

# The Dalles Dam Fishway Status Report

11/12/2017

Inspection Period: 11/05/2017-11/11/2017

## THE DALLES DAM



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:	53.5 °F
			Comments	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'	1.4			
Entrance weir N1	0	depth (≥ 8')	9.0			
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	Auto adjusts 1' increments Work cleaning circuit boxes performed.			
Weir 158-159 differential	0	1.0' ± 0.1'	158 calibrated and adjusted.			
Count station differential	0	≤ 0.3'	Picket leads raked as needed. Debris load light.			
Weir crest depth	0	1.0' ± 0.1'				
Junction pool weir JP6	0	0.0	9.5			
East entrance differential	0	1.0' - 2.0'	1.4			
Entrance weir E1	0	No criteria				
Entrance weir E2	0	depth (≥ 8')	11.3			
Entrance weir E3	0	depth (≥ 8')	11.3			
Collection channel velocity	0	1.5 - 4 fps	2.59			
Transportation channel velocity	0	1.5 - 4 fps	2.21			
North channel velocity	0	1.5 - 4 fps	2.69			
South channel velocity	0	1.5 - 4 fps	3.35			
West entrance differential	0	1.0' - 2.0'	1.5			
Entrance weir W1	0	depth (≥ 8')	8.3			
Entrance weir W2	0	depth (≥ 8')	8.3			
Entrance weir W3	0	No criteria				
South entrance differential	0	1.0' - 2.0'	1.5			
Entrance weir S1	0	depth (≥ 8')	8.4			
Entrance weir S2	0	depth (≥ 8')	8.4			
<b>JUVENILE PASSAGE</b>						
Sluiceway operation	0	Units 1, 8, 18				
Turbine trashrack drawdown	0	<1.5', wkly	range: 0.1-0.8'			
Spill volume/pattern	0		Spillway closed midnight Aug31			
Turbine Unit Priority	14	per FPP	MU 13-16 oos			
Turbine 1% Efficiency	0	per FPP				

## OTHER ISSUES:

### **Birds/Sea lions:**

No sea lion sightings. Hundreds of gulls on site, increased foraging in PH2 at sluiceway outfall

High predation rates on Miller Island gulls causing concern. Presented at FPOM task group Nov8 and Inland avian predation work group meeting.

### **Operations**

North and east fishladders in full operation.

Sluiceway open with 6 gates (units 1, 8 and 18)

### **Current Outages;**

T8 (MU15 & MU16) out for transformer failure. Transformer replacement 7/5/18.

MU17 out for overhaul. Return 12/14/17.

MU14 out for disconnect maint. Return 12/8/17

MU13 out for overhaul. Return 12/8/17

### **Maintenance;**

East exit weir electrical panel FCQ7 partially installed. Engineering design and CADD drawings continues. Further installation possible this winter.

Rebuilding entrance weir and east exit weir spare gearboxes.

East exit oil boom installation by AWS contract this winter. Scope being reviewed.

Designing fish lock upper and lower bulkhead replacement with concrete for improved isolation and fishladder protection.

Fishway dewater work list; Diffuser valve rehab scope, dewater pump rehab, south weir rehab, Weir caps (lamprey), east exit weir 155,156,158 gearbox rehab

Other repair maintenance plans for upcoming fiscal years; 154 -157 rehab/weir wheel replace, diffuser valve overhaul (rehab and decommission).

Fish related /non-fish funded items; Spillway assessment, spillway crane replace and spillgate 9. All awaiting funding.

All spillway items on Critical Infrastructure. Spillgate 9 on large cap list, projected for 2022. Charter in place for comprehensive spillway assessment.

### **Research/Construction/Contractors:**

*Fish Counters* - Normandau counters on site through Oct 31. Video review counting through the winter.

*Pikeminnow dam angling* - Done for season with a total catch at 1776. Highest invasive walleye by-catches do date being released. Concern brought to FPOM.

*AWS construction* - Extensions Oct/Nov night work and mid Nov day work FPOM approved. Dive day Nov 13 per FPOM approval. Commissioning testing Mar 31.

*Lamprey minor mods* - Rounded entrance weir cap parts for all entrances recieved. Moorings fabricating. Tribal lamprey trap hoist design pending.

*Railroad track removal* - Tailrace deck start Nov nights (FPOM approved)

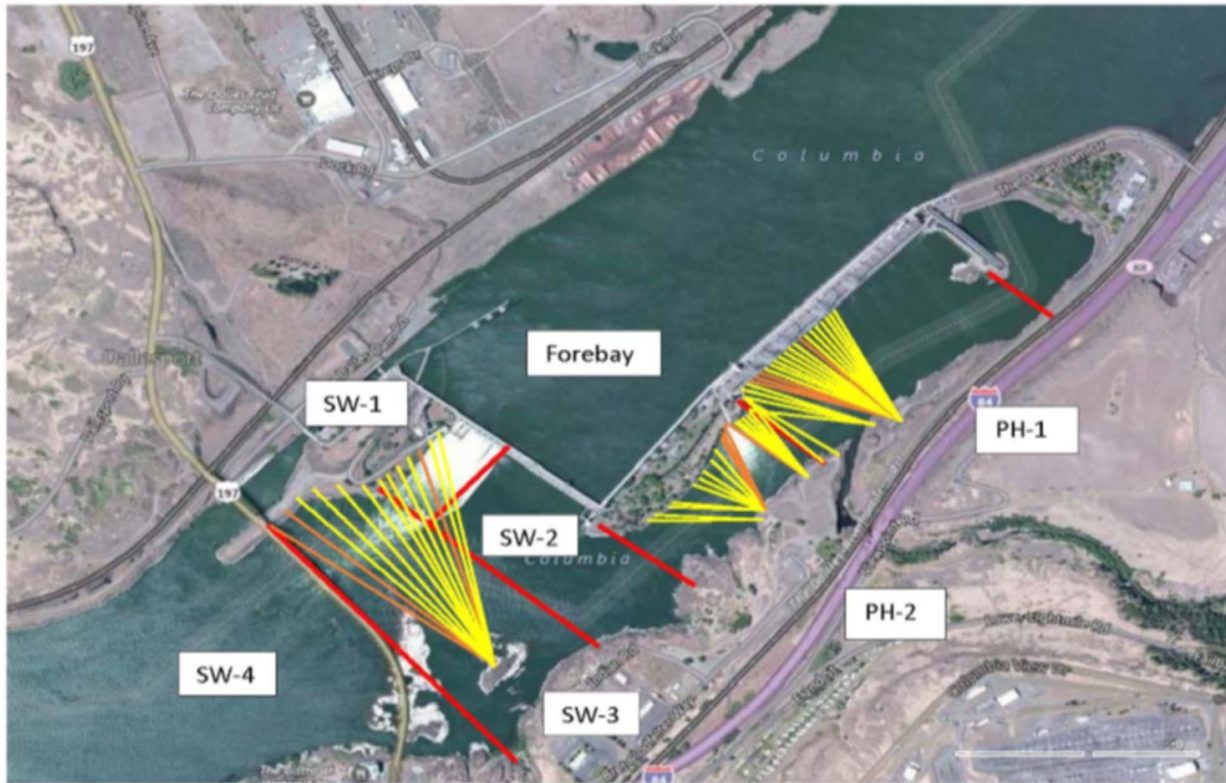
*Fish unit breaker replace*.- Start behind schedule. Demo start Dec4. Completion Feb18, 2018. Two weeks commission testing required.

*Fish unit rehab* - Phase 1A report Jan 2018. Award 2020. Completion 2022.

*Transformer replacement* - Install start May 2018.

Approved by: Ron Twiner

Operation Project Manager The Dalles Dam



Red lines = avian zones

Yellow lines = current wires

Orange lines = down or missing wires

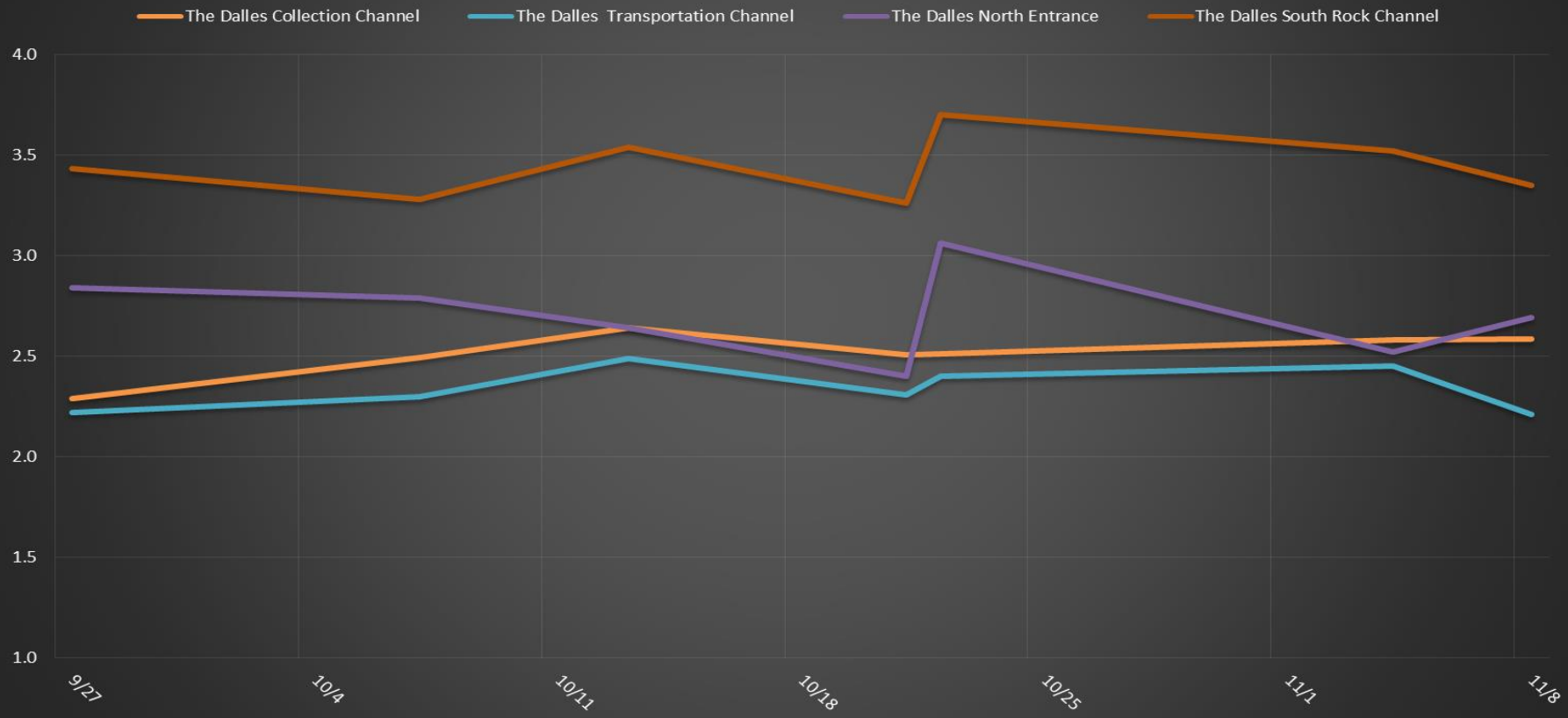
# 2017 Piscivorous Bird Counts

F=foraging, NF=non-foraging

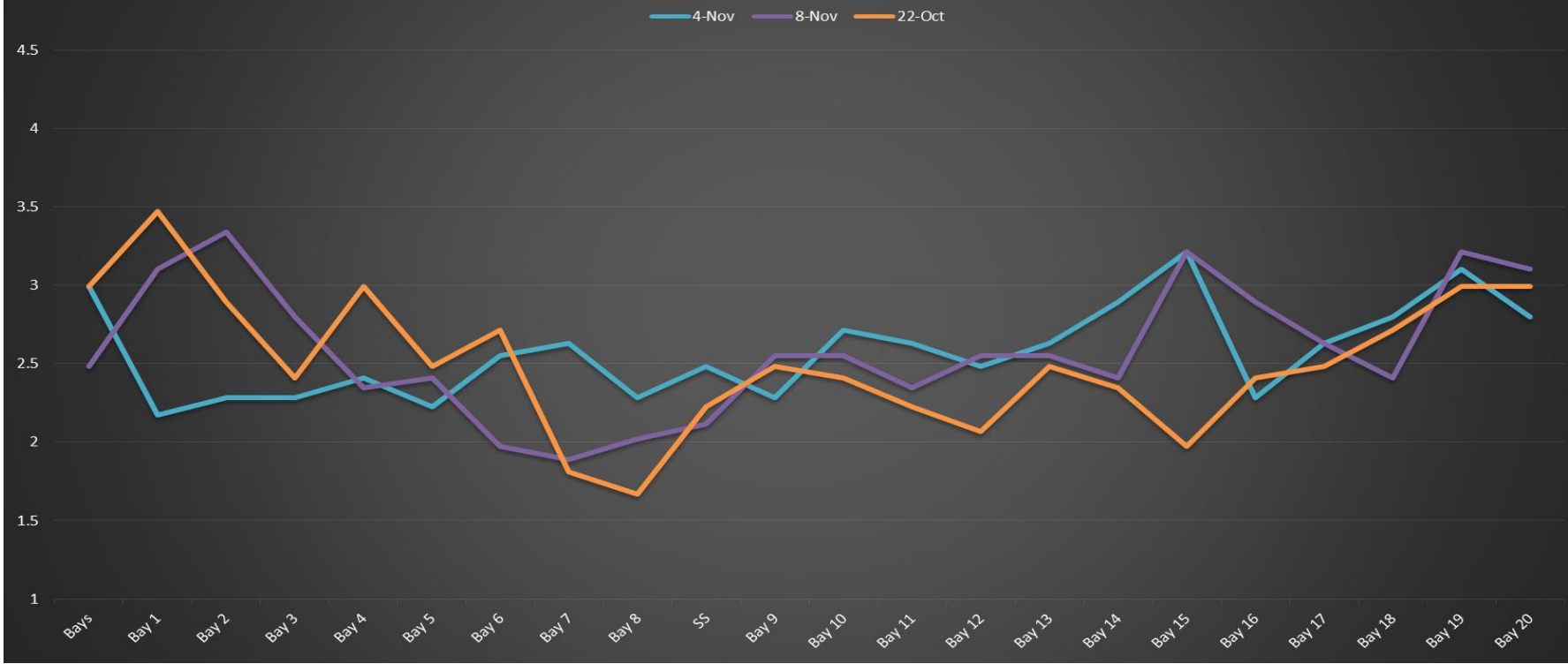
Date	observer	time	Zone	Gull		Cormorant		Caspian tern		Grebe		Pelican		Other		Total birds in zone	Notes
				F	NF	F	NF	F	NF	F	NF	F	NF	F	NF		
11/5	GJF	PM	FB	0	15	0	24	0	0	0	7	0	0	0	0	46	
			PH1	3	2	7	14	0	0	0	0	0	0	0	15	41	
			PH2	12	0	0	0	0	0	0	0	0	0	0	0	12	
			SW1	0	0	2	0	0	0	0	0	0	0	0	0	2	
			SW2	3	0	1	0	0	0	0	0	0	0	0	0	4	
			SW3	0	0	2	25	0	0	0	0	0	0	0	0	27	
SW4	0	102	0	3	0	0	0	0	0	0	0	0	105				
11/6	GJF	AM	FB	0	1	0	0	0	0	0	0	0	0	0	0	1	
			PH1	3	4	4	11	0	0	0	0	0	0	29	20	71	
			PH2	6	0	3	0	0	0	0	0	0	0	0	0	9	
			SW1	0	17	3	0	0	0	0	0	0	0	0	0	20	
			SW2	0	0	0	20	0	0	0	0	0	0	0	0	20	
			SW3	0	0	0	75	0	0	0	0	0	0	0	0	75	
SW4	0	0	0	0	0	0	0	0	0	0	0	0	0				
11/7	GJF	PM	FB	0	7	3	0	0	0	22	0	0	0	0	32		
			PH1	16	3	27	7	0	0	0	0	0	37	19	109		
			PH2	6	0	7	0	0	0	0	0	0	4	0	17		
			SW1	0	97	4	0	0	0	0	0	0	0	3	104		
			SW2	2	0	7	0	0	0	0	0	0	2	0	11		
			SW3	0	0	4	20	0	0	0	0	0	0	0	24		
SW4	0	0	0	0	0	0	0	0	0	0	0	0	0				
11/8	GJF	AM	FB	0	16	0	11	0	0	0	26	0	0	0	0	53	
			PH1	16	4	10	19	0	0	0	0	0	24	5	78		
			PH2	9	0	5	0	0	0	0	0	0	0	0	14		
			SW1	0	101	3	0	0	0	0	0	0	0	0	104		
			SW2	7	0	5	0	0	0	0	0	0	3	0	15		
			SW3	0	0	4	49	0	0	0	0	0	0	0	53		
SW4	0	14	0	18	0	0	0	0	0	0	0	32					
11/9	JWR	PM	FB	0	0	0	0	0	0	31	0	0	0	1	32	BAEA COME	
			PH1	3	1	7	27	0	0	0	0	0	36	13	87		
			PH2	10	0	0	0	0	0	0	0	0	0	0	10		
			SW1	0	21	0	0	0	0	0	0	0	0	0	21		
			SW2	0	0	3	0	0	0	0	0	0	0	0	3		
			SW3	0	56	2	39	0	0	0	0	0	0	0	97		
SW4	0	274	0	13	0	0	0	0	0	0	0	287					
11/10	JWR	AM	FB	0	0	0	6	0	0	0	8	0	0	0	14		
			PH1	0	1	1	5	0	0	0	0	0	5	44	56		
			PH2	10	0	0	0	0	0	0	0	0	0	0	10		
			SW1	0	33	0	0	0	0	0	0	0	0	0	33		
			SW2	0	0	1	0	0	0	0	0	0	0	0	1		
			SW3	0	82	0	45	0	0	0	0	0	0	0	127		
SW4	0	169	0	8	0	0	0	0	0	0	0	177					
11/11	JWR	PM	FB	0	0	0	0	0	0	17	0	0	0	0	17	COME	
			PH1	14	8	0	26	0	0	0	0	0	28	18	94		
			PH2	0	0	0	12	0	0	0	0	0	0	0	12		
			SW1	0	27	0	0	0	0	0	0	0	0	0	27		
			SW2	0	0	0	0	0	0	0	0	0	0	0	0		
			SW3	0	41	0	42	0	0	0	0	0	0	0	83		
SW4	0	465	0	12	0	0	0	0	0	0	0	477					

Key: BAEA = Bald Eagle; GBHE = Great Blue Heron; COME = Common Merganser

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



### The Dalles Dam Collection Channel Velocities (In Criteria 1.5 - 4.0 fps)



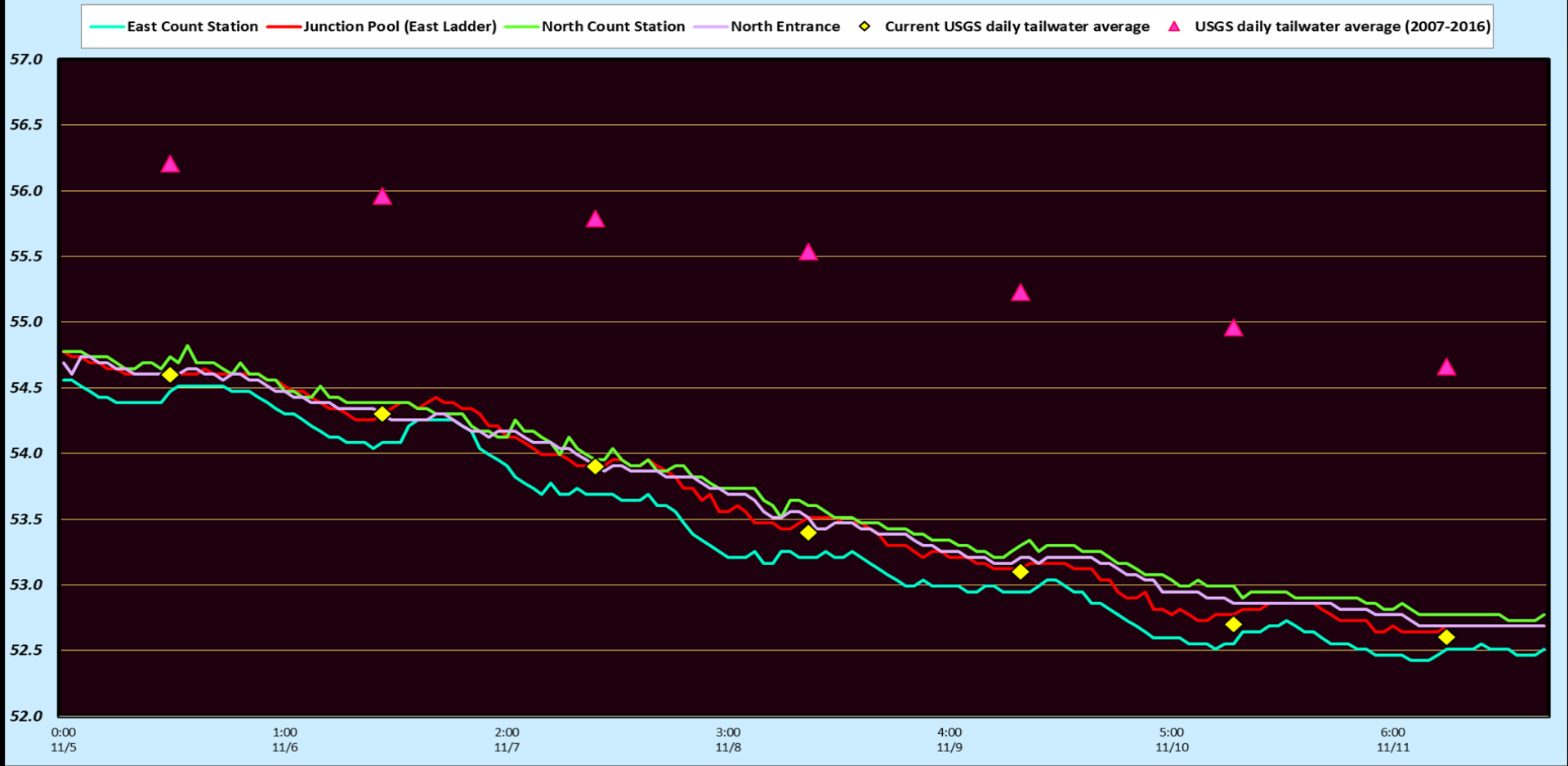
### The Dalles East

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
11/5	374	339	35	16	14	2	0	0	0	0	0	0	0
11/6	283	253	30	22	19	3	5	5	0	0	0	0	0
11/7	229	214	15	25	21	4	42	42	0	0	0	0	0
11/8	108	100	8	17	9	8	36	35	1	0	0	0	0
11/9	168	152	16	14	12	2	5	5	0	0	0	0	0
11/10	129	118	11	12	10	2	8	8	0	0	0	0	0
11/11	82	81	1	4	3	1	5	5	0	0	0	0	0
<b>total</b>	<b>1373</b>	<b>1257</b>	<b>116</b>	<b>110</b>	<b>88</b>	<b>22</b>	<b>101</b>	<b>100</b>	<b>1</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
11/5	114	102	12	5	3	2	2	2	0	0	0	0	0
11/6	95	89	6	4	3	1	0	0	0	0	0	0	0
11/7	51	44	7	2	2	0	5	5	0	0	0	0	0
11/8	51	42	9	4	3	1	3	3	0	0	0	1	0
11/9	48	39	9	2	1	1	3	3	0	0	0	0	0
11/10	36	30	6	0	0	0	6	6	0	0	0	0	0
11/11	74	67	7	1	1	0	6	6	0	0	0	0	0
<b>total</b>	<b>469</b>	<b>413</b>	<b>56</b>	<b>18</b>	<b>13</b>	<b>5</b>	<b>25</b>	<b>25</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>
<b>% North</b>	<b>25.5</b>	<b>24.7</b>	<b>32.6</b>	<b>14.1</b>	<b>12.9</b>	<b>18.5</b>	<b>19.8</b>	<b>20.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

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





USGS: [http://pweb.crohms.org/mt/documents/ops/temp201711\\_bol.html](http://pweb.crohms.org/mt/documents/ops/temp201711_bol.html)

Secchi:		Temperatures
4.0	Sun	54.6
4.0	Mon	54.3
4.5	Tue	53.9
5.0	Wed	53.4
5.0	Thurs	53.1
5.0	Fri	52.7
5.0	Sat	52.6
4.6	AVG	53.5

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

= Out of criteria

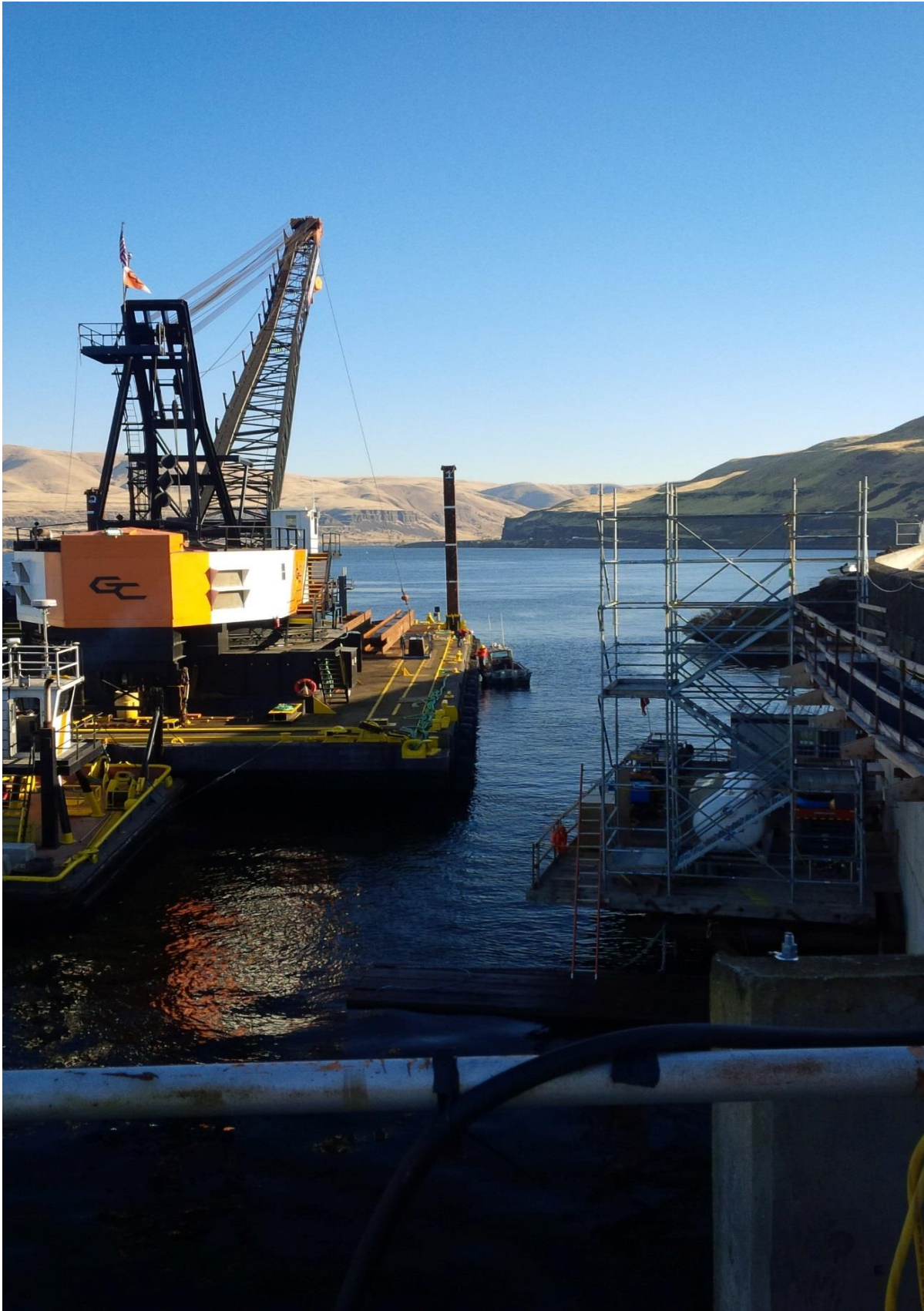
Date:	North Ladder		East Ladder										South Entrance		
	North Entrance		East Entrance					West Entrance				South Entrance			
	Differential	N1 Depth	Differential	E1 Depth	E2 Depth	E3 Depth	JP 6	Differential	W1 Depth	W2 Depth	W3 Depth	Differential	S1 Depth	S2 Depth	
11/5			1.2	9.6	11.5	11.4	9.0	1.5	8.3	8.3		1.4	8.4	8.4	
	1.4	8.9	1.2	9.4	11.4	11.5	9.3	1.5	8.3	8.3		1.5	8.3	8.2	
	1.4	9.0	1.1	9.5	11.4	11.5	9.3	1.3	8.2	8.2		1.5	8.3	8.3	
11/6			1.0	9.6	11.6	11.6	8.9	1.5	8.3	8.3		1.5	8.2	8.2	
	1.3	8.9	1.2	7.0	11.4	11.4	8.5	1.6	8.3	8.3		1.5	8.3	8.3	
	1.3	9.0	1.2	7.0	11.5	11.4	8.8	1.5	8.3	8.3		1.4	8.3	8.3	
11/7			1.3	7.0	11.5	11.4	8.4	1.7	8.3	8.3		1.5	8.3	8.4	
	1.4	8.9	1.2	7.0	11.6	11.5	9.1	1.5	8.4	8.4		1.4	8.4	8.4	
	1.3	8.9	1.5	7.4	12.3	12.2	9.8	1.4	8.3	8.2		1.5	8.4	8.4	
11/8			1.4	7.0	11.5	11.5	8.5	1.7	8.4	8.4		1.4	8.3	8.3	
	1.4	9.0	1.4	7.9	11.1	11.1	9.7	1.6	8.3	8.3		1.6	8.2	8.2	
	1.4	8.9	1.5	8.0	11.1	11.1	10.3	1.5	8.4	8.4		1.6	8.3	8.3	
11/9			1.6	8.0	11.1	11.1	9.9	1.6	8.3	8.3		1.6	8.2	8.2	
	1.3	9.1	1.7	8.0	10.9	10.9	9.7	1.6	8.2	8.2		1.0	8.3	8.3	
	1.3	8.9	1.5	9.1	11.0	11.0	9.6	1.6	8.3	8.3		1.6	8.5	8.5	
11/10			1.4	9.0	11.0	11.0	10.1	1.5	8.4	8.4		1.5	8.5	8.5	
	1.4	9.0	1.5	9.0	11.0	11.0	10.1	1.5	8.3	8.3		1.5	8.5	8.5	
	1.4	9.0	1.6	9.0	10.9	10.9	9.8	1.5	8.4	8.4		1.5	8.5	8.5	
11/11			1.5	9.0	11.0	11.0	10.1	1.5	8.3	8.3		1.5	8.4	8.4	
	1.4	8.8	1.4	9.0	11.1	11.1	9.8	1.6	8.2	8.2		1.6	8.4	8.4	
	1.2	9.0	1.5	9.0	11.1	11.1	9.8	1.5	8.3	8.3		1.5	8.5	8.5	
<b>AVG:</b>	<b>1.4</b>	<b>9.0</b>	<b>1.4</b>	NO CRITERIA	<b>11.3</b>	<b>11.3</b>	<b>9.5</b>	<b>1.5</b>	<b>8.3</b>	<b>8.3</b>	NO CRITERIA	<b>1.5</b>	<b>8.4</b>	<b>8.4</b>	

Fishways are inspected twice daily plus one SCADA inspection.



Getting closer...shiny new section of AWS pipe installed.





Work barge and dive platform in forebay near east ladder exit.