

The Dalles Dam Fishway Status Report

6/1/2015

Inspection Period: 5/24/2015 to 5/30/2015

THE DALLES DAM



US Army Corps
of Engineers
Portland District

The Dalles Project-Fisheries
P.O. Box 564
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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: 61.1	F
			Comments		Secchi: 4.1	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	1.4		
Entrance weir N1	0	depth (≥ 8')	Average	9.5		
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	9.6		
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	12.2		
Entrance weir E3	0	depth (≥ 8')	Average	13.3		
Collection channel velocity	0	1.5 - 4 fps	Average	2.6		
Transportation channel velocity	0	1.5 - 4 fps	Average	2.5		
North channel velocity	0	1.5 - 4 fps	Average	2.2		
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	10.0		
Entrance weir W2	0	depth (≥ 8')	Average	10.1		
Entrance weir W3	0	No criteria	Average	No criteria; manually adjusted as needed.		
South entrance differential	0	1.0' - 2.0'	Average	1.4		
Entrance weir S1	0	depth (≥ 8')	Average	8.4		
Entrance weir S2	0	depth (≥ 8')	Average	8.5		
JUVENILE PASSAGE						
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: 0.0' - 0.6'			
Spill volume	0	40%±1%	Average	40.0		
Spill Pattern	0	per FPP	All spill north of spillwall (bays 1-8)			
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.

Operations:

All fishways in operation per Fish Passage Plan requirements.

Calibration check 5/27. East entrance weir E2, east entrance channel, and tailwater off, but still withing criteria.

Gatewell differential check done 5/31 all reading within criteria.

Current Outages:

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

MU7 out 5/4/2015 to 6/25/2015 for overhaul and inspection.

Maintenance:

East fishway entrance work to resume next winter.

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.

Long term 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.

Studies:

North fishladder rehab of rock walls product development team initial meetings starting. Construction expected in 2018.

March fish count video at north count station completed. Night video to start July 1 pending lighting installation. To be used with new software application.

Construction start this winter. FPOM work timing coordination meeting June 2.

Crane rail replacement on tailrace and intake decks winter of 2016-2017. Schedule planning underway. FPOM coordination meeting June 2.

Studies Review Work Group (SRWG) meeting scheduled for June 4 Westrick.

Research/Contractors:

USDA gull hazer's on site 12 hours/day from the navlock peninsula. No sea lion hazing done this week. Pigeon and rodent removal underway.

Fish counters at east and north count stations 16 hr/day. North count station video counting to resume 7/15 (night only) after inferred light install.

PSMFC PUD weekly sampling 5/27; 1 Chinook yearling, 18 subyearling smolts, 1 fry, 1 clipped Steelhead, and 1 Coho.

Columbia River Northern Pikeminnow Management Program dam angling 5/24; total NPM - 449, NPM \geq 230 - 449, game fish - 3, non-game fish - 8.

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

ODFW Northern Pikeminnow Management Program evaluation electrofishing - nothing to report.

Coordination underway for tribal lamprey trapping at east count station.

USGS total dissolved gas monitoring.

PSMFC monitoring and maintaining thin walled PIT tag antennas and computer equipment.

Approved by: Ron Twiner

Operation Project Manager The Dalles Dam

The Dalles Dam Adult Fish Ladder Daily Counts

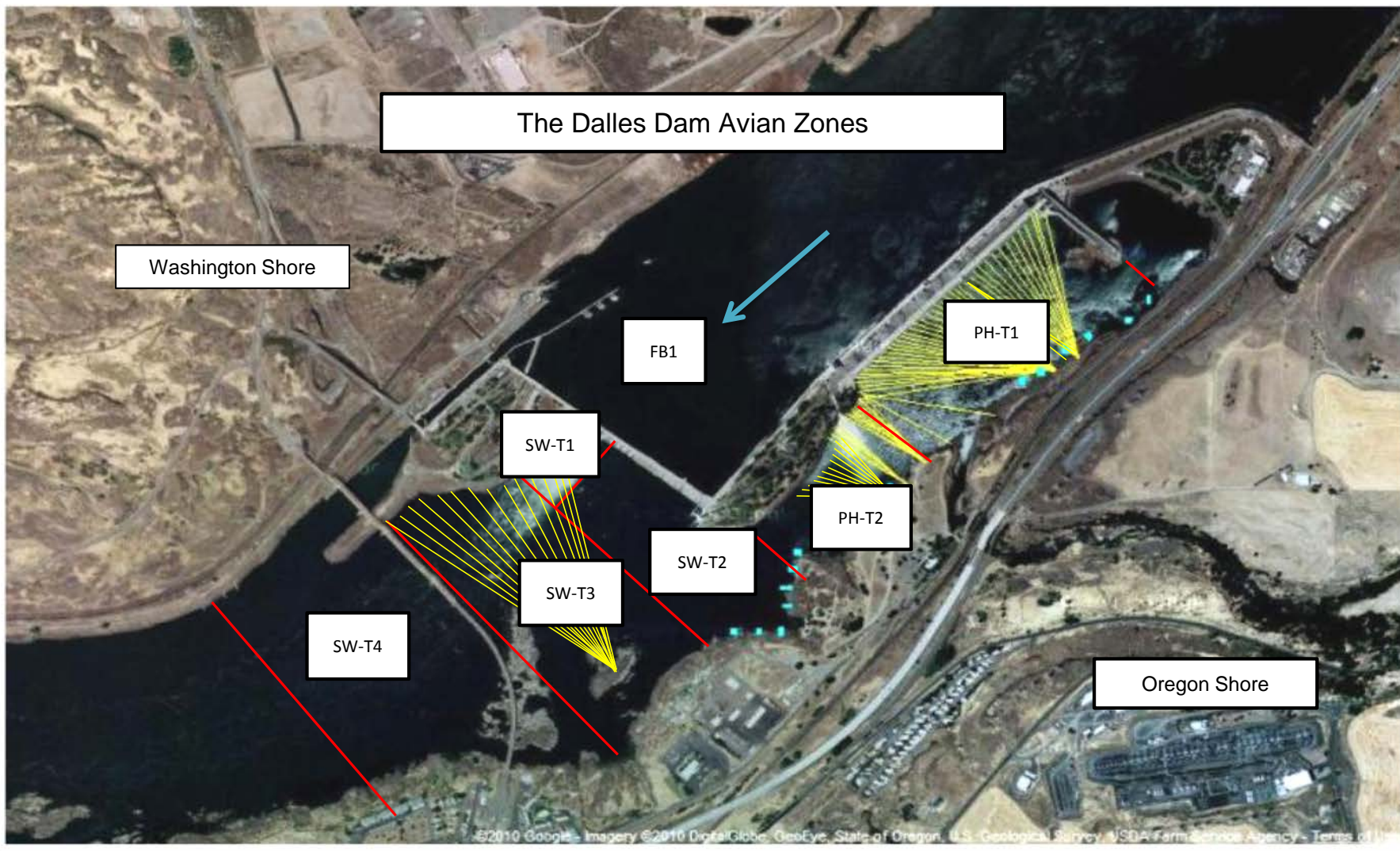
East

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
5/24	1523	1288	235	9	8	1	0	0	0	0	0	0	0
5/25	1172	1002	170	2	2	0	0	0	0	2	0	0	0
5/26	1896	1564	332	6	5	1	0	0	0	2	0	0	0
5/27	1923	1685	238	5	5	0	0	0	0	0	0	0	0
5/28	1834	1436	398	10	5	5	0	0	0	4	0	0	0
5/29	2070	1700	370	12	12	0	0	0	0	12	0	0	0
5/30	1291	1043	248	9	8	1	0	0	0	12	0	0	0
total	11709	9718	1991	53	45	8	0	0	0	32	0	0	0

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

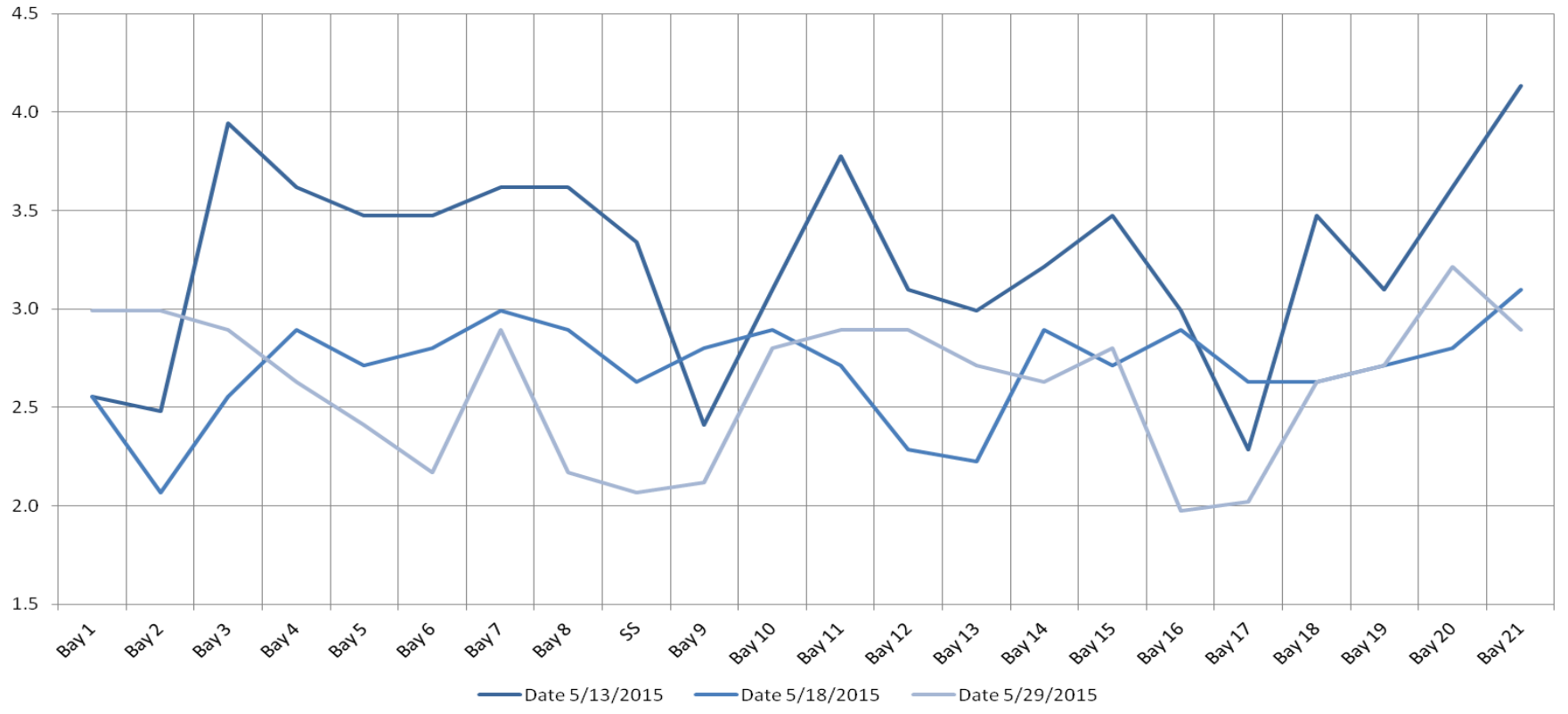
North

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
5/24	273	254	19	2	1	1	0	0	0	0	0	0	0
5/25	222	215	7	0	0	0	0	0	0	0	0	0	0
5/26	387	367	20	0	0	0	0	0	0	0	0	0	0
5/27	420	383	37	0	0	0	0	0	0	0	0	0	0
5/28	420	390	30	2	2	0	0	0	0	0	0	0	0
5/29	618	526	92	4	0	4	0	0	0	1	0	0	0
5/30	786	702	84	7	6	1	0	0	0	11	0	0	0
total	3126	2837	289	15	9	6	0	0	0	12	0	0	0



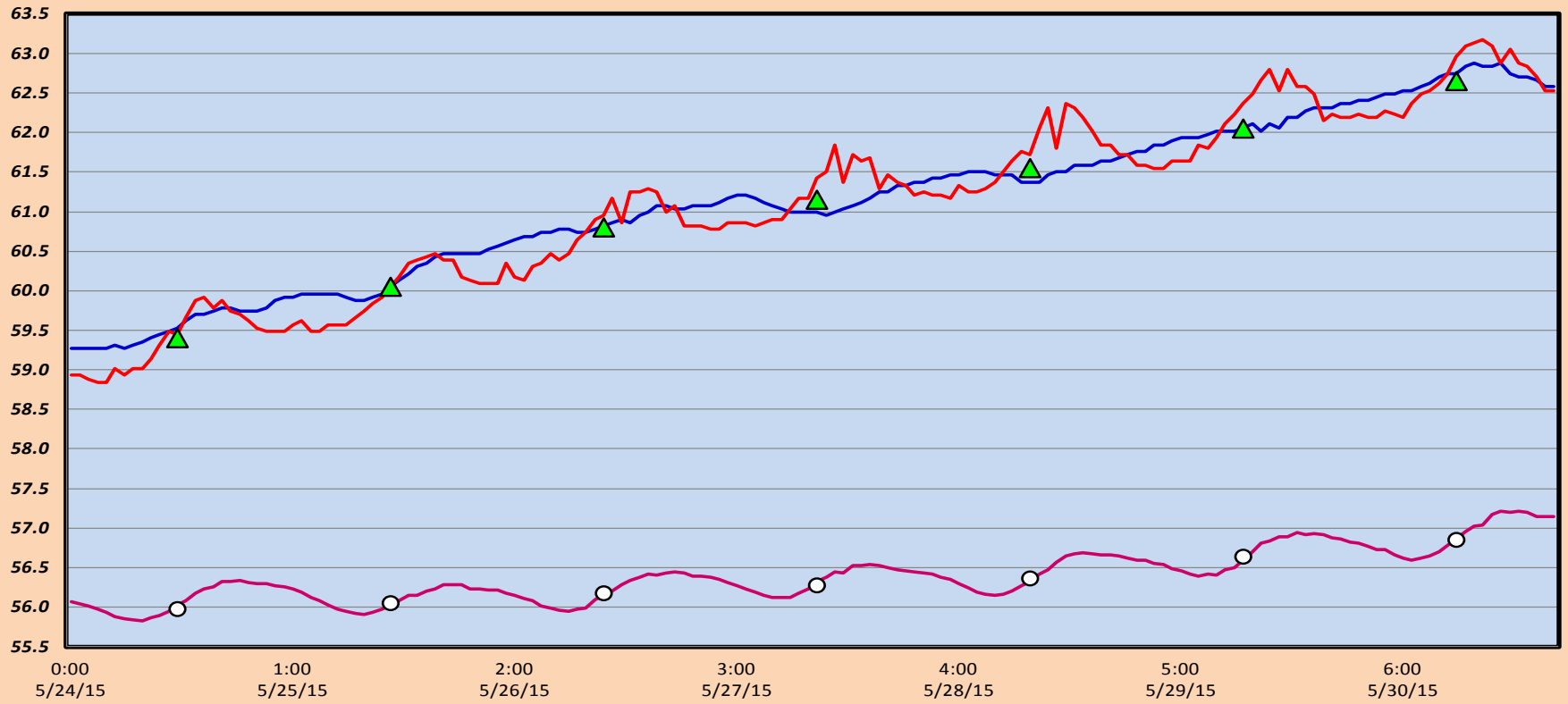
Avian lines in yellow, zones in red, river flow in blue.

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



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

°F — East Fish Ladder — North Fish Ladder ▲ USGS daily tailwater average (2015) — TD Ladder Average (2007-2014) ○ USGS daily tailwater average (2007-2014)



Temp °F		Secchi:
59.4	Sun	3.0
60.1	Mon	3.5
60.8	Tue	4.5
61.2	Wed	5.0
61.6	Thurs	4.5
62.1	Fri	4.5
62.7	Sat	4.0
AVG: 61.1	AVG	4.1

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

**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-24hr avg
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	
5/24/15			1.4	4.0	12.0	12.7		1.5	10.0	10.0		1.4	8.2	9.1	
	1.4	9.7	1.5	4.1	12.1	13.2	9.2	1.6	10.0	10.0		1.2	9.0	9.1	39.9
	1.5	9.6	1.4	4.0	12.0	14.6	11.6	1.7	9.9	9.9		1.3	9.3	8.3	
5/25/15			1.4	3.9	12.0	13.5		1.4	10.4	10.4		1.4	8.3	8.6	
	1.3	9.7	1.5	4.0	11.9	13.2	9.2	1.5	10.3	10.3		1.4	8.1	8.5	40.1
	1.4	9.6	1.5	4.1	12.0	13.5	9.5	1.4	10.5	10.5		1.3	8.3	9.5	
5/26/15			1.5	4.2	12.2	12.6		1.4	10.0	10.0		1.3	8.7	8.7	
	1.5	9.3	1.5	4.2	12.1	12.9	8.9	1.4	10.1	10.1		1.3	8.3	8.3	39.9
	1.5	9.3	1.5	4.0	12.0	13.7	9.7	1.6	10.0	10.0		1.4	8.4	8.4	
5/27/15			1.5	3.9	11.9	13.3		1.6	9.9	9.9		1.4	9.5	9.5	
	1.4	9.6	1.5	2.6	12.1	13.9	9.9	1.5	10.0	10.1		1.4	8.6	8.6	40.2
	1.5	9.5	1.7	5.5	12.6	13.1	10.4	1.6	9.9	10.0		1.4	8.3	8.3	
5/28/15			1.7	5.5	12.5	12.6		1.5	10.1	10.1		1.5	8.2	8.3	
	1.4	9.5	1.4	4.2	12.3	13.7	9.7	1.5	10.0	10.1		1.5	8.1	8.3	40.0
	1.5	9.5	1.5	3.9	12.4	13.8	9.8	1.5	10.0	10.0		1.5	8.1	8.1	
5/29/15			1.4	4.0	12.5	13.2		1.5	9.9	9.9		1.5	8.1	8.1	
	1.4	9.4	1.5	4.0	12.5	13.2	9.2	1.5	9.9	9.9		1.4	8.2	8.2	40.0
	1.4	9.4	1.4	4.1	12.6	13.5	9.5	1.5	9.9	10.0		1.5	8.1	8.1	
5/30/15			1.4	4.1	12.5	13.0		1.5	10.0	10.0		1.5	8.2	8.2	
	1.4	9.4	1.5	3.9	12.5	13.0	9.0	1.5	10.0	10.1		1.5	8.2	8.2	40.1
	1.4	9.4	1.4	4.1	12.5	13.3	9.2	1.5	10.1	10.0		1.4	8.2	8.2	
AVG:	1.4	9.5	1.5	No criteria	12.2	13.3	9.6	1.5	10.0	10.1	closed	1.4	8.4	8.5	40.0

Fishways are inspected twice daily plus one SCADA inspection.