

# The Dalles Dam Fishway Status Report

8/27/2016

Inspection Period: 08/21/2016-08/27/2016

## 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: 71.9 °F	
			Comments		Secchi: 4.9 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 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'				
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	3.5			
Entrance weir E2	0	depth (≥ 8')	13.0			
Entrance weir E3	0	depth (≥ 8')	13.0			
Collection channel velocity	0	1.5 - 4 fps	2.5			
Transportation channel velocity	0	1.5 - 4 fps	2.6			
North channel velocity	0	1.5 - 4 fps	2.4			
South channel velocity	0	1.5 - 4 fps	3.6			
West entrance differential	0	1.0' - 2.0'	1.4			
Entrance weir W1	0	depth (≥ 8')	8.4			
Entrance weir W2	0	depth (≥ 8')	8.4			
Entrance weir W3	0	No criteria	Closed			
South entrance differential	0	1.0' - 2.0'	1.4			
Entrance weir S1	0	depth (≥ 8')	8.3			
Entrance weir S2	0	depth (≥ 8')	8.3	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	0	Spill at 40%				
Spill Pattern	0					
Turbine Unit Priority	0	per FPP				
Turbine 1% Efficiency	0	per FPP				

**Birds/Sea lions:**

Bird observation data collected once daily. Refer to Avian Zone map.

District investigating possibility of limited lethal gull removal at project. To be discussed at FPOM meeting.

Two of 13 spillway avian lines broke closest to bridge. Replacement to occur after spillway closure.

**Operations:**

Calibration done 8/23, No discrepancies found

Gatewell drawdown 8/20 within criteria limits.

**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 rehab complete, install 8/29.

New east exit weir electrical panel FCQ7 panel installed in gallery. Design completion in August. Electrical connection labor in September.

*Long Term repair maintained 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.

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. FPOM approved.

North fishladder rehab/rock wall stabilizing. No new development.

East fishladder emergency backup construction this winter. Mobilization and prefab work underway on north side. Weekly planning meetings continue.

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 to restart late Oct, early Nov. Will increase reliability of fish units and potential redundancy.

Fish unit breaker replace planned for in water work period 2017/18

**Research/Contractors:**

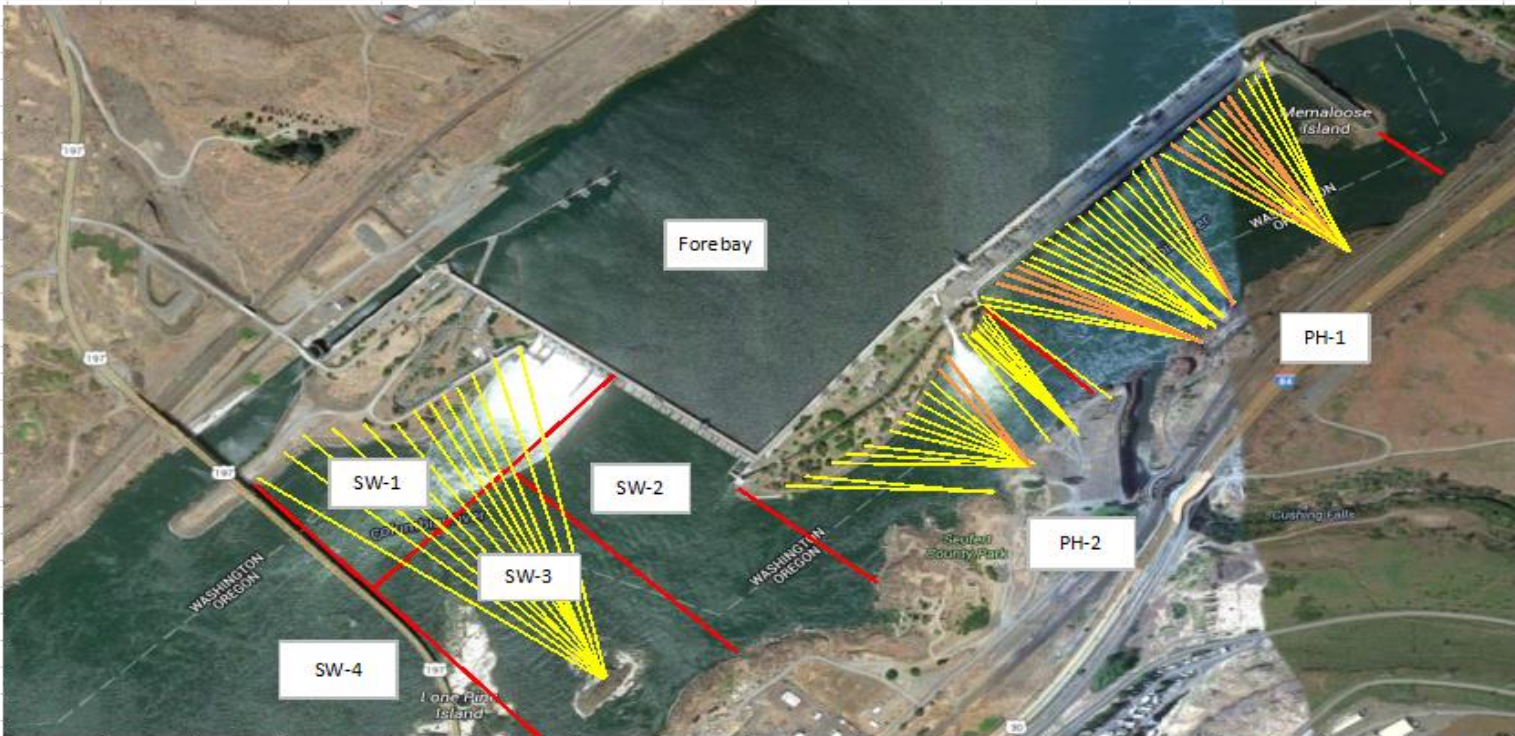
Northern Pikeminnow Management Program dam anglers caught 143 pikeminnow week of Aug8 at The Dalles. Cumulative total 3,015 through Aug 14.

Normandeau fish counters continue through Oct 30. No issues.

Tribal lamprey trapping continues at east count station. Stopped trapping north ladder due to low catch rates. Trapping expected into October.

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

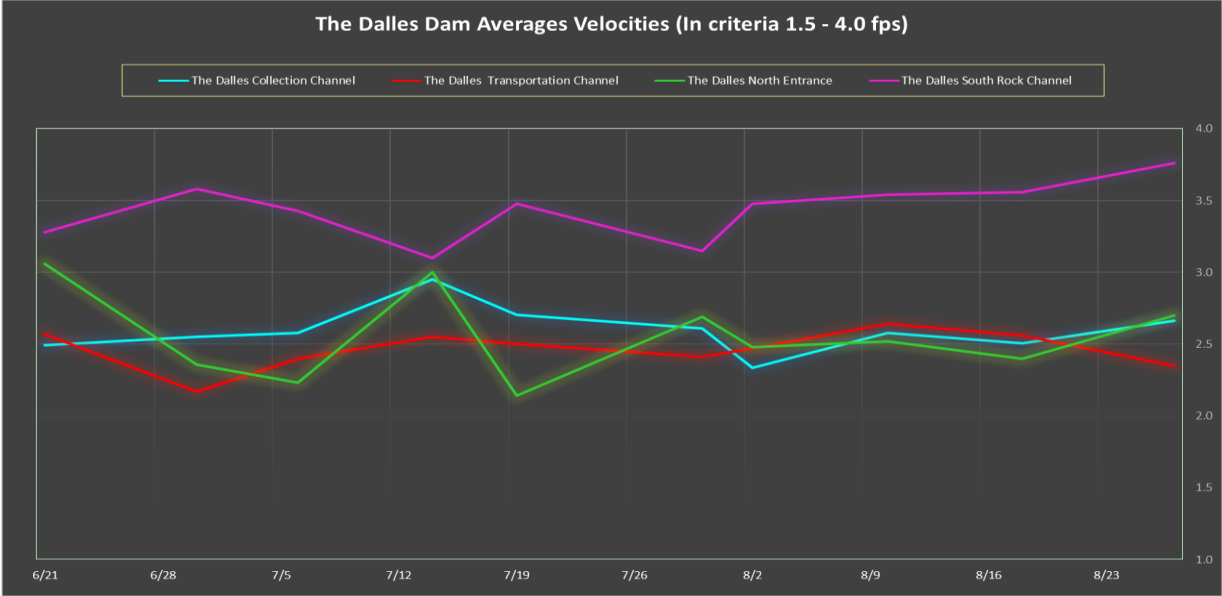
F=foraging, NF=non-foraging

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				
8/21/16	JWR	AM	FB	0	0	0	45	0	0	0	0	0	0	0	0	0	45		
			PH1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4	
			PH2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
			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	
			SW3	10	57	0	0	0	0	0	0	0	0	0	0	0	0	67	
			SW4	1	10	0	0	0	0	0	0	0	0	0	0	0	0	11	
8/22/16	JWR	PM	FB	0	0	0	33	0	0	0	0	0	0	0	0	0	33		
			PH1	0	0	0	9	0	0	0	0	0	0	0	0	0	9		
			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	
			SW3	19	56	0	6	0	0	0	0	0	0	0	0	0	0	81	
			SW4	16	17	0	2	0	0	0	0	0	0	12	0	0	0	47	
8/23/16	JWR	AM	FB	0	0	3	82	0	0	0	0	0	0	0	0	0	85		
			PH1	0	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	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	
			SW3	24	46	0	1	0	0	0	0	0	0	0	0	0	0	71	
			SW4	0	8	0	0	0	0	0	0	0	0	10	0	0	0	18	
8/24/16	JWR	PM	FB	0	0	6	25	0	0	0	0	0	0	0	0	0	31		
			PH1	0	0	0	13	0	0	0	0	0	0	0	0	0	13		
			PH2	0	0	1	0	0	0	0	0	0	0	0	0	0	1		
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	0	0	1	0	0	0	0	0	0	0	0	0	0	1		
			SW3	11	11	1	7	0	0	0	0	0	0	0	0	0	0	30	
			SW4	0	0	0	9	0	0	0	0	0	7	18	0	0	0	34	
8/25/16	JWR	AM	FB	0	0	2	105	0	0	0	0	0	0	0	0	0	107		
			PH1	0	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	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	
			SW3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
			SW4	12	34	0	1	0	0	0	0	0	5	28	0	0	0	80	
8/26/16	GJF	PM	FB	0	0	1	24	0	0	0	0	0	0	0	0	0	25		
			PH1	0	0	12	0	0	0	0	0	0	0	0	0	0	12		
			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	
			SW3	29	0	0	0	0	0	0	0	0	0	0	0	0	0	29	
			SW4	5	0	0	0	0	0	0	0	0	7	34	0	0	0	46	
8/27/16	GJF	AM	FB	0	0	2	35	0	0	0	0	0	0	0	0	0	37		
			PH1	0	3	2	9	0	0	0	0	0	0	0	0	0	14		
			PH2	0	0	1	0	0	0	0	0	0	0	0	0	0	1		
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	0	0	5	0	0	0	0	0	0	0	0	0	0	0	5	
			SW3	21	0	0	0	0	0	0	0	0	0	0	0	0	0	21	
			SW4	2	6	0	0	0	0	0	0	0	5	29	0	0	0	42	
Daily Averages				3	5	1	8	0	0	0	0	0	3	0	0	21			

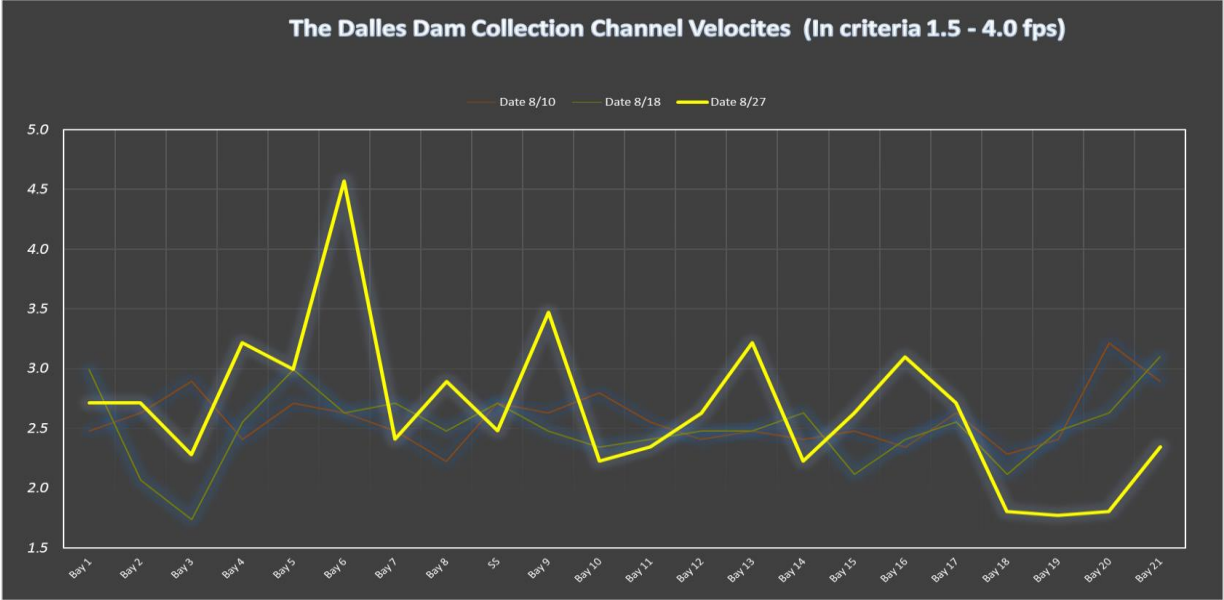
East fishladder emergency backup construction this winter. Mobilization and prefab work underway on north side. Weekly planning meetings continue.

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
8/21	1972	1727	245	406	286	120	7	1	6	10	0	0	62
8/22	966	848	118	261	200	61	2	1	1	6	0	0	104
8/23	1872	1585	287	190	155	35	3	1	2	0	0	0	26
8/24	1817	1571	246	256	185	71	16	11	5	1	0	0	26
8/25	920	750	170	241	188	53	36	32	4	2	0	0	76
8/26	1279	1115	164	138	100	38	13	8	5	0	0	0	38
8/27	4283	3871	412	263	199	64	3	2	1	1	0	0	46
<b>total</b>	<b>13109</b>	<b>11467</b>	<b>1642</b>	<b>1755</b>	<b>1313</b>	<b>442</b>	<b>80</b>	<b>56</b>	<b>24</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>378</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
8/21	660	605	55	255	181	74	1	1	0	1	0	0	101
8/22	88	74	14	62	50	12	0	0	0	1	0	0	19
8/23	668	601	67	137	91	46	1	1	0	0	0	0	38
8/24	723	628	95	261	179	82	13	12	1	4	0	0	104
8/25	509	472	37	128	86	42	5	5	0	2	0	0	49
8/26	1312	1162	150	175	131	44	21	19	2	1	0	0	36
8/27	1823	1684	139	145	108	37	21	16	5	4	0	0	29
<b>total</b>	<b>5783</b>	<b>5226</b>	<b>557</b>	<b>1163</b>	<b>826</b>	<b>337</b>	<b>62</b>	<b>54</b>	<b>8</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>376</b>
<b>% North</b>	<b>30.6</b>	<b>31.3</b>	<b>25.3</b>	<b>39.9</b>	<b>38.6</b>	<b>43.3</b>	<b>43.7</b>	<b>49.1</b>	<b>25.0</b>	<b>39.4</b>	<b>0.0</b>	<b>0.0</b>	<b>49.9</b>

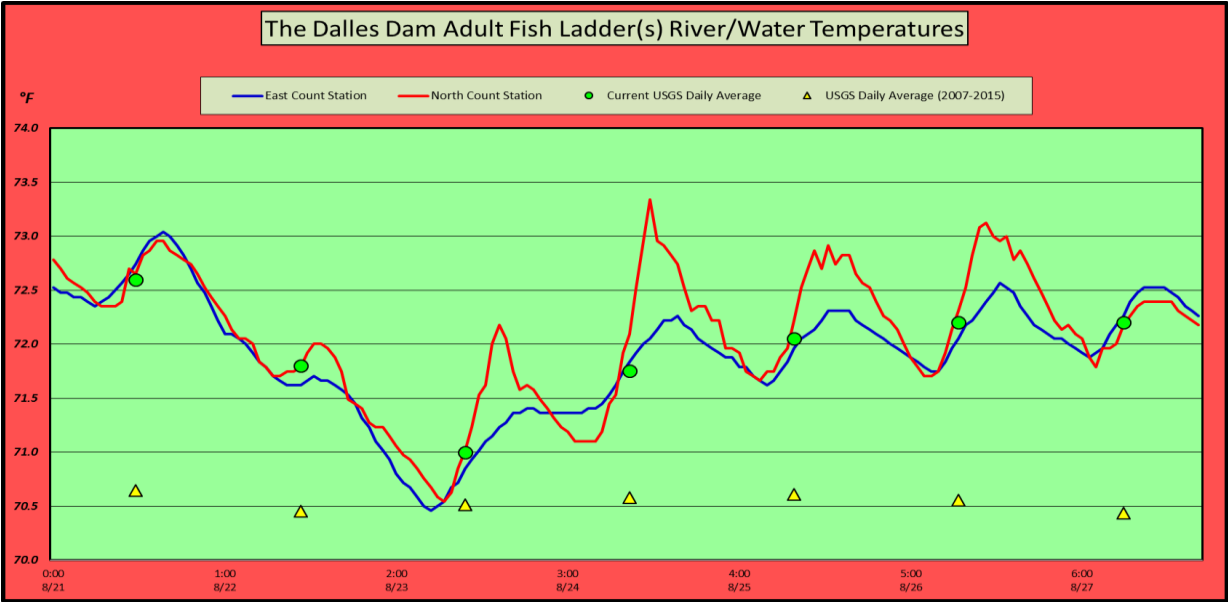
<http://www.nwp.usace.army.mil/Missions/Environment/Fish/Counts.aspx>



East fishladder emergency backup construction this winter. Mobilization and prefab work underway on north side. Weekly planning meetings continue.



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USGS: <http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201608/col.html>

	Secchi:		Temperatures
8/21	5.0	Sun	72.60
8/22	5.0	Mon	71.80
8/23	5.0	Tue	71.00
8/24	5.0	Wed	71.75
8/25	5.0	Thurs	72.05
8/26	5.0	Fri	72.20
8/27	4.0	Sat	72.20
	4.9	AVG	71.94

**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	
8/21			1.5	6.9	13.0	13.0	11.4	1.5	8.3	8.3		1.5	8.3	8.3	39.7
	1.4	9.7	1.4	7.0	13.0	13.0	11.2	1.4	8.3	8.3		1.5	8.2	8.2	
	1.3	9.9	1.5	5.5	13.0	13.0	10.8	1.4	8.2	8.2		1.4	8.2	8.2	
8/22			1.3	5.4	12.9	12.9	10.4	1.5	8.2	8.2		1.4	8.3	8.2	39.9
	1.3	9.8	1.4	5.7	13.2	13.1	10.9	1.4	8.3	8.3		1.3	8.4	8.4	
	1.3	9.8	1.5	5.4	13.1	13.1	11.1	1.5	8.3	8.3		1.4	8.4	8.4	
8/23			1.2	5.5	13.1	13.1	9.8	1.3	8.3	8.3		1.4	8.2	8.2	40.0
	1.3	9.7	1.4	2.5	13.0	13.0	9.7	1.3	8.3	8.3		1.4	8.3	8.3	
	1.4	9.8	1.4	2.6	13.0	13.0	10.1	1.4	8.3	8.3		1.4	8.3	8.3	
8/24			1.7	2.4	12.9	12.9	10.6	1.6	8.3	8.3		1.5	8.3	8.2	39.9
	1.2	9.8	1.5	0.0	13.0	13.0	10.1	1.3	8.2	8.2		1.3	8.4	8.4	
	1.2	9.8	1.5	1.5	13.0	13.0	10.0	1.4	8.2	8.2		1.4	8.2	8.2	
8/25			1.5	2.6	13.1	13.1	10.8	1.5	8.3	8.3		1.5	8.2	8.2	40.0
	1.2	9.9	1.4	2.6	12.9	12.9	9.9	1.3	8.4	8.4		1.4	8.2	8.2	
	1.4	9.9	1.6	2.4	13.0	13.0	10.4	1.4	8.3	8.3		1.4	8.4	8.4	
8/26			1.5	2.5	13.0	13.0	10.1	1.4	8.4	8.4		1.3	8.4	8.3	40.0
	1.4	9.8	1.5	2.5	13.0	13.0	10.1	1.4	8.4	8.4		1.3	8.4	8.4	
	1.5	9.7	1.9	2.6	13.1	13.1	11.9	1.6	8.2	8.2		1.5	8.3	8.3	
8/27			1.9	2.6	13.1	13.0	11.9	1.6	8.3	8.3		1.5	8.3	8.3	40.1
	1.5	9.7	1.9	2.5	13.0	13.0	11.2	1.4	9.2	9.2		1.3	8.3	8.3	
	1.5	9.8	1.9	2.5	13.0	12.9	11.6	1.6	9.2	9.2		1.5	8.3	8.3	
<b>AVG:</b>	<b>1.4</b>	<b>9.8</b>	<b>1.5</b>	<b>3.5</b>	<b>13.0</b>	<b>13.0</b>	<b>10.7</b>	<b>1.4</b>	<b>8.4</b>	<b>8.4</b>		<b>1.4</b>	<b>8.3</b>	<b>8.3</b>	<b>39.9</b>

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

[Spill % http://www.nwd-wc.usace.army.mil/dd/nwdp/project\\_hourly/webexec/rep?r=tda&aqo=3](http://www.nwd-wc.usace.army.mil/dd/nwdp/project_hourly/webexec/rep?r=tda&aqo=3)



PUD requires frequent raking due to milfoil

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Weekly planning meetings continue.