

# The Dalles Dam Fishway Status Report

11/21/2015

Inspection Period: 11/15/2015 - 11/21/2015

## THE DALLES DAM



US Army Corps  
of Engineers  
Portland District

The Dalles Project-Fisheries  
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The Dalles, OR 97058-9998  
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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: 18		Temperature: 53.3 F
			Comments		Secchi: 4.7 feet
<b>NORTH FISHWAY</b>					
Exit differential	0	≤ 0.5'			
Count station differential	0	≤ 0.3'			
Weir crest depth	6	1.0' ± 0.1'	Max 1.4'		
Entrance differential	0	1.0' - 2.0'	Average 1.5		
Entrance weir N1	0	depth (≥ 8')	Average 8.6		
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	2	≤ 0.3'	Picket leads raked as needed. OOC at 1.4'.		
Weir crest depth	0	1.0' ± 0.1'			
Junction pool weir JP6	0	depth (≥ 7')	Average 9.8	Weir pulled to achieve criteria with low tailwater	
East entrance differential	1	1.0' - 2.0'	Average 1.5	2.2' on 11/20 and corrected	
Entrance weir E1	0	No criteria	Average	No criteria; manually adjusted as needed.	
Entrance weir E2	0	depth (≥ 8')	Average 12.2		
Entrance weir E3	0	depth (≥ 8')	Average 11.2		
Collection channel velocity	0	1.5 - 4 fps	Average 2.9		
Transportation channel velocity	0	1.5 - 4 fps	Average 2.6		
North channel velocity	0	1.5 - 4 fps	Average 3.8		
South channel velocity	0	1.5 - 4 fps	Average 4.1		
West entrance differential	0	1.0' - 2.0'	Average 1.5		
Entrance weir W1	0	depth (≥ 8')	Average 9.6		
Entrance weir W2	0	depth (≥ 8')	Average 9.6		
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 8.3		
Entrance weir S2	0	depth (≥ 8')	Average 8.3		
<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 - 0.4'		
Spill volume	NA	40%+-1%	Average	Spill closed on 9/1/15	
Spill Pattern	NA	per FPP			
Turbine Unit Priority	6	per FPP	T8 have transformer problems forcing MU 15& 16 OOS. Also project lighting repair.		
Turbine 1% Efficiency	0	per FPP			

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

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

No hazing activity. Working on USDA hazing plan 2016. Hazing to resume Apr15

**Operations:**

Turbine trashrack drawdown completed 11/12/15. Forebay/gatewell differential in criteria.

Investigating operational changes needed for potential large oil spill in Columbia. Permanent boom purchased for install at east exit.

No more sighting of stranded salmonids in fishlock.

**Current Outages:**

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

**Maintenance:**

Biweekly oil leak inspection monitoring on all fishway equipment continues. Maintenance notified of several minor seal leaks on spillway.

North fishway winter maintenance dewatering Dec 2, '15. East fishway dewatering Jan 5, '16. Maintenance task list completed and discussed.

Project lighting upgrades in progress. Working with fisheries for acceptable lighting near fishways.

Two failed collection channel dewatering pumps remaining on deck for repair. Parts on hand. Repair/installation planning underway.

Entrance/Exit weir sensor and PLC replacement being investigated. On budget list.

East exit weir electrical panel FCQ7 parts on hand. Installation planned for next 2 outage seasons, however funding not presently available.

Updating inventory on all fishway component spare parts.

New dewatering pump motor for north fishway entrance expected delivery this month. Install planned for dewater season 2016/2017.

East fishladder expansion joint leakage increasing with lower temperatures. Repair deferred to next season due to funding constraints.

Upcoming winter maintenance period workload; adjust 158 weir, finish entrance weir wheel replace, entrance weir guide repair, east exit sensor upgrades.

*Long Term repair plans*; 154 -157 weir replacement, 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 on hold awaiting funding.

**Studies:**

North fishladder rehab study for rock wall ongoing. Construction 2017/18. FPOM review as needed.

Fish count video at north count station recording / testing underway. Result review through FPOM.

East fishladder emergency backup construction delayed. Winter fishway dewater schedule now adjusted to fit in water work period.

Crane rail replacement on tailrace and intake 2016-17 now to be completed within in water work period.

Transformer replacement planning underway. Plans to eliminate fish unit TA transformers. Work to start 2017. Periodic planning meetings continue.

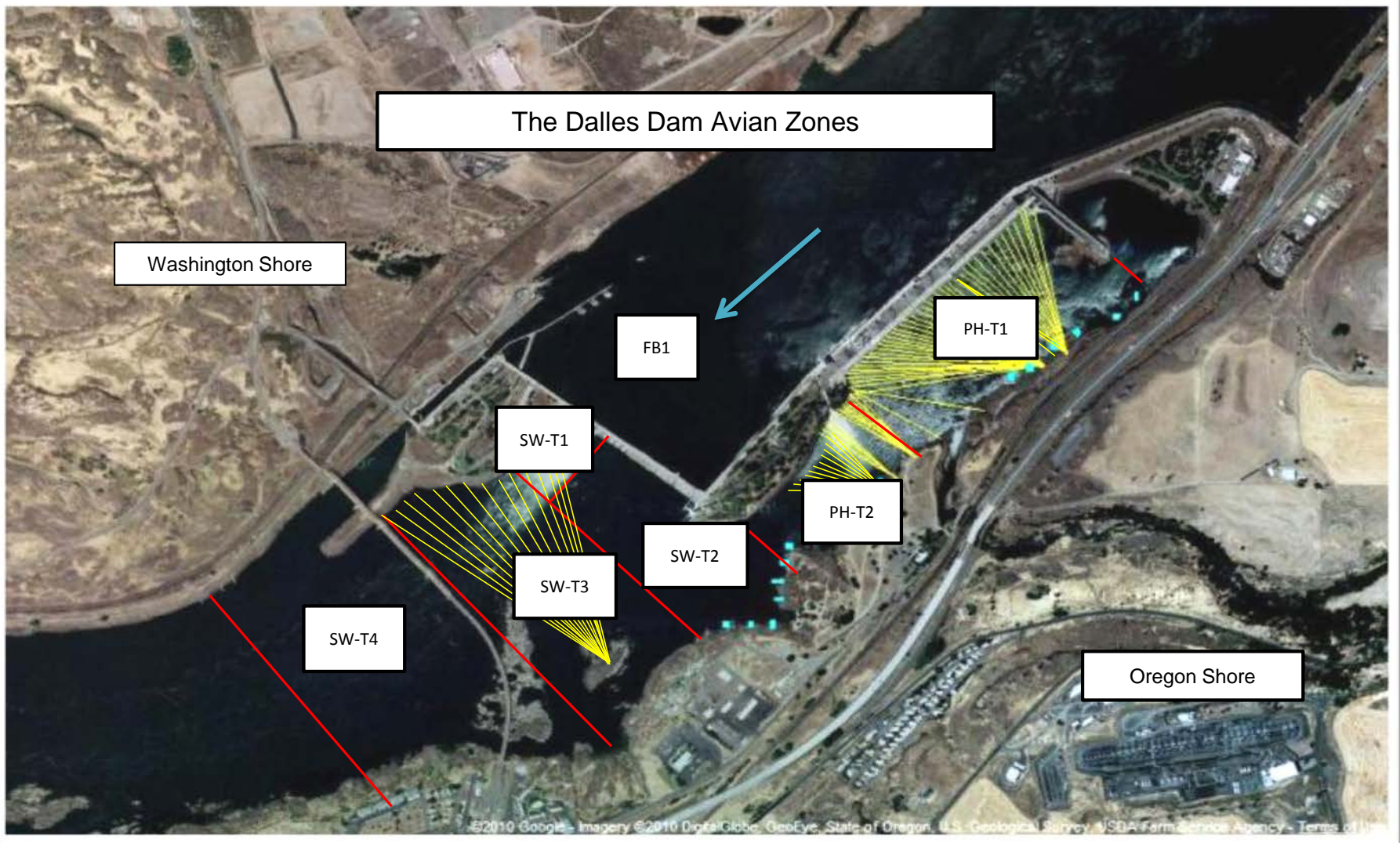
North spill attraction flow proposal reviewed through FPOM task group and near complete for Fish Passage Plan addition.

**Research/Contractors:**

Normandeau fish counters season done 10/31.

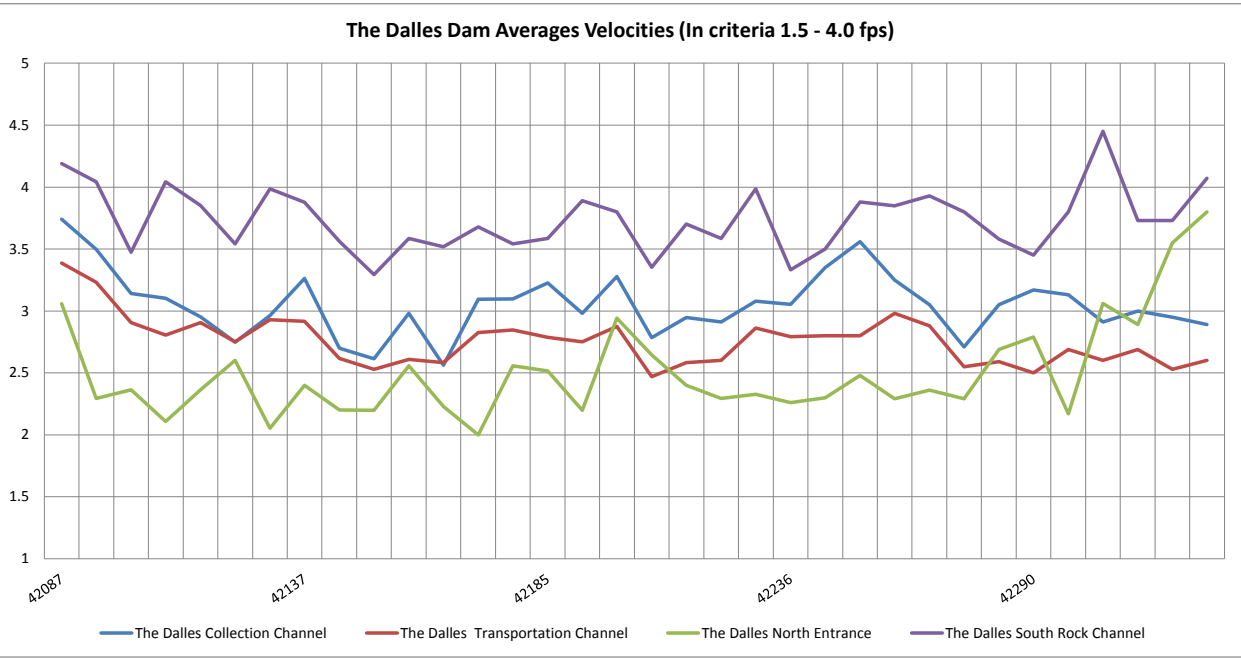
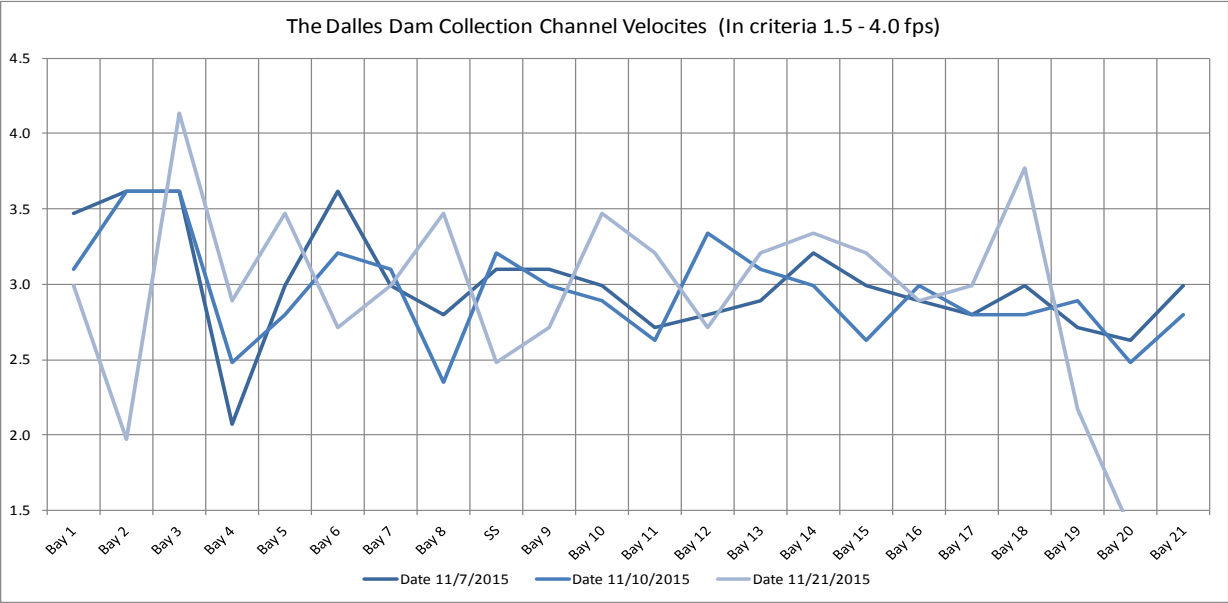
Approved by: Ron Twiner

Operation Project Manager The Dalles Dam

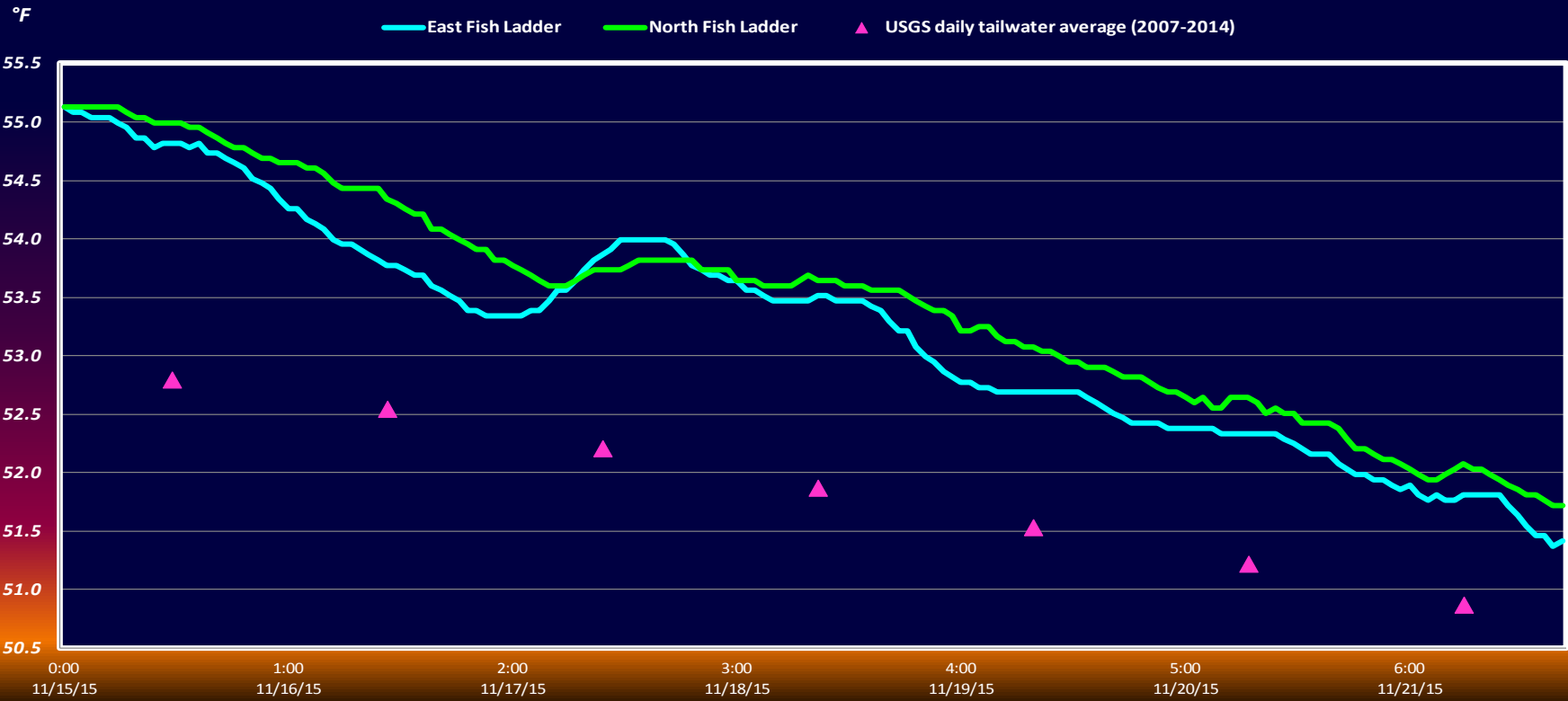


Avian lines in yellow, zones in red, river flow in blue.





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



USGS: <http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201511.lcol.html>

Secchi:		Temperatures
5.0	Sun	54.9
5.0	Mon	54.0
5.0	Tue	53.7
4.5	Wed	53.6
4.0	Thurs	52.8
4.5	Fri	52.4
5.0	Sat	51.9
4.7	AVG	53.3

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

= Out of criteria

North Ladder			East Ladder												S P I L L  O N  S E A L
North Entrance			East Entrance					West Entrance				South Entrance			
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	
11/15			1.4	9.4	11.7	10.6	9.2	1.7	9.0	9.0		1.5	8.3	8.3	
	1.4	8.6	1.5	8.9	12.0	10.9	9.5	1.5	9.5	9.5		1.5	8.3	8.3	
	1.4	8.4	1.5	8.5	11.8	10.7	9.3	1.6	9.2	9.2		1.4	8.3	8.3	
11/16			1.2	8.6	12.3	11.2	9.8	1.7	9.2	9.2		1.5	8.3	8.3	
	1.4	8.6	1.5	4.4	12.4	11.3	9.9	1.6	9.8	9.8		1.5	8.6	8.4	
	1.4	8.7	1.4	6.5	12.2	11.1	9.7	1.5	9.9	9.9		1.4	8.6	8.6	
11/17			1.4	6.5	13.8	12.7	11.3	1.6	9.7	9.7		1.5	8.4	8.4	
	1.7	8.3	1.5	4.9	13.3	12.2	10.8	1.6	9.7	9.7		1.5	8.3	8.3	
	1.5	8.6	1.6	5.0	13.4	12.3	10.9	1.7	9.6	9.6		1.5	8.2	8.2	
11/18			1.7	5.1	12.5	11.4	10.0	1.4	10.0	10.0		1.5	8.3	8.3	
	1.5	8.5	1.6	7.5	12.5	11.4	10.0	1.5	9.5	9.5		1.5	8.3	8.3	
	1.4	8.6	1.4	7.0	12.8	11.7	10.3	1.4	10.0	10.0		1.5	8.3	8.4	
11/19			1.3	5.9	12.3	11.2	9.8	1.5	9.5	9.5		1.6	8.2	8.2	
	1.5	8.5	1.4	5.0	12.6	11.5	10.1	1.7	9.3	9.3		1.5	8.4	8.4	
	1.4	8.7	1.4	3.6	12.9	11.8	10.4	1.5	10.0	10.0		1.5	8.4	8.3	
11/20			2.2	3.8	11.2	10.2	9.0	1.3	9.9	9.9		1.5	8.4	8.4	
	1.5	8.4	1.8	6.7	11.5	10.4	9.0	1.4	9.6	9.5		1.4	8.4	8.4	
	1.4	8.7	1.7	8.8	11.5	10.4	9.0	1.5	9.4	9.4		1.5	8.3	8.3	
11/21			1.7	9.1	11.4	10.3	8.9	1.4	9.3	9.3		1.4	8.3	8.4	
	1.4	8.6	1.4	9.0	11.4	10.4	8.9	1.4	9.2	9.4		1.5	8.2	8.3	
	1.4	8.7	1.6	9.2	11.6	10.5	9.1	1.4	9.3	9.3		1.5	8.3	8.3	
AVG:	1.5	8.6	1.5	6.8	12.2	11.2	9.8	1.5	9.6	9.6	closed	1.5	8.3	8.3	

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