

# The Dalles Dam Fishway Status Report

8/29/2015

Inspection Period: 8/23/2015 - 8/29/2015

## THE DALLES DAM



US Army Corps  
of Engineers  
Portland District

The Dalles Project-Fisheries  
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*Fishways are inspected twice daily plus one SCADA inspection*

The Dalles Dam	Inspections Out of Criteria	Criteria Limit	Total Number of Inspections: 21		Temperature: 0.0 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'	Average	1.4	
Entrance weir N1	0	depth (≥ 8')	Average	9.4	
Entrance weir N2	0	Closed	Bulkhead installed.		
PUD Intake differential	0	≤ 0.5'	OOC at 0.6'		
<b>EAST FISHWAY</b>					
Exit differential	0	≤ 0.5'			
Removable weirs 154-157	0	Per forebay	Auto adjusts 1' increments.		
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')	Average	12.1	Weir pulled to achieve criteria with low tailwater
East entrance differential	0	1.0' - 2.0'	Average	1.5	
Entrance weir E1	0	No criteria	Average	No criteria; manually adjusted as needed.	
Entrance weir E2	0	depth (≥ 8')	Average	12.0	
Entrance weir E3	0	depth (≥ 8')	Average	12.0	
Collection channel velocity	0	1.5 - 4 fps	Average	3.1	
Transportation channel velocity	0	1.5 - 4 fps	Average	2.8	
North channel velocity	0	1.5 - 4 fps	Average	2.3	
South channel velocity	0	1.5 - 4 fps	Average	3.3	
West entrance differential	0	1.0' - 2.0'	Average	1.5	
Entrance weir W1	0	depth (≥ 8')	Average	11.3	
Entrance weir W2	0	depth (≥ 8')	Average	11.3	
Entrance weir W3	0	No criteria	Average	No criteria; manually adjusted as needed.	
South entrance differential	0	1.0' - 2.0'	Average	1.5	
Entrance weir S1	0	depth (≥ 8')	Average	8.5	
Entrance weir S2	0	depth (≥ 8')	Average	8.4	OOC at 7.6'
<b>JUVENILE PASSAGE</b>					
Sluiceway operation	0	Units 1, 8, 18	Sluiceways 1-1,2,3, 8-1,2, and 18-2 open.		MU 1 OOS MU 2 running instead
Turbine trashrack drawdown	0	<1.5', wkly	Range: 0-0.4'		
Spill volume	0	40%±1%	Average	39.9	
Spill Pattern	0	per FPP			
Turbine Unit Priority	0	per FPP			
Turbine 1% Efficiency	0	per FPP			

**OTHER ISSUES:****Birds/Sea lions:**

Bird observation data collected once daily. Refer to Avian Zone Map. No sea lion sightings.  
Gull numbers fell off after spillway closed

**Operations:**

Turbine trashrack drawdown completed 9/1. Forebay/gatewell differential in criteria. Spill off 9/1  
Fishway calibration completed 9/6, most values within criteria TDE notified of discrepancies.

**Current Outages:**

T8 (MU15 & MU16) de-rated to 85MW ops through 9/14/2017.  
MU19 out of service 8/3/2015 to 9/17/2015 for overhaul and Turbine Integrity Testing.  
T10 out of service 8/10/2015 to 8/20/2015 for Transformer testing.  
T10 and MU20 return to service 8/20/15.  
T4 out of service (MU7, MU8) 8/17/2015 for disconnect maintenance, returned 8/17/2015.

**Maintenance:**

Derelict Vertical Barrier Screen removal from gatewell of main unit 19 underway.  
Three failed collection channel dewatering pumps being repaired.  
Two new water sensor units being purchased to replace east exit systems for improved reliability. Installation this winter.  
FCQ7 electrical panel for east exit upgrade funding in place still awaiting contracting approval. Installation planned for next outage season.  
Purchasing new dewatering pump motor for north fishway entrance.  
Investigating cost and feasibility for 154 -157 weir replacement through project labor.  
Preparing workload for upcoming winter maintenance period; entrance weir wheel replace, entrance weir guide repair, exit sensor upgrades.  
*Long Term repair plans*; removal/permanent closure of collection channel diffusers, repair north failed diffusers,  
*Fish related /non-fish funded items*; spillway evaluation, spillway crane rehab, spillgate 9 trunnion pin replace, sluiceway chaingate rehab (approx 50% complete), fish unit breaker replace (in planning), and transformer replace (in planning).  
All spillway items on Critical Infrastructure list and Unfunded Requirement list. Spill gate 9 repair planning by small projects team stopped.

**Studies:**

North fishladder rehab study for rock wall 90% DDR review. Construction 2017/18. FPOM review underway.  
Fish count video at north count station recording / testing underway. Result review through FPOM.  
East fishladder emergency backup construction to start this winter. Construction through next 2 in water work periods. Contract awarded.  
Crane rail replacement on tailrace and intake 2016-2017. Timing for rail removal near east exit being coordinated through FPOM.  
Transformer replacement planning underway. Plans to eliminate fish unit TA transformers. Work to start 2017.  
North spill attraction flow continues to be reviewed through FPOM. Threshold for daily passage amount to use spill remains unresolved.

**Research/Contractors:**

Pikeminnow dam angling continues with high catch rates. Most fishing done during night hours off powerhouse tailrace deck.  
ODFW collecting biological data from harvested pikeminnow.  
Normandeau fish counters at east and north count stations 16 hr/day through 10/31.  
PSMFC Wasco County PUD weekly sampling; finished for season.  
Tribal lamprey trapping at count stations completed. Traps removed. Investigating possible improvements for next year.

Approved by: Ron Twiner  
Operation Project Manager The Dalles Dam

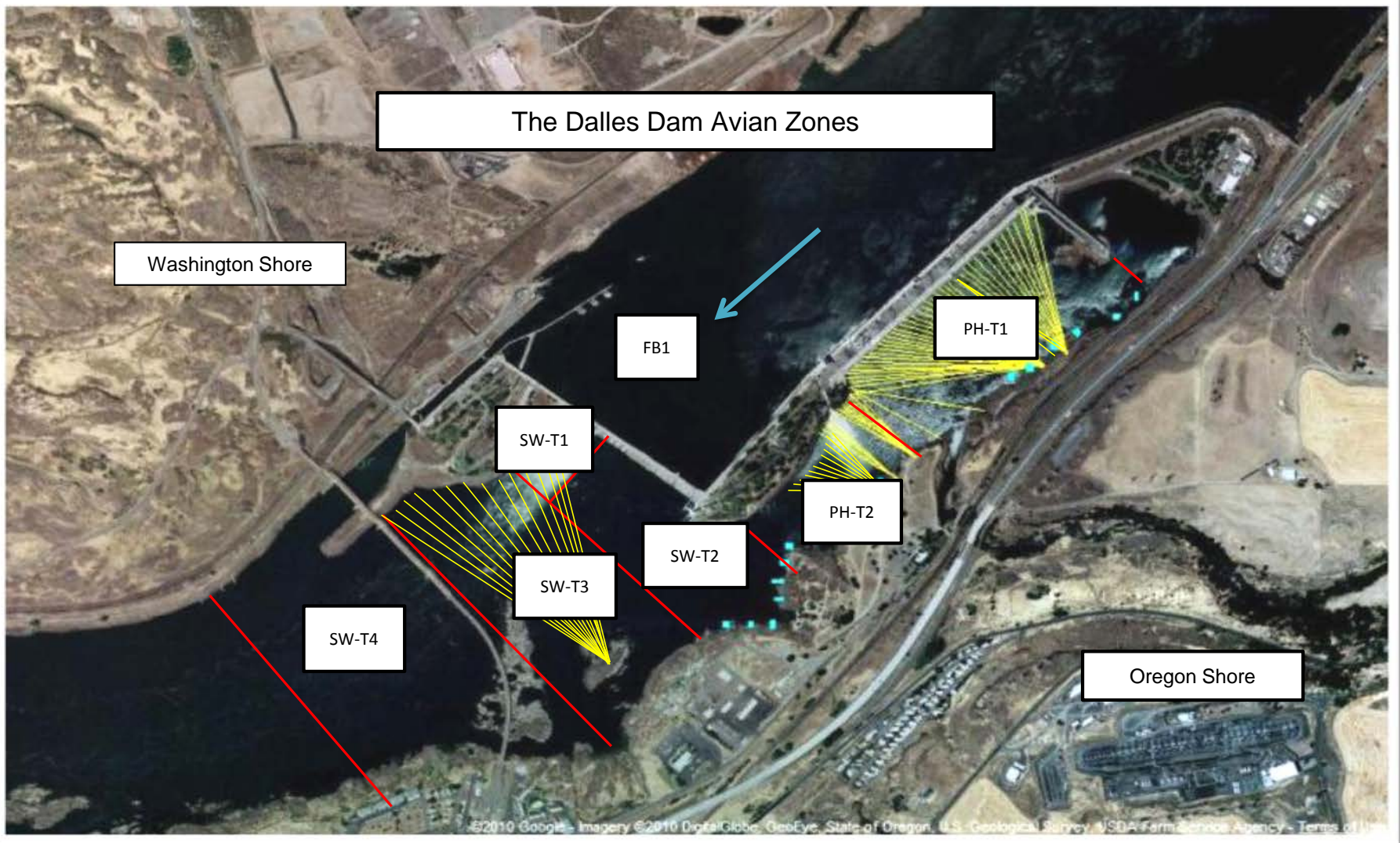
## The Dalles East

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
8/30	8815	8113	702	744	565	179	56	44	12	10	0	0	34
8/31	10531	9805	726	1009	660	349	55	44	11	6	0	0	19
9/1	12249	10928	1321	3062	2254	808	140	86	54	14	0	4	32
9/2	12005	11027	978	3511	2539	972	283	239	44	4	0	1	43
9/3	14160	11936	2224	2701	2045	656	320	190	130	16	0	12	28
9/4	18846	16795	2051	4491	3298	1193	462	440	22	35	0	2	19
9/5	15485	13434	2051	3589	2760	829	678	487	191	20	0	13	30
<b>total</b>	<b>102446</b>	<b>91490</b>	<b>10956</b>	<b>21134</b>	<b>15518</b>	<b>5616</b>	<b>2073</b>	<b>1580</b>	<b>493</b>	<b>125</b>	<b>0</b>	<b>32</b>	<b>205</b>
<i>% North passage (8/31-9/05)</i>	<b>10.2</b>	<b>10.6</b>	<b>6.6</b>	<b>18.4</b>	<b>17.2</b>	<b>21.5</b>	<b>9.0</b>	<b>9.9</b>	<b>6.1</b>	<b>21.9</b>	<b>0.0</b>	<b>0.0</b>	<b>35.5</b>
<i>% North passage (8/23-8/29)</i>	<b>30.8</b>	<b>31.4</b>	<b>24.2</b>	<b>49.1</b>	<b>49.4</b>	<b>48.4</b>	<b>34.7</b>	<b>36.7</b>	<b>29.2</b>	<b>32.9</b>	<b>0.0</b>	<b>0.0</b>	<b>38.1</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
8/30	2683	2534	149	653	438	215	30	20	10	4	0	0	8
8/31	2381	2220	161	1232	832	400	44	36	8	4	0	0	11
9/1	209	199	10	193	114	79	13	12	1	2	0	0	53
9/2	202	176	26	207	149	58	3	1	2	1	0	0	13
9/3	18	17	1	63	37	26	6	6	0	1	0	0	8
9/4	183	167	16	165	115	50	8	6	2	2	0	1	6
9/5	1074	973	101	271	179	92	43	43	0	2	0	0	14
<b>total</b>	<b>11574</b>	<b>10799</b>	<b>775</b>	<b>4757</b>	<b>3221</b>	<b>1536</b>	<b>206</b>	<b>174</b>	<b>32</b>	<b>35</b>	<b>0</b>	<b>0</b>	<b>113</b>

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

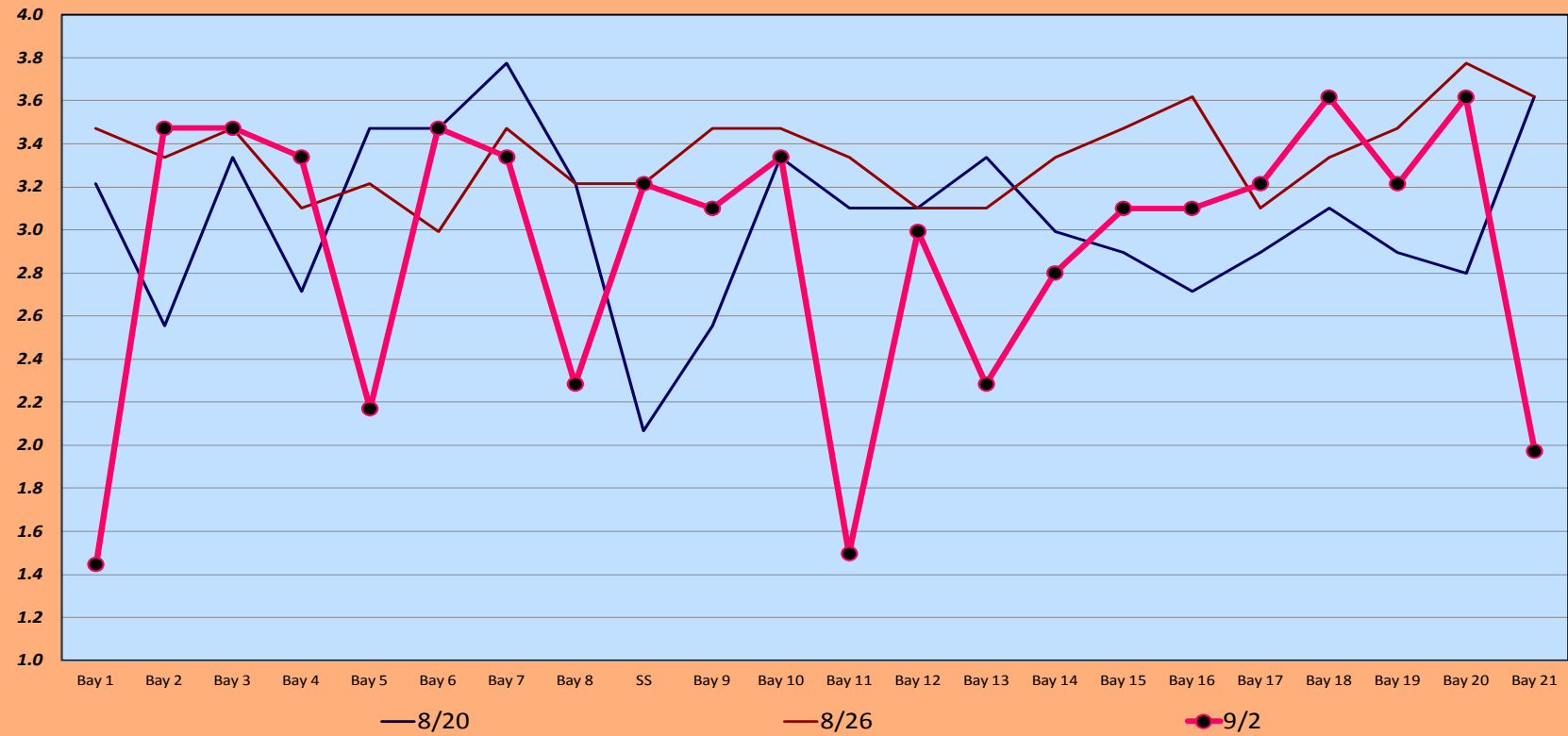


Avian lines in yellow, zones in red, river flow in blue.



# The Dalles Dam Collection Channel Velocities

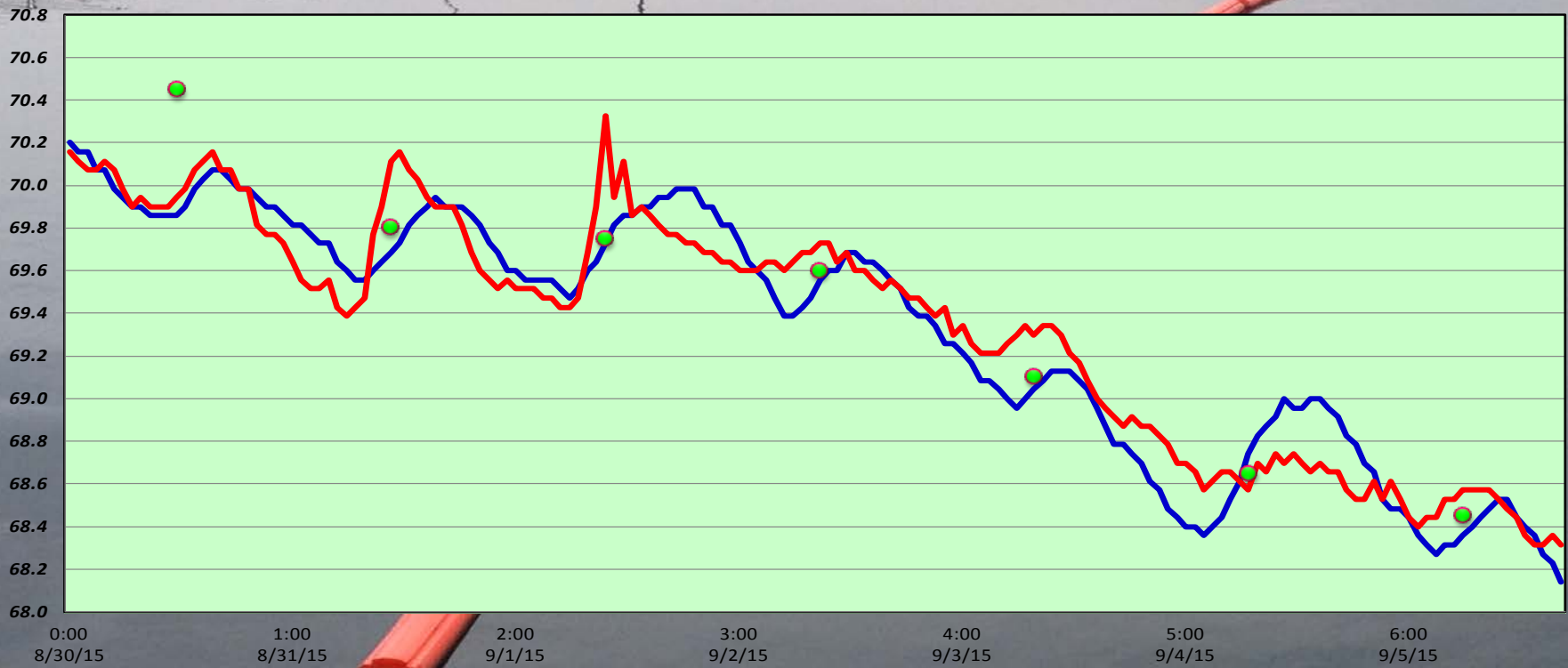
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# The Dalles Dam Adult Fish ladder(s) River/Water Temperatures

°F

— East Fish Ladder — North Fish Ladder ● USGS Daily Average



**USGS:**

<http://www.nwd-wc.usace.army.mil/tm/documents/ops/temp/201508.lcol.html>

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Temperatures	Secchi:	
70.5	Sun	5.0
69.8	Mon	5.0
69.8	Tue	5.0
69.6	Wed	6.0
69.1	Thurs	6.0
68.7	Fri	5.0
68.5	Sat	5.6
69.4	AVG	5.4

**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	
8/30			1.6	3.5	11.4	11.4	11.4	1.5	11.0	11.0	closed	1.5	8.5	8.5	39.7
	1.3	9.6	1.6	3.5	11.4	11.4	11.4	1.5	11.0	11.0		1.5	8.5	8.6	
	1.3	9.5	1.5	3.5	11.5	11.5	11.5	1.4	11.1	11.1		1.5	8.5	8.4	
8/31			1.5	3.5	11.6	11.6	11.6	1.5	10.9	10.9	closed	1.6	8.4	8.5	39.8
	1.4	9.4	1.5	3.5	11.6	11.6	11.6	1.5	10.9	10.9		1.5	8.5	8.6	
	1.4	9.4	1.4	3.5	12.1	12.1	12.1	1.5	11.1	11.1		1.5	8.5	8.4	
9/1			1.5	3.0	11.4	11.4	11.4	1.5	10.9	10.9	closed	1.6	8.5	8.5	SPILL
	1.3	9.5	1.5	3.1	11.7	11.7	11.7	1.5	10.7	10.7		1.4	8.6	8.6	
	1.3	9.5	1.5	3.0	11.8	11.8	11.8	1.5	11.1	11.1		1.5	8.5	8.5	
9/2			1.5	3.0	11.7	11.7	11.7	1.5	11.0	11.0	closed	1.5	8.4	8.4	ON
	1.3	9.4	1.6	3.0	11.9	11.9	11.9	1.5	11.0	11.0		1.5	8.4	8.4	
	1.5	9.3	1.5	2.9	12.0	12.0	12.0	1.6	11.1	11.1		1.5	8.5	8.5	
9/3			1.6	3.0	11.6	11.6	11.6	1.6	10.9	10.9	closed	1.5	8.5	8.5	SEAL
	1.3	9.5	1.5	3.0	12.0	12.0	12.0	1.5	11.1	11.1		1.5	8.6	8.6	
	1.4	9.5	1.4	3.1	12.3	12.3	12.3	1.6	11.0	11.0		1.5	8.5	8.5	
9/4			1.4	2.9	12.4	12.4	12.4	1.6	11.0	11.0	closed	1.4	8.6	8.6	
	1.4	9.4	1.5	1.5	12.3	12.3	12.3	1.5	11.4	11.4		1.5	8.5	8.5	
	1.3	9.6	1.6	1.5	12.1	12.1	12.1	1.6	11.3	11.3		1.5	8.5	8.5	
9/5			1.7	1.5	11.7	11.7	11.7	1.5	11.3	11.3	closed	1.5	8.5	8.5	
	1.3	9.4	1.6	1.5	11.9	11.9	11.9	1.5	11.4	11.4		1.5	8.5	8.5	
	1.4	9.5	1.5	3.0	11.7	11.7	11.7	1.5	11.0	11.0		1.5	8.6	8.6	
AVG:	1.4	9.5	1.5	No criteria	11.8	11.8	11.8	1.5	11.1	11.1	closed	1.5	8.5	8.5	39.75

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