

The Dalles Dam Fishway Status Report

11/15/2015

Inspection Period: 11/08/2015 - 11/14/2015

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: 18		Temperature: 56.0 F
			Comments		Secchi: 4.9 feet
NORTH FISHWAY					
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	1.5	
Entrance weir N1	0	depth (≥ 8')	Average	8.5	
Entrance weir N2	0	Closed	Bulkhead installed.		
PUD Intake differential	0	≤ 0.5'			
EAST FISHWAY					
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	9.0	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	11.5	low tailwater 7.9 and 7.8 corrected.
Entrance weir E3	0	depth (≥ 8')	Average	10.4	
Collection channel velocity	0	1.5 - 4 fps	Average	3.0	
Transportation channel velocity	0	1.5 - 4 fps	Average	2.5	
North channel velocity	0	1.5 - 4 fps	Average	3.6	
South channel velocity	0	1.5 - 4 fps	Average	3.7	
West entrance differential	0	1.0' - 2.0'	Average	1.5	
Entrance weir W1	0	depth (≥ 8')	Average	9.2	
Entrance weir W2	0	depth (≥ 8')	Average	9.2	
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	8.4	
Entrance weir S2	0	depth (≥ 8')	Average	8.4	
JUVENILE PASSAGE					
Sluiceway operation	2	Units 1, 8, 18	Sluiceways 1-1,2,3, 8-1,2, and 18-2 open.		MU 18 forced OOS on 11/9 RTS next day
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	10	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.

USDA hazing contract proposed changes for 2016; boat hazing 5 day / week through May and part of June, depending on available funding.

Operations:

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

Investigating operational changes needed for potential large oil spill in Columbia. Fishway protection measures to be evaluated. Plan to be presented to FPOM. Permanent boom purchased for east fishway exit, working through installation options.

No further efforts planned for stranded fish in fish lock due to safety/access concerns. Preventative measures will be taken for next fish passage season.

Current Outages:

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

T3 out of service 0630 to 1700 on 11/6/2015 to repair lighting at the transformer vault

Maintenance:

Biweekly oil leak inspection monitoring on all fishway equipment continues. Maintenance notified on any excessive leakage.

North fishway winter maintenance dewatering Dec 2, '15. East fishway dewatering Jan 5, '16

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 this winter delayed. Winter fishway dewater schedule now adjusted to fit in water work period.

Crane rail replacement on tailrace and intake 2016-17. First week august rail removal near east exit denied through FPOM. Exploring options

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

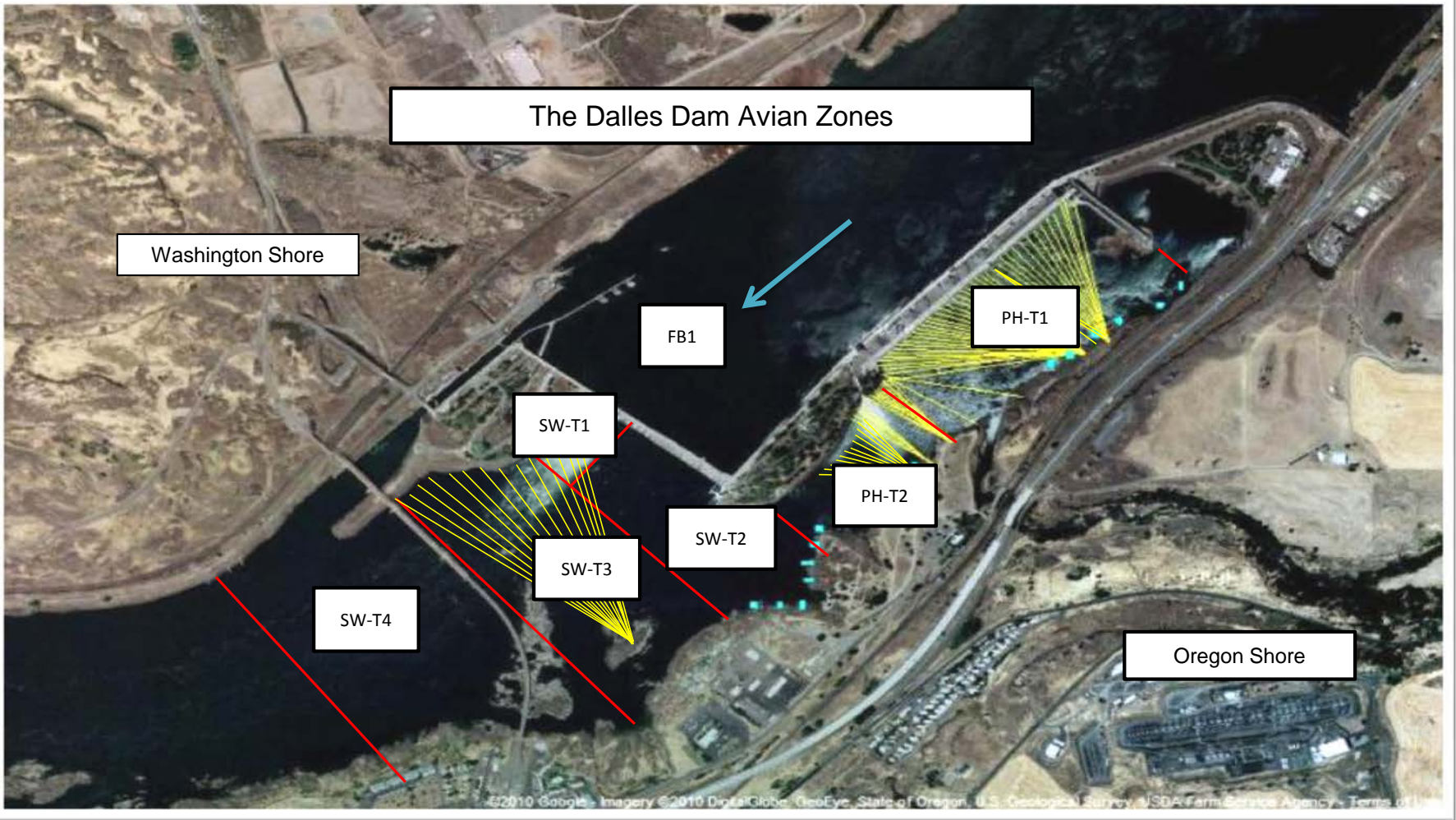
North spill attraction flow proposal reviewed through FPOM. New criteria to be in Fish Passage Plan. Measures applied when exceeding 30K salmonids/day.

Research/Contractors:

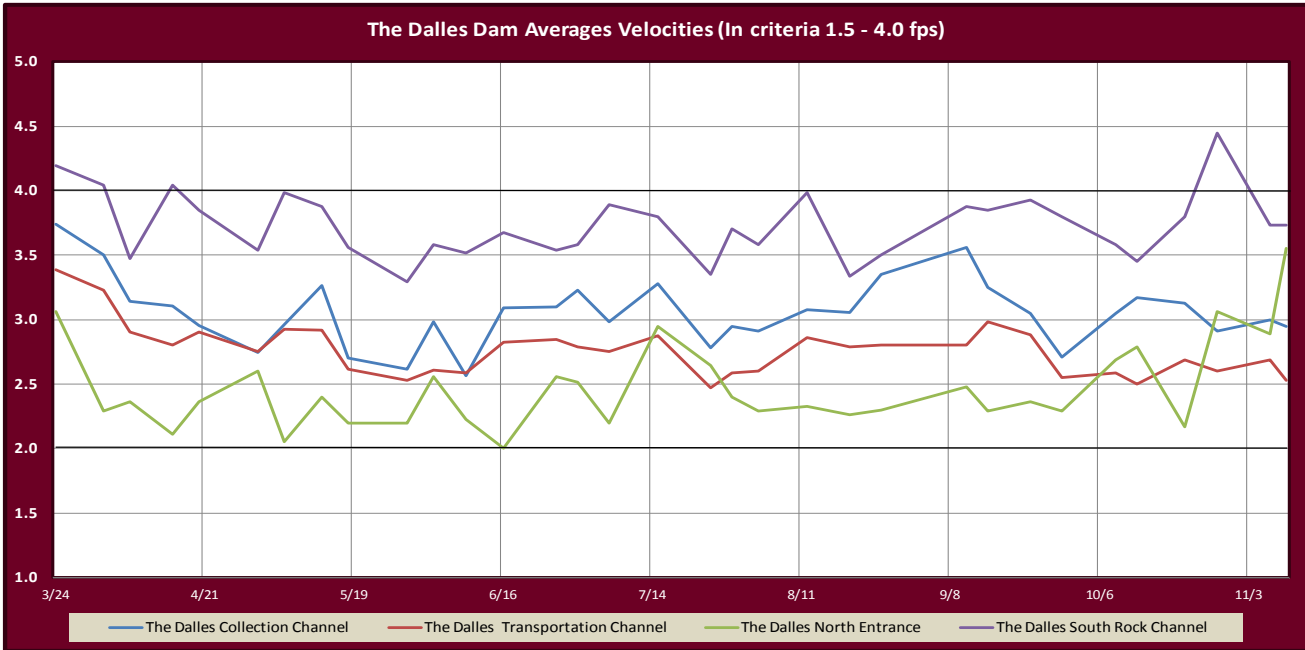
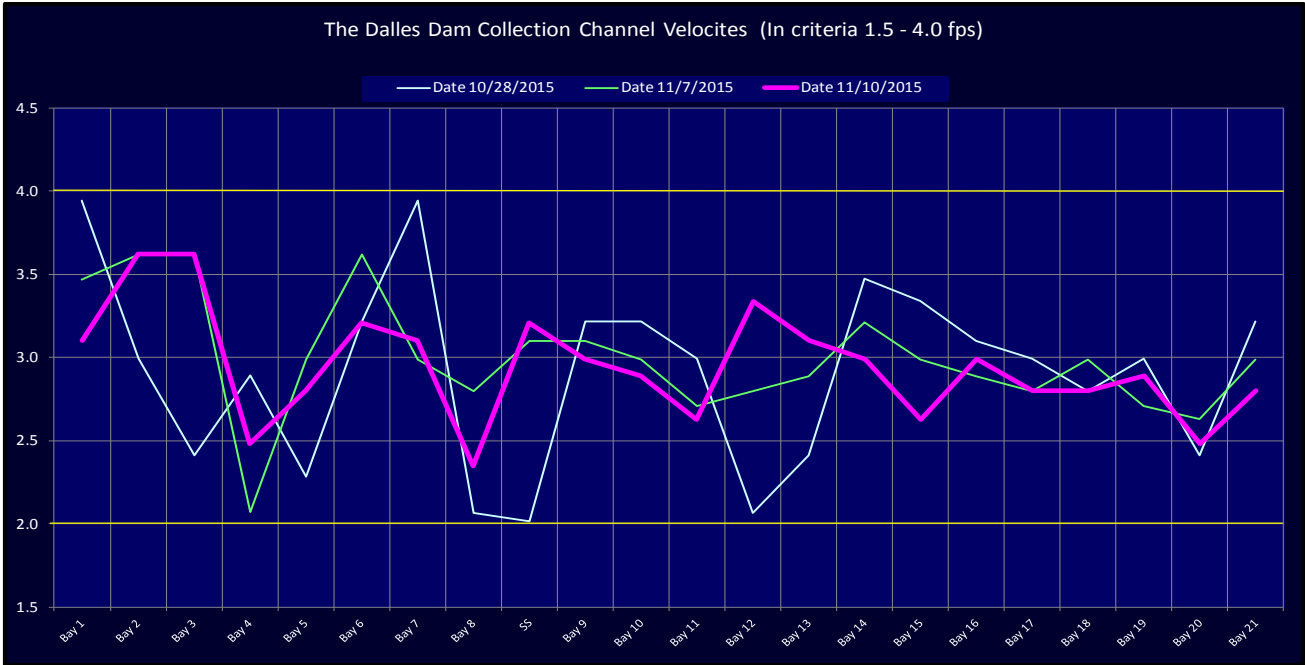
Normandeau fish counters season done 10/31.

Approved by: Ron Twiner

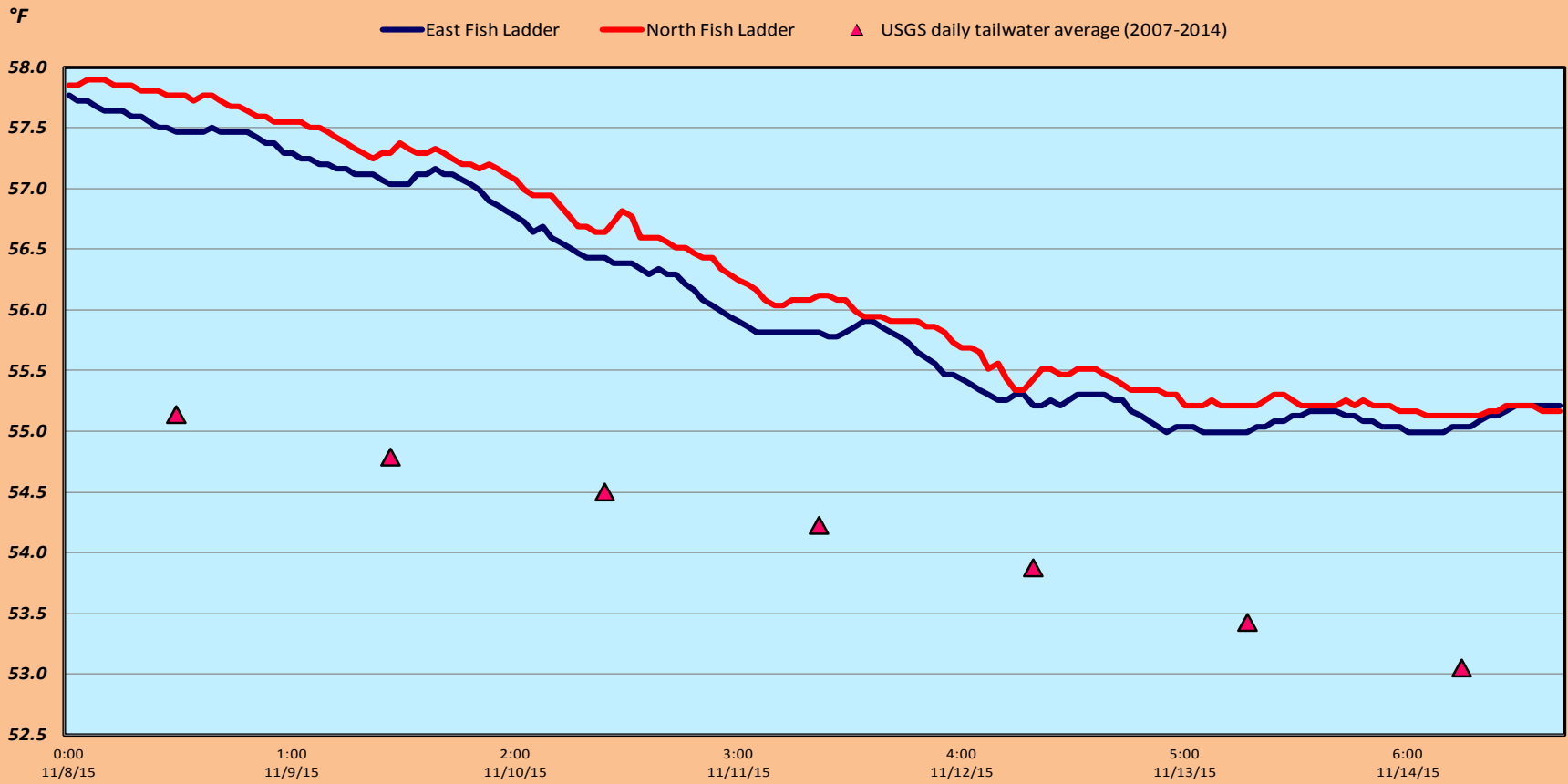
Operation Project Manager The Dalles Dam



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
3.0	Sun	57.5
6.0	Mon	57.1
5.0	Tue	56.4
5.0	Wed	55.8
5.0	Thurs	55.3
5.0	Fri	55.1
5.0	Sat	55.1
4.9	AVG	56.0

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

= Out of criteria

Date:	North Ladder		East Ladder											Spill On Seal
	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
11/8	1.5	8.4	1.4	9.4	11.5	10.4	9.0	1.5	9.1	9.1	closed	1.5	8.3	8.2
	1.5	8.3	1.5	9.3	11.6	10.5	9.1	1.5	9.2	9.2		1.4	8.3	8.4
11/9	1.4	8.5	1.1	9.3	12.2	11.1	9.7	1.6	9.1	9.2		1.5	8.3	8.4
	1.4	8.4	1.4	9.2	11.7	10.6	9.2	1.6	9.1	9.2		1.5	8.2	8.3
11/10	1.6	8.5	1.4	9.4	12.2	11.1	9.7	1.7	9.1	9.2		1.5	8.3	8.3
	1.4	8.6	1.5	9.2	11.8	10.7	9.3	1.6	9.1	9.1		1.4	8.4	8.4
11/11	1.5	8.5	1.6	9.2	11.3	10.2	8.8	1.5	9.0	9.0		1.5	8.2	8.2
	1.4	8.4	1.5	9.4	11.3	10.2	8.8	1.6	9.2	9.2		1.5	8.4	8.4
11/12	1.4	8.6	1.7	9.4	10.8	9.7	8.3	1.5	9.1	9.1		1.5	8.2	8.2
	1.4	8.5	1.4	9.4	12.2	11.1	9.7	1.7	9.3	9.3		1.4	8.4	8.4
11/13	1.4	8.6	1.6	8.0	11.4	10.3	8.9	1.4	9.2	9.2		1.5	8.5	8.5
	1.4	8.5	1.7	8.0	11.4	10.3	8.9	1.6	9.5	9.5		1.5	8.3	8.3
11/14	1.4	8.6	1.5	8.9	10.8	9.7	8.3	1.4	9.4	9.5		1.5	8.3	8.3
	1.6	8.5	1.5	4.1	12.1	11.0	9.6	1.6	9.5	9.5		1.5	8.5	8.5
11/14	1.4	8.6	1.6	8.4	11.2	10.1	8.7	1.4	9.5	9.5	1.3	8.6	8.6	
	1.4	8.6	1.5	8.6	11.2	10.1	8.7	1.3	9.6	9.6	1.4	8.5	8.5	
AVG:	1.4	8.6	1.7	8.5	11.3	10.2	8.8	1.6	9.0	9.0	1.4	8.6	8.6	
	1.4	8.6	1.5	9.5	11.4	10.3	8.9	1.6	9.0	9.0	1.5	8.2	8.2	
AVG:	1.5	8.5	1.5	8.7	11.5	10.4	9.0	1.5	9.2	9.2	closed	1.5	8.4	8.4

Fishways are inspected twice daily plus one SCADA inspection.