

The Dalles Dam Fishway Status Report

3/26/2016

Inspection Period: 03/20/2016-03/26/2016

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: 7		Temperature: 45.1 °F
			Comments		Secchi: 3.9 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'	1.4		
Entrance weir N1	0	depth (≥ 8')	9.5		
Entrance weir N2	0	Closed			
PUD Intake differential	0	≤ 0.5'			PUD in bypass on 2/16/16. Entrance was still in criteria.
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	11.6	
East entrance differential	3	1.0' - 2.0'	Average	1.4	Fish unit 2 forced out one day for relay repair. 0.8' differential
Entrance weir E1	0	No criteria	Average	6.6	No criteria for E1
Entrance weir E2	2	depth (≥ 8')	Average	12.2	Fish unit 2 forced out one day for relay repair.
Entrance weir E3	0	depth (≥ 8')	Average	12.1	
Collection channel velocity	0	1.5 - 4 fps	Average	3.3	
Transportation channel velocity	0	1.5 - 4 fps	Average	2.6	
North channel velocity	0	1.5 - 4 fps	Average	3.5	
South channel velocity	0	1.5 - 4 fps	Average	3.7	
West entrance differential	0	1.0' - 2.0'	Average	1.4	
Entrance weir W1	0	depth (≥ 8')	Average	11.2	
Entrance weir W2	0	depth (≥ 8')	Average	11.2	
Entrance weir W3	0	No criteria	Average	Closed	
South entrance differential	1	1.0' - 2.0'	Average	1.4	No power for PLC readings on 3/18 & 3/19
Entrance weir S1	0	depth (≥ 8')	Average	9.1	
Entrance weir S2	0	depth (≥ 8')	Average	9.1	
JUVENILE PASSAGE					
Sluiceway operation	0	Units 1, 8, 18			
Turbine trashrack drawdown	0	<1.5', wkly	range: 0.1-0.8'		
Spill volume	Spill RTS ~April 2016				
Spill Pattern					
Turbine Unit Priority	14	per FPP	MU 15 & 16 OOS		
Turbine 1% Efficiency	NA	per FPP	Out of fish passage season		

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

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

Operations:

No power to the PLC on south and north on 3/19/16 for Nav Lock work

Navigation Lock returned to service 3/19/16

Calibration inspections completed. Minor discrepancies addressed by TDE

Gatewell drawdown completed 3/19/16 and all differentials were within criteria.

Current Outages:

T8 (MU15 & MU16) FOOS through 3/10/2016 due to high levels of methane production

MU3 FOOS through 4/1/2016 due to loss of governor sump oil level

Spillway gates 1-6 OOS Daily from 0600 2/17/2016 to 1700 2/25/2016 to perform gate climbing inspections.

Fish unit F2 forced out of service 3/22 to repair failed protective relay. Investigating why entrances maintenance better than usual conditions.

Maintenance:

Last of repaired collection channel dewatering pump installed. Current status 1 of 10 total pumps not functioning. South pump to be rehabilitated.

New avian line pole installed for west powerhouse grid. Awaiting line attachment parts. Install and line attachment to occur last week of March.

Awaiting east exit weir electrical panel FCQ7 panel. Stalled in contracting.

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

Tailrace crane repair near west entrance delayed beyond end of in water work period (~mid April). MOC form updated for FPOM.

Temperature HOB0 lost to river, replacement being procured

Long Term repair maintained plans; 154 -157 weir mods, collection channel diffusers decommission, repair failed diffusers - all on hold due to funding

Fish related /non-fish funded items; spillway evaluation, spillway crane rehab, spillgate 9 trunnion pin replace, sluiceway chaingate rehab (near complete)

fish unit breaker replace (in planning), Fish unit rehab (in planning) and transformer replace (in planning).

All spillway items on Critical Infrastructure list and Unfunded Requirement list.

Studies:

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

East fishladder emergency backup construction delayed. Awaiting planning meetings.

Crane rail replacement on tailrace and intake 2016-17. 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.

Fish Field Unit working with project electrical shop for upgrades to north lighting to resume video counting from last season.

In process of updating N Wasco Co PUD Memo of Agreement.

Fish unit rehab project plan started. Will increase reliability of fish units and possible increased redundancy.

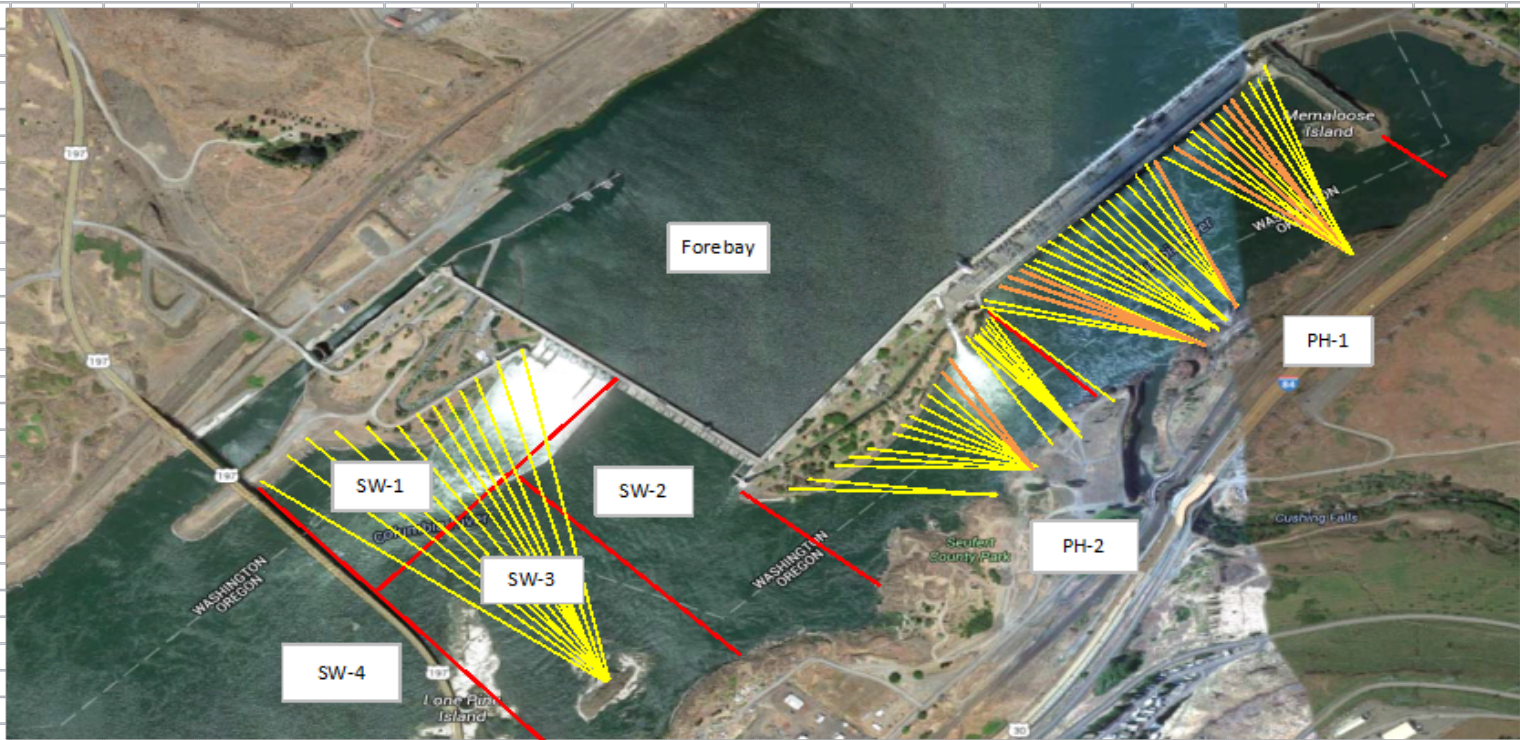
Research/Contractors:

Normandeau fish counters season resumes Apr1. Pre season meeting next week.

USGS water quality monitoring pre season meeting complete. Monitor stations at east powerhouse forebay and tailrace shoreline.

Approved by: Ron Twiner

Operation Project Manager The Dalles Dam



Yellow lines= present avian lines

red lines= Barriers between observation zones

Orange lines= Missing or down avian lines

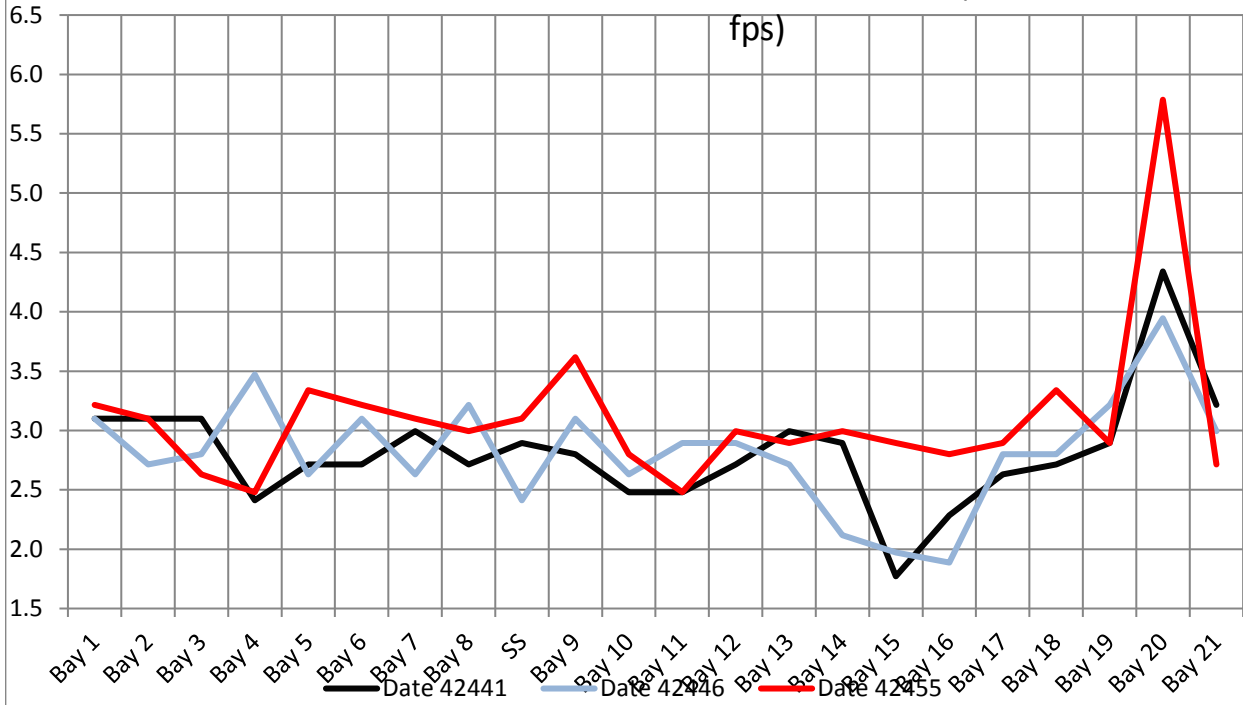
2016 Piscivorous Bird Counts

F=foraging, NF=non-foraging

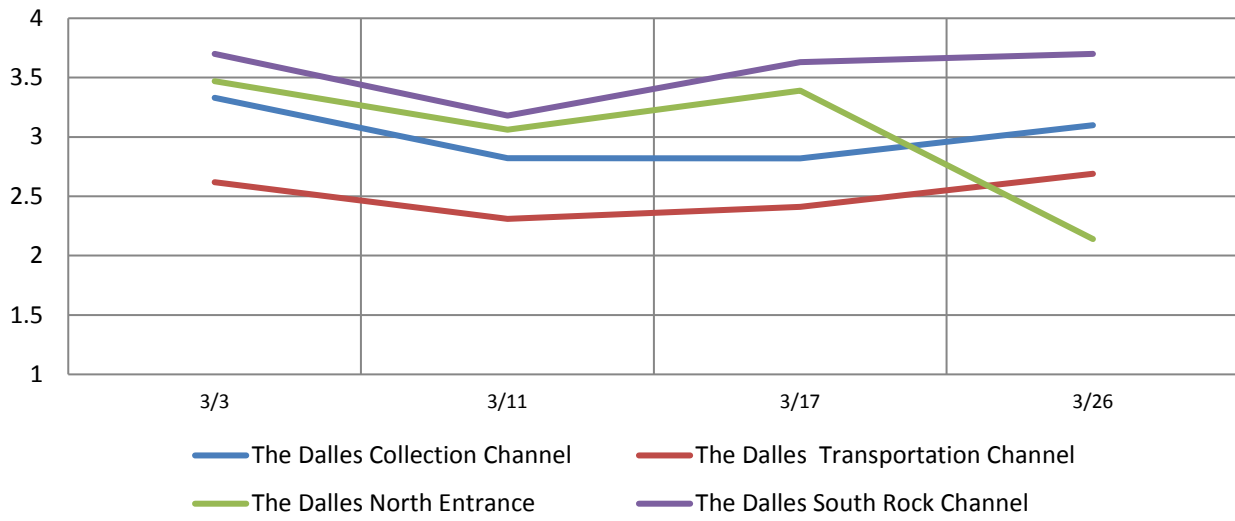
Date	observer	Time (24 hr)	Zone	Gull		Cormorant		Caspian tern		Grebe		Pelican		Other		Total birds in zone	Notes		
				F	NF	F	NF	F	NF	F	NF	F	NF	F	NF				
3/20/16	EHK	8:15	FB	2	0	0	0	0	0	0	0	0	0	0	0	0	2		
		8:00	PH1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	
		8:08	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		8:45	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		8:10	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		8:35	SW3	0	0	0	5	0	0	0	0	0	0	0	0	0	0	5	
		8:36	SW4	0	43	0	0	0	0	0	0	0	0	0	0	0	0	43	
3/21/16	JWR	9:23	FB	2	0	0	0	0	0	0	0	0	0	0	0	0	2		
		9:39	PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		9:42	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		8:57	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		9:27	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		9:25	SW3	0	0	0	18	0	0	0	0	0	0	0	0	0	0	18	
		9:26	SW4	0	16	0	0	0	0	0	0	0	0	0	0	0	0	16	
3/22/16	BC	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		SW3	0	0	0	12	0	0	0	0	0	0	0	0	0	0	12		
		SW4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3/23/16	JWR	8:54	FB	0	0	0	0	0	0	0	1	0	0	0	1	2		COME	
		8:03	PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		8:07	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		8:55	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		8:10	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		8:11	SW3	0	0	0	17	0	0	0	0	0	0	0	0	0	17		
		8:12	SW4	0	21	0	0	0	0	0	0	0	0	0	0	0	21		
3/24/16	JWR	14:11	FB	0	1	0	0	0	0	0	0	0	0	0	1	2		COME	
		12:06	PH1	0	0	0	1	0	0	0	0	0	0	0	0	1			
		12:08	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		14:09	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		12:10	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		12:11	SW3	0	0	0	14	0	0	0	0	0	0	0	0	0	14		
		12:12	SW4	0	45	0	0	0	0	0	0	0	0	0	0	0	45		
3/25/16	JWR	10:58	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		10:33	PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		10:36	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		11:00	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		10:40	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		10:41	SW3	0	0	0	3	0	0	0	0	0	0	0	0	0	3		
		10:42	SW4	0	113	0	0	0	0	0	0	0	0	0	0	0	113		
3/26/16	GJF	12:13	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		12:49	PH1	0	1	0	2	0	0	0	0	0	0	0	0	3			
		12:55	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		12:05	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		13:02	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		13:03	SW3	0	0	0	16	0	0	0	0	0	0	0	0	0	16		
		13:04	SW4	0	54	0	5	0	0	0	0	0	0	0	0	0	59		

Key: BAEA = Bald Eagle; GBH = Great Blue Heron; COME = Common Merganser

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

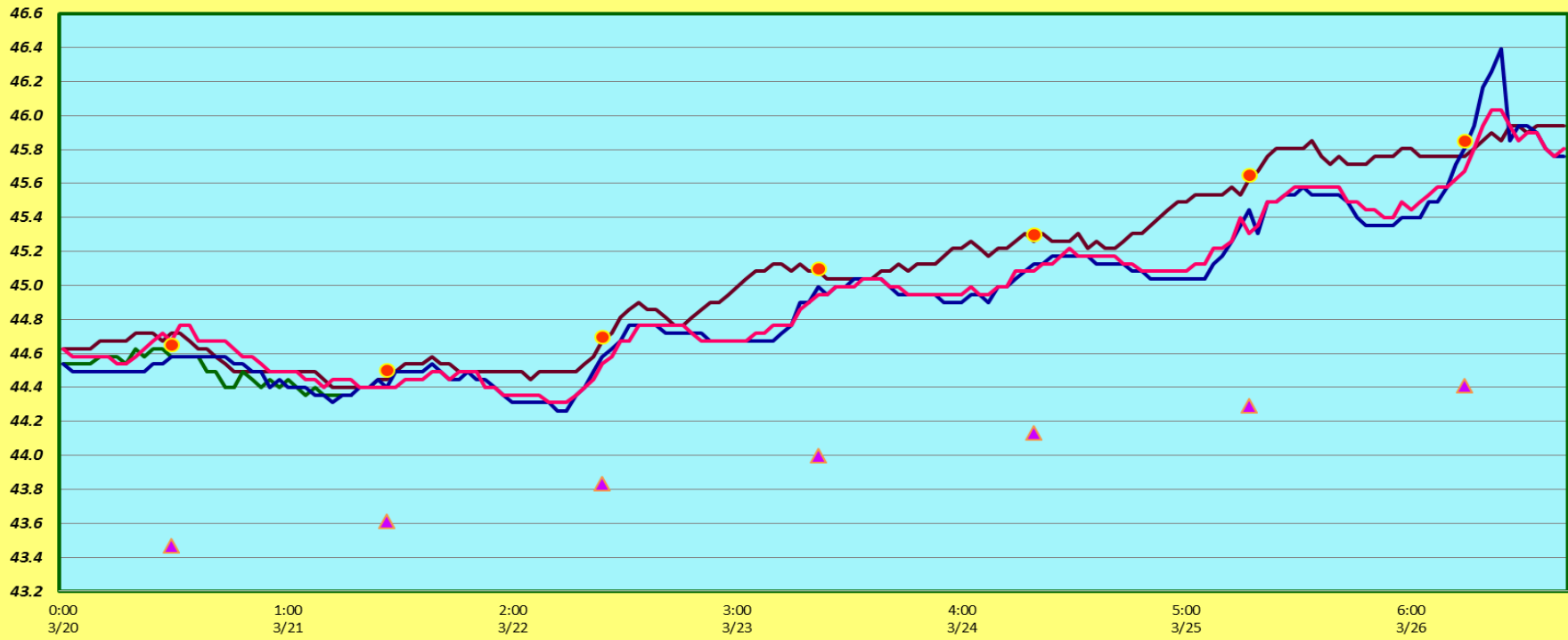


The Dalles Dam Averages Velocities (In criteria 1.5 - 4.0 fps)



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

— East Ladder Count Station — East Ladder Junction Pool — North Ladder Count Station — North Ladder Entrance ● Current USGS Daily Average ▲ USGS Daily Average (2007-2015)



USGS: <http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201603.lcol.html>

Secchi:		Temperatures
3.0	Sun	44.65
3.0	Mon	44.50
4.0	Tue	44.70
4.0	Wed	45.10
4.0	Thurs	45.30
4.0	Fri	45.65
5.0	Sat	45.85
3.9	AVG	45.11

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

= Out of criteria

Date:	North Ladder			East Ladder											
	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
3/20				1.3	5.1	13.6	13.5	11.1	1.3	12.0	12.0		1.5	9.0	9.0
	1.3	9.6		1.4	5.1	13.6	13.5	11.1	1.4	12.0	12.0		1.5	9.1	9.1
	1.3	9.6		1.4	5.1	13.6	13.5	11.5	1.4	12.1	12.1		1.6	9.1	9.1
3/21				1.4	5.0	13.2	13.5	10.3	1.2	12.1	12.1		1.5	9.0	9.0
	1.4	9.5		1.6	5.0	14.2	13.6	11.5	1.7	11.1	11.1		1.5	9.1	9.1
	1.3	9.6		1.4	0.4	11.8	10.4	9.0	1.6	12.0	12.1		1.7	9.0	8.9
3/22				0.5	0.5	8.4	9.0	13.1	1.0	9.0	9.0		1.0	8.6	8.5
	1.4	9.5		0.7	0.1	7.4	8.3	9.1	1.2	8.4	8.5		1.3	8.4	8.5
	1.4	9.6		0.8	-0.1	6.7	8.3	11.4	1.2	8.4	8.6		1.1	8.5	8.4
3/23				1.8	3.0	13.9	12.5	12.1	1.5	11.9	11.9		1.8	8.9	8.9
	1.4	9.5		1.6	4.4	14.4	12.4	12.6	1.5	12.1	12.0		1.5	10.0	10.0
	1.3	9.6		1.6	7.1	12.5	12.5	11.6	1.5	11.5	11.5		1.6	9.6	9.6
3/24				1.9	8.1	12.6	12.6	12.8	1.6	11.6	11.6		1.3	9.9	9.9
	1.3	9.7		1.6	10.5	12.6	12.6	11.5	1.6	11.0	11.0		1.4	9.2	9.2
	1.4	9.7		1.5	10.5	12.5	12.5	12.5	1.4	11.5	11.5		1.5	9.0	9.0
3/25				1.7	10.7	12.5	12.7	11.6	1.4	11.2	11.2		1.3	9.3	9.3
	1.5	9.6		1.7	11.4	12.4	12.4	12.7	1.5	11.4	11.4		1.3	9.3	9.3
	1.4	8.7		1.7	11.5	12.6	12.6	12.7	1.6	11.4	11.4		1.4	9.3	9.3
3/26				1.7	11.5	12.5	12.6	12.1	1.6	11.4	11.4		1.4	9.3	9.3
	1.3	9.6		1.6	11.4	12.4	12.5	11.4	1.5	11.2	11.2		1.4	9.2	9.2
	1.3	9.7		1.5	11.4	12.4	12.5	11.4	1.4	11.4	11.2		1.4	8.1	8.2
AVG:	1.4	9.5		1.4	6.6	12.2	12.1	11.6	1.4	11.2	11.2		1.4	9.1	9.1

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Fishways are inspected twice daily plus one SCADA inspection.