

# The Dalles Dam Fishway Status Report

5/4/2015

Inspection Period: 4/26/2015 to 5/2/2015

## 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: 53.4	F
			Comments		Secchi: 4.4	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	9.5		
Entrance weir N2	0	Closed	Bulkhead installed.			
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.			
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	10.2		
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	12.6		
Entrance weir E3	0	depth (≥ 8')	Average	10.1		
Collection channel velocity	0	1.5 - 4 fps	Average	2.8		
Transportation channel velocity	0	1.5 - 4 fps	Average	2.8		
North channel velocity	0	1.5 - 4 fps	Average	2.6		
South channel velocity	0	1.5 - 4 fps	Average	3.5		
West entrance differential	0	1.0' - 2.0'	Average	1.6		
Entrance weir W1	0	depth (≥ 8')	Average	10.5		
Entrance weir W2	0	depth (≥ 8')	Average	10.5		
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	8.5		
<b>JUVENILE PASSAGE</b>						
Sluiceway operation	0	Units 1, 8, 18	Sluiceways 1-1,2,3, 8-1,2, and 18-2 open			
Turbine trashrack drawdown	0	<1.5', wkly	Range: 0.1' - 0.5'			
Spill volume	0	40%±1%	Average	40.1		
Spill Pattern	0					
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. Sea lion observed near west entrance 4/27, 4/28 (C014), and 5/2 (caught fish), USDA hazing.

### **Operations:**

All fishways in operation per Fish Passage Plan requirements.

Spill for juvenile passage started Apr 10.

Calibration done 4/30 East entrance tailwater off. TDE notified.

Gateway differential check done 4/26 all reading within criteria.

### **Current Outages:**

T8 (MU15 & MU16) de-rated to 85MW ops through 9/14/2017.

MU6 out 3/30/2015 to 5/7/2015 for overhaul.

### **Maintenance:**

Entrance weir wheel and guide work to resume next winter outage.

Three collection channel dewatering pumps on deck for rehab, repair delayed due to lack of funding. Two of 6 collection channel pumps remain stuck.

FCQ7 electrical panel for east exit upgrade funding in place. Planning and parts purchase underway for installation next outage season.

*Future repair plans*; Upgrade east exit weirs 154-157, removal/permanent closure of collection channel diffusers, repair north failed diffusers,

Fish related but non-fish funded items; spillway evaluation, spillway crane rehab, spillgate 9 trunnion pin replacement, HDC updated fish unit reliability assessment, planning upgrade fish unit breakers and fish unit transformer replacement.

All spillway items on Critical Infrastructure list and Unfunded Requirement list. Spill gate 9 pine repair meeting planned for May5.

### **Studies:**

North fishladder rehab of rock walls product development team to start within next week. Construction dates to be determined.

March fish count video at north count station completed. Night video to start May 15 pending lighting installation. To be used with new software application.

BCOES review site visit for east fishladder backup system Apr30. Construction start this winter.

Crane rail replacement on tailrace and intake decks winter of 2016-2017. Schedule planning underway. Expected FPOM coordination needed.

### **Research/Contractors:**

USDA gull hazer's on site 12 hours/day, primarily hazing from the navlock peninsula. Occasional pigeon removal near east ladder and sea lion deterrence near west entrance.

Fish counters at east and north count stations 16 hr/day. Spring Chinook passage increasing with high numbers using the north ladder. North count station

video counting to resume 5/15 (night only) when new inferred light installation completed. Last week negative steelhead passage was counter error.

PSMFC PUD weekly sampling 4/29; 9 Chinook yearling, 13 subyearling, and 1 clipped steelhead.

WDFW to conduct hook and line removals of predatory northern pikeminnow from the BRZ adjacent to the project. Start date mid May.

University of Idaho maintaining antennas and monitoring movements of adult steelhead outfitted with radio-tags and Pacific lamprey outfitted with half-duplex (HDX) PIT tags.

Coordination underway for ODFW forbay Northern Pikeminnow Management Program.

Coordination underway for tribal lamprey trapping at east count station.

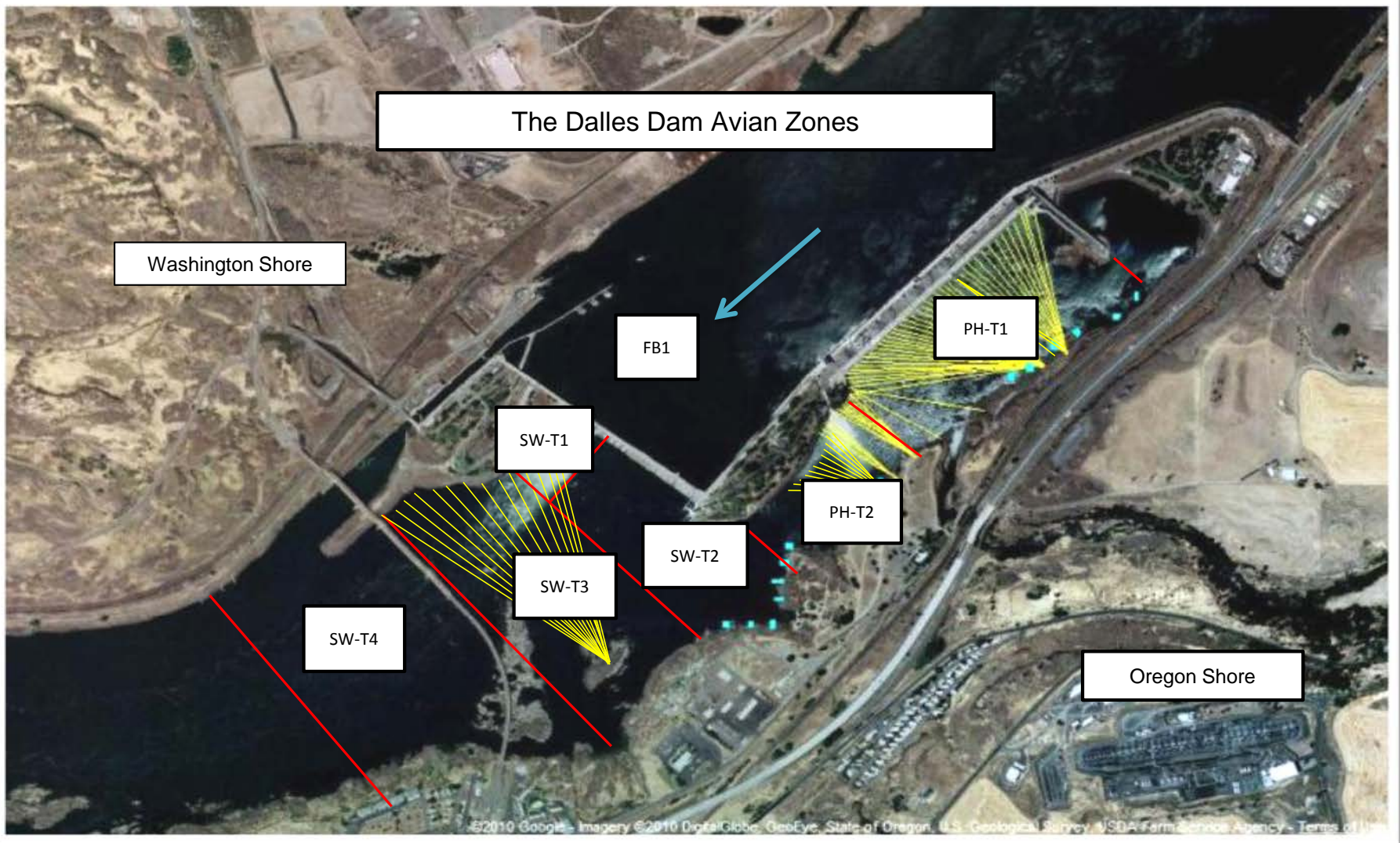
PSMFC monitoring and maintaining thin walled PIT tag antennas and computer equipment. USGS total dissolved gas monitoring .

USGS total dissolved gas monitoring.

Approved by: Ron Twiner

Operation Project Manager The Dalles Dam





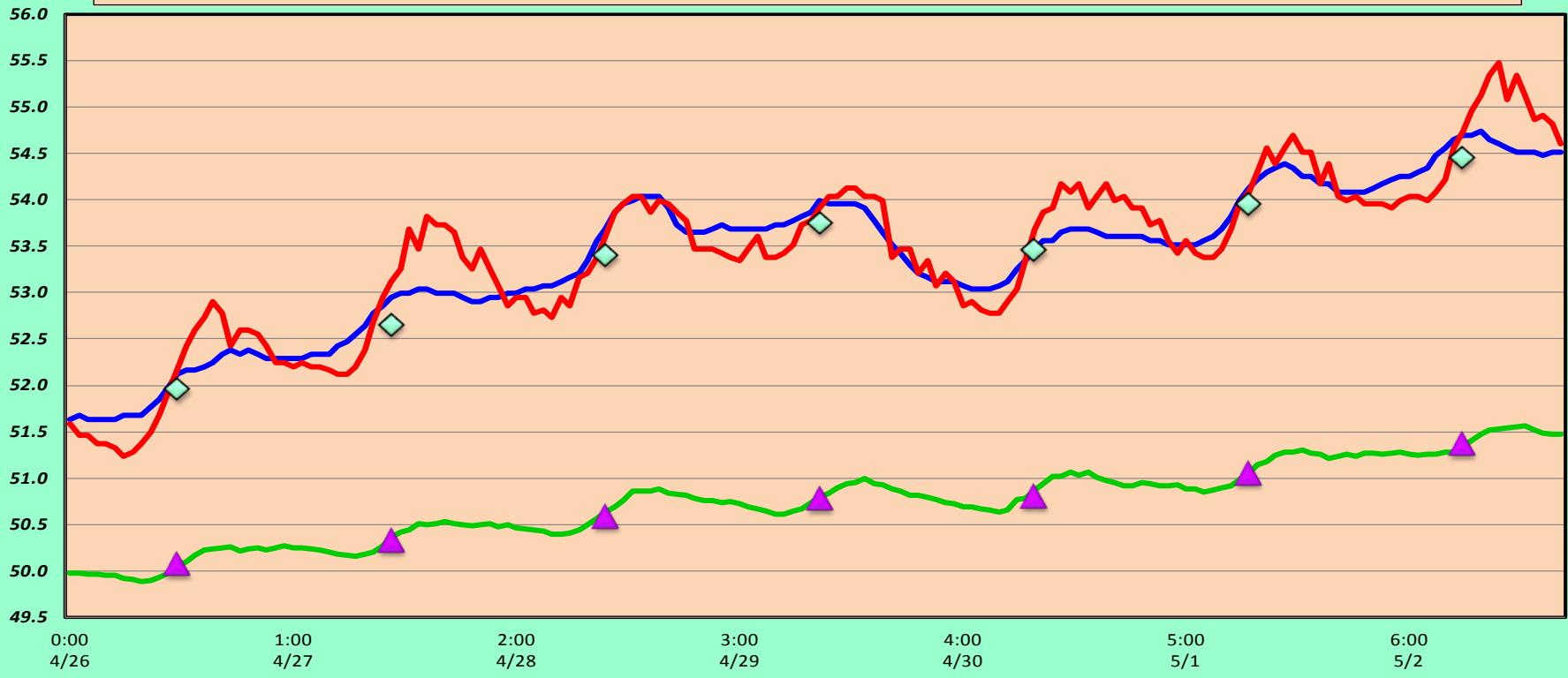
Avian lines in yellow, zones in red, river flow in blue.



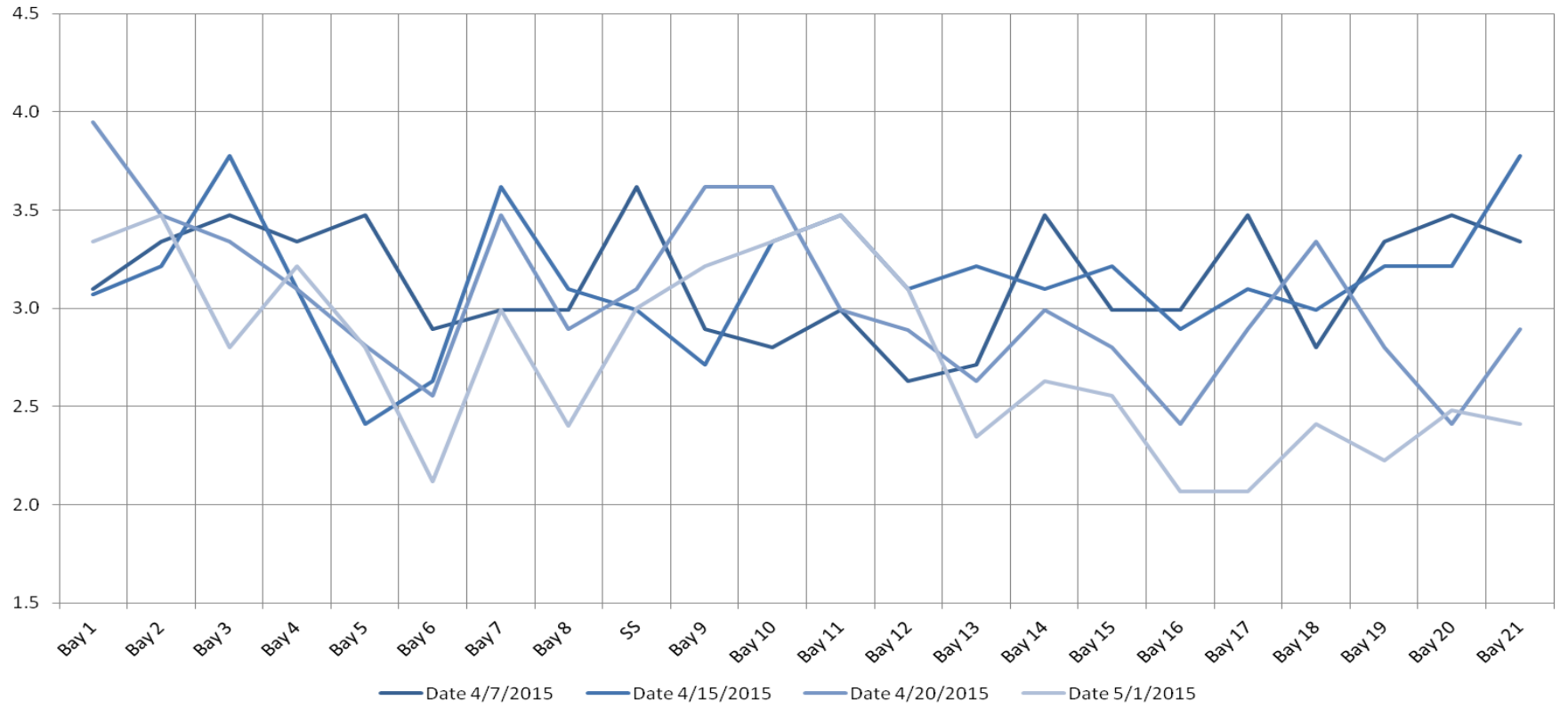
### The Dalles Dam Adult Fish Ladder(s) River Temperatures

°F

— East Fish Ladder    — North Fish Ladder    — TD Ladder Average (2007-2014)    ◆ USGS daily average 2015    ▲ USGS daily average (2007-20014)



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



USGS: <http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201504.lcol.html>

Temperatures		Secchi:
52.0	Sun	5.0
52.7	Mon	4.0
53.4	Tue	4.0
53.8	Wed	5.0
53.5	Thurs	4.5
54.0	Fri	4.0
54.5	Sat	4.5
AVG:	53.4	AVG 4.4

**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			% Spill	
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
4/26/15			1.5	5.5	12.9	9.9		1.6	10.7	10.6	closed	1.5	8.6	8.4	40.0
	1.3	9.6	1.5	5.4	13.0	9.8	9.7	1.5	10.7	10.7		1.5	8.5	8.4	
	1.4	9.6	1.3	5.6	13.1	10.4	10.4	1.5	10.7	10.8		1.5	8.5	8.5	
4/27/15			1.3	5.5	12.9	11.3		1.7	10.7	10.6		1.5	8.5	8.5	40.2
	1.3	9.6	1.4	5.6	12.6	11.6	11.3	1.6	10.9	11.0		1.5	8.6	8.6	
	1.4	9.5	1.4	5.4	12.4	11.3	11.3	1.7	10.9	10.9		1.5	8.4	8.4	
4/28/15			1.5	5.7	12.6	9.0		1.4	10.9	10.9		1.4	8.6	8.6	39.7
	1.4	9.5	1.6	5.4	12.5	9.5	9.5	1.7	10.0	10.0		1.5	8.5	8.5	
	1.4	9.7	1.4	5.7	12.6	10.8	10.8	1.7	10.5	10.5		1.5	8.6	8.6	
4/29/15			1.5	6.0	12.5	10.2		1.6	10.3	10.4		1.4	8.6	8.6	40.0
	1.4	9.5	1.6	5.5	11.5	9.8	9.8	1.6	10.5	10.5		1.5	8.5	8.6	
	1.5	9.5	1.4	6.4	12.5	10.3	10.3	1.6	10.5	10.5		1.5	8.6	8.6	
4/30/15			1.5	6.7	12.6	8.7		1.4	10.5	10.5		1.4	8.6	8.6	40.2
	1.4	9.3	1.5	6.5	12.5	8.8	8.8	1.5	10.1	10.1		1.4	8.5	8.5	
	1.4	9.4	1.6	6.0	12.5	8.6	8.6	1.5	9.8	9.8		1.5	8.5	8.5	
5/1/15			1.6	6.0	12.5	9.0		1.8	9.8	9.7	1.5	8.5	8.5	39.9	
	1.5	9.2	1.7	6.0	12.5	11.2	11.2	1.7	10.3	10.4	1.4	8.6	8.6		
	1.4	9.4	1.5	6.1	12.6	10.5	10.5	1.8	11.2	11.1	1.6	8.5	8.5		
5/2/15			1.5	6.0	12.4	9.9		1.6	10.3	10.3	1.5	8.5	8.5	40.6	
	1.5	9.3	1.6	6.0	12.5	10.1	10.1	1.6	10.3	10.4	1.5	8.4	8.4		
	1.5	9.3	1.5	6.0	12.6	10.7	10.7	1.7	10.3	10.3	1.5	8.5	8.5		
AVG:	1.4	9.5	1.5	No criteria	12.6	10.1	10.2	1.6	10.5	10.5	closed	1.5	8.5	8.5	40.1

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