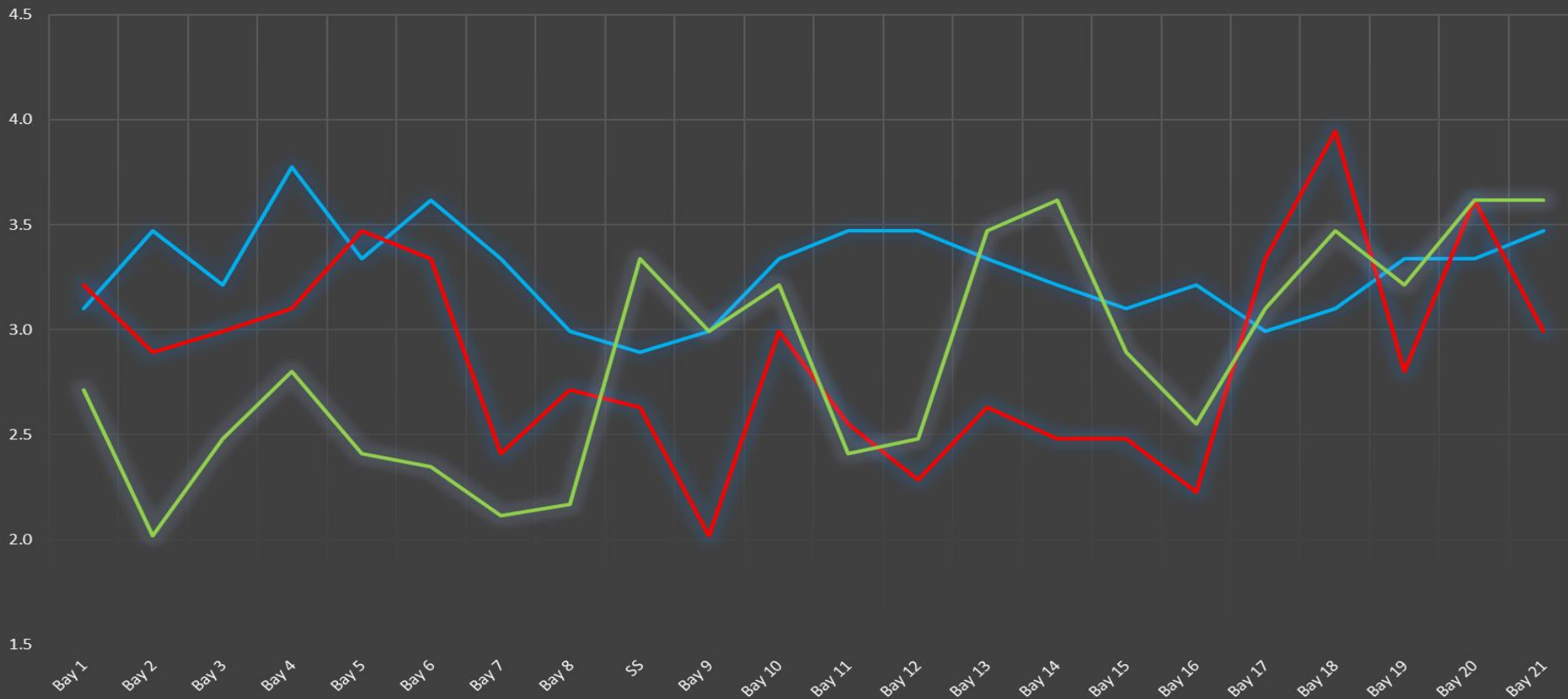
# The Dalles Dam Averages Velocities (In criteria 1.5 - 4.0 fps)

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

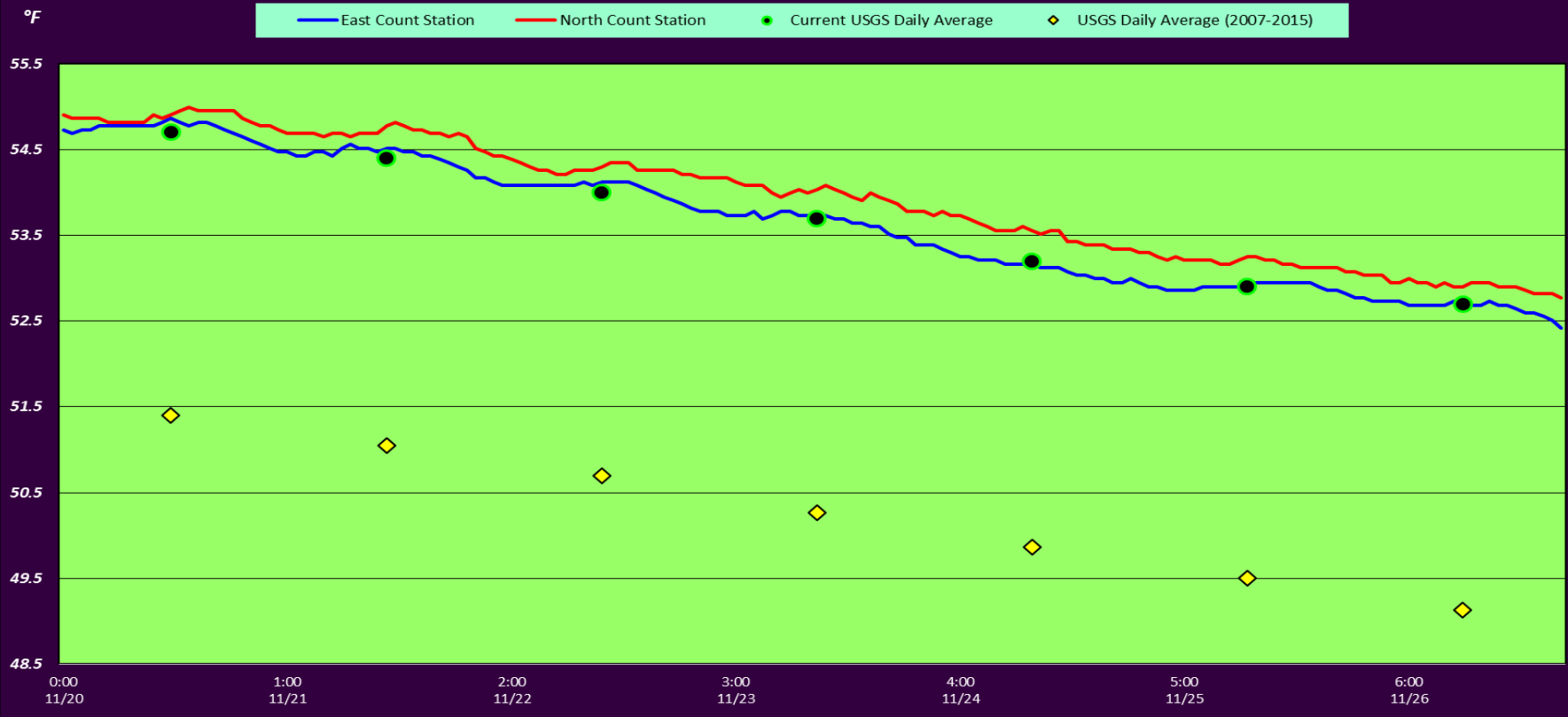


### The Dalles Dam Collection Channel Velocites (In criteria 1.5 - 4.0 fps)

Date 11/12    Date 11/19    Date 11/24



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



**USGS:** [Nov - http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201611.lcol.html](http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201611.lcol.html)

Secchi:		Temperatures
5.0	Sun	54.7
5.0	Mon	54.4
5.0	Tue	54.0
5.0	Wed	53.7
5.0	Thurs	53.2
5.0	Fri	52.9
5.0	Sat	52.7
5.0	AVG	53.7

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

= Out of criteria

Date:	North Ladder		East Ladder											S P I L L  O F F
	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
11/20			1.3	0.0	12.6	12.7	10.4	1.2	11.0	11.0		1.3	9.1	9.0
	1.3	9.2	1.6	0.0	12.7	12.8	12.2	1.5	11.1	11.1		1.4	9.1	9.1
	1.4	9.1	1.6	0.0	12.7	12.7	12.3	1.4	11.1	11.1		1.4	9.1	9.1
11/21			1.5	0.0	12.6	12.7	10.3	1.5	10.2	10.2		1.5	8.5	8.5
	1.3	9.1	1.6	0.0	12.3	12.3	10.4	1.5	9.9	9.9		1.5	8.6	8.6
	1.4	9.1	1.8	0.0	12.5	12.5	10.8	1.5	9.9	10.0		1.5	8.6	8.6
11/22			1.2	0.0	12.8	12.8	9.3	1.2	10.0	10.0		1.5	8.5	8.5
	1.2	9.3	1.5	0.0	12.0	12.0	9.6	1.5	9.5	9.5		1.4	8.5	8.5
	1.3	9.3	1.8	0.0	11.9	11.9	11.1	1.9	9.4	9.4		1.7	8.4	8.4
11/23			1.9	0.0	12.3	12.3	11.0	1.8	10.0	10.0		1.6	8.5	8.6
	1.4	9.2	1.6	0.0	12.9	12.9	11.8	1.6	10.6	10.6		1.5	8.8	8.7
11/24			1.5	0.0	12.8	12.8	11.3	1.4	10.5	10.5		1.5	8.7	8.8
	1.5	9.1	1.6	0.0	12.9	12.9	12.0	1.6	10.5	10.5		1.5	8.8	8.7
11/25			1.1	0.0	12.7	12.7	9.8	1.2	10.5	10.5		1.3	8.7	8.8
	1.3	9.2	1.5	0.0	12.1	12.1	9.9	1.4	9.9	9.9		1.6	8.2	8.2
	1.3	9.2	1.5	0.0	12.3	12.3	10.3	1.7	9.9	9.9		1.6	8.3	8.3
11/26			1.1	0.0	12.2	12.2	9.3	1.4	10.0	10.0		1.5	8.2	8.3
	1.2	9.3	1.8	0.0	11.9	12.0	10.2	1.8	9.8	9.8		1.5	8.5	8.5
	1.4	9.1	1.7	0.0	12.4	12.3	11.5	1.6	10.2	10.2		1.7	8.3	8.3
<b>AVG:</b>	<b>1.3</b>	<b>9.2</b>	<b>1.5</b>	<b>0.0</b>	<b>12.5</b>	<b>12.5</b>	<b>10.7</b>	<b>1.5</b>	<b>10.2</b>	<b>10.2</b>		<b>1.5</b>	<b>8.6</b>	<b>8.6</b>

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





Night work progress for removal of north beam <50' from the fishladder.





Day removal of south beam >50' from the fishladder