

The Dalles Dam Fishway Status Report

10/24/2015

Inspection Period: 10/18/2015 - 10/24/2015

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: 21		Temperature: 62.8	F
			Comments		Secchi: 5.0	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	1.3		
Entrance weir N1	0	depth (≥ 8')	Average	8.7		
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	1	1.0' ± 0.1'	out criteria at 0.8'. Electricians corrected.			
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	8.6	Weir pulled to achieve criteria with low tailwater	
East entrance differential	0	1.0' - 2.0'	Average	1.6		
Entrance weir E1	0	No criteria	Average	No criteria; manually adjusted as needed.		
Entrance weir E2	0	depth (≥ 8')	Average	11.0	low tailwater 7.9 and 7.8 corrected.	
Entrance weir E3	0	depth (≥ 8')	Average	10.0		
Collection channel velocity	0	1.5 - 4 fps	Average	3.1		
Transportation channel velocity	0	1.5 - 4 fps	Average	2.7		
North channel velocity	0	1.5 - 4 fps	Average	2.2		
South channel velocity	0	1.5 - 4 fps	Average	3.8		
West entrance differential	0	1.0' - 2.0'	Average	1.5		
Entrance weir W1	0	depth (≥ 8')	Average	9.3		
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	1.4		
Entrance weir S1	0	depth (≥ 8')	Average	8.3		
Entrance weir S2	0	depth (≥ 8')	Average	8.3		
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 - 0.6'			
Spill volume	NA	40%±1%	Average	Spill closed on 9/1/15		
Spill Pattern	NA	per FPP				
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. No sea lion sightings.

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 10/20/15. Forebay/gatewell differential in criteria.

Fishway calibration completed 10/20/15, East Exit weirs (159, 158) off but not out of criteria

Investigating operational changes needed for potential large oil spill in Columbia. Fishway protection measures to be evaluated. Plan to be presented to FPOM when complete. Permanent boom purchased for east fishway exit (FPOM approved). Working through installation options.

Salmonids observed in fish lock. Efforts underway to for removal and furutre preventative measures. MFR provided to FPOM. Refer to 'fishlock pic' tab.

Current Outages:

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

Maintenance:

Failed tarp to be removed from ice and trash sluiceway. The end gate will be closed for 30 mins., coordinated through FPOM.

Two failed collection channel dewatering pumps remaining on deck for repair. Awaiting funding for parts purchase.

Entrance/Exit weir sensor and PLC replacement being investigated.

East exit weir electrical panel FCQ7 parts ordered. Installation planned for next 2 outage seasons depending on funding availability.

Doing inventory assessment on fish unit spare parts and infrastructure evaluation.

Purchasing new dewatering pump motor for north fishway entrance.

Investigating cost and feasibility for 154 -157 weir replacement through project labor.

Preparing workload for upcoming winter maintenance period; entrance weir wheel replace, entrance weir guide repair, exit/entrance sensor upgrades.

Long Term repair plans; 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 90% DDR review. Construction 2017/18. FPOM review ongoing.

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

East fishladder emergency backup construction this winter likely delayed. Adjusted winter fishway dewater schedule to fit in water work period.

Crane rail replacement on tailrace and intake 2016-2017. First week august rail removal near east exit being coordinated through FPOM.

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

North spill attraction flow continues to be reviewed through FPOM. Threshold for daily passage amount to use spill remains unresolved.

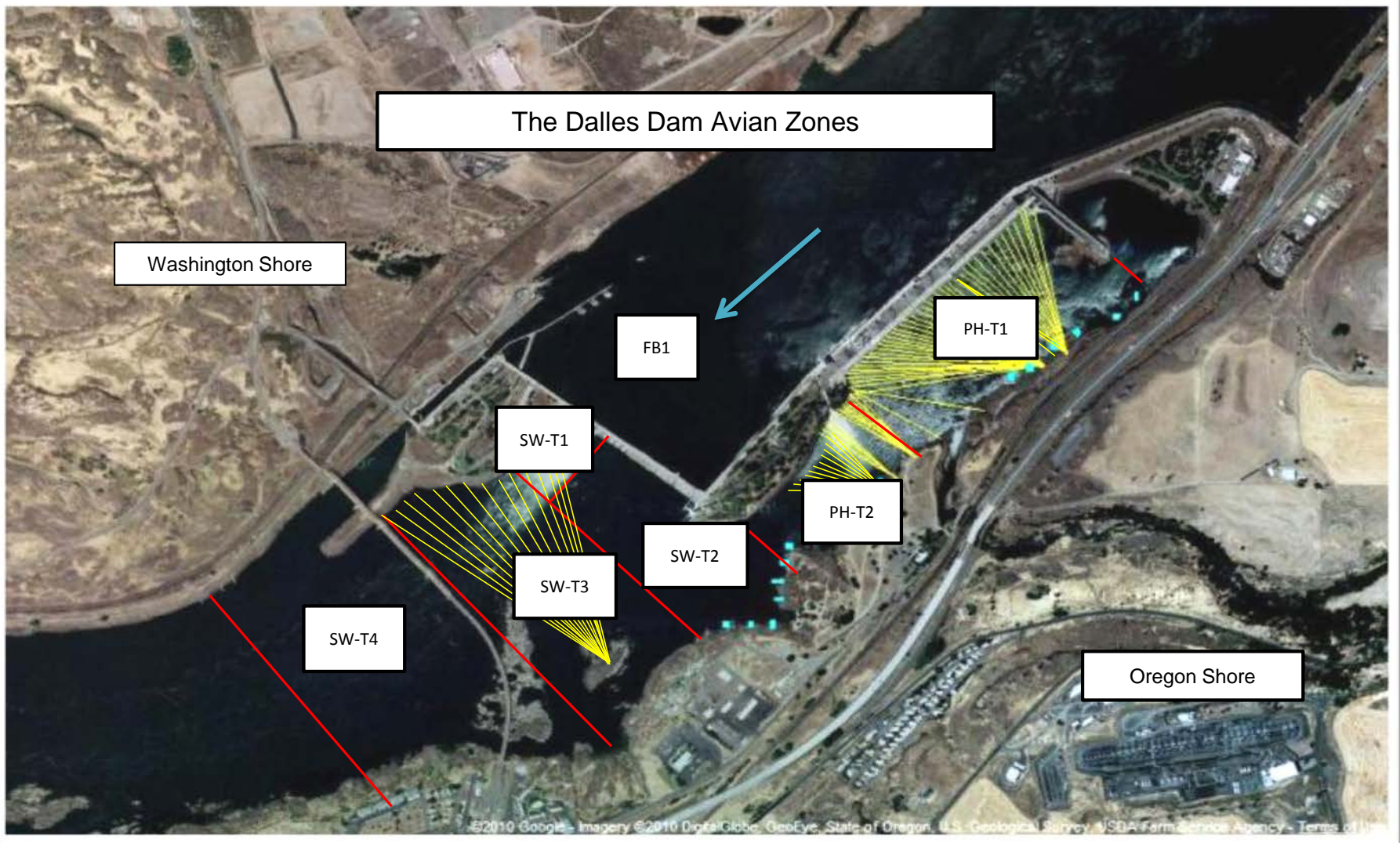
Research/Contractors:

Normandeau fish counters at east and north count stations 16 hr/day through 10/31.

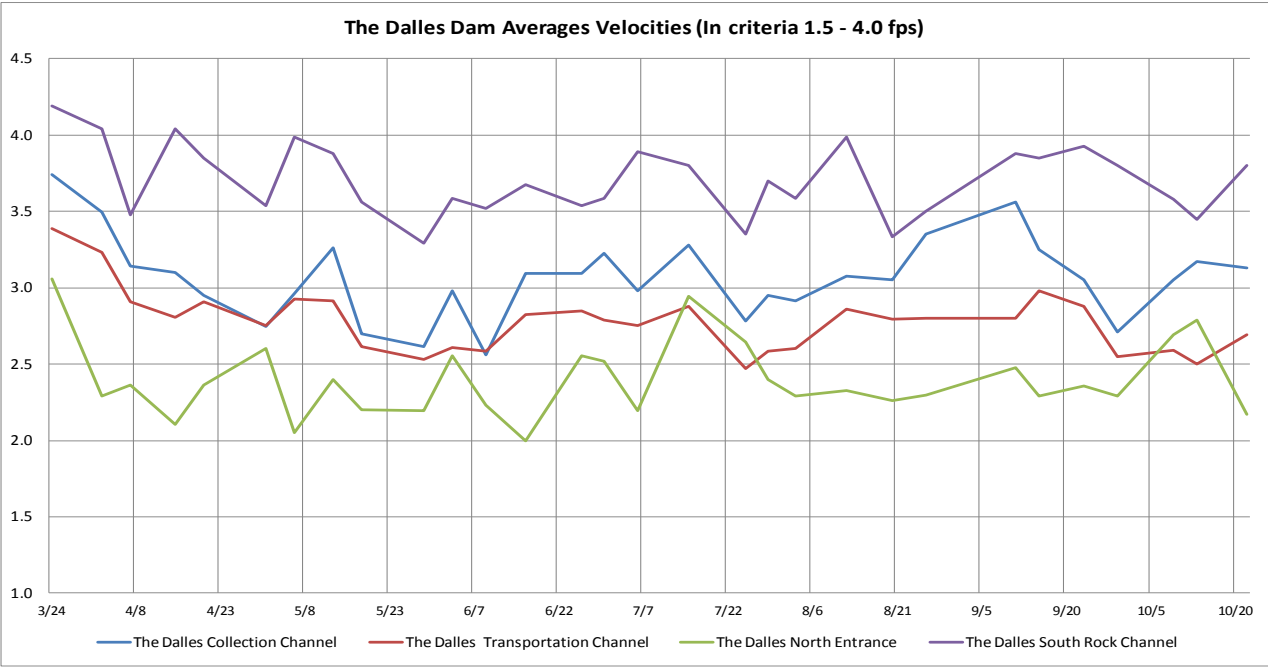
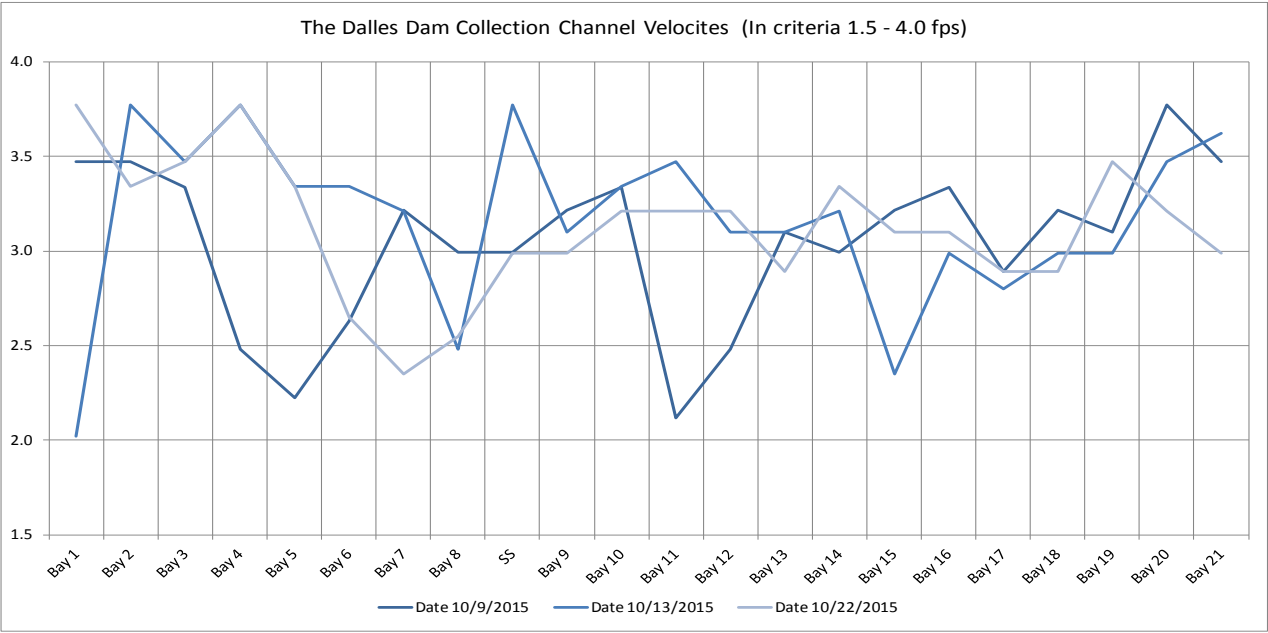
Northern pikeminnow dam angling caught 4,566 NPM \geq 230mm for the year at The Dalles Dam.

Approved by: Ron Twiner

Operation Project Manager The Dalles Dam



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



The Dalles East

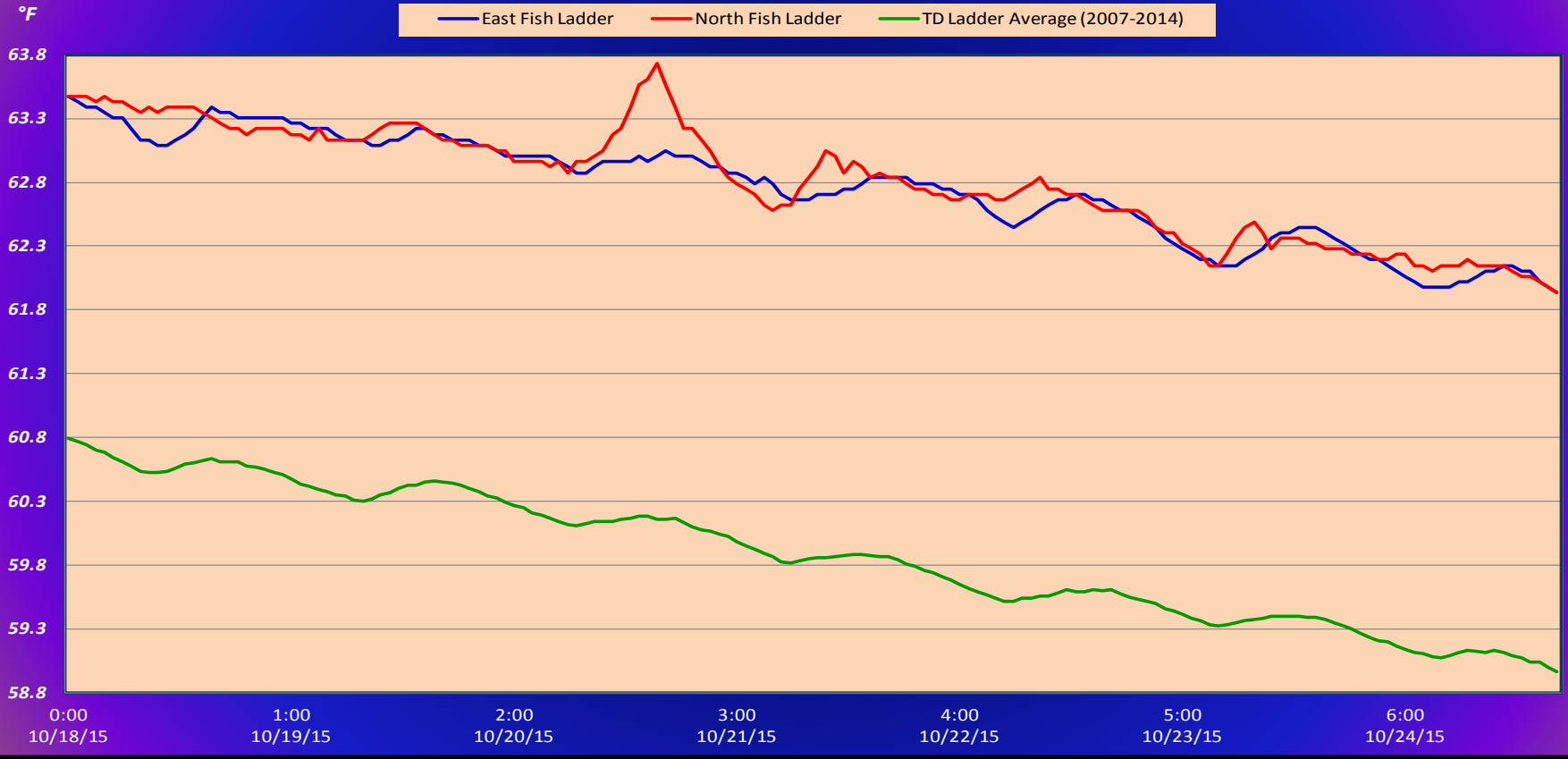
Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
10/18	1700	1528	172	545	322	223	94	92	2	1	0	0	0
10/19	1116	960	156	480	278	202	36	34	2	0	0	0	1
10/20	1618	1456	162	634	344	290	45	43	2	0	0	0	0
10/21	1491	1271	220	424	257	167	49	44	5	1	0	0	1
10/22	2263	2064	199	470	266	204	30	29	1	0	0	0	0
10/23	1881	1634	247	349	215	134	29	23	6	0	0	0	0
10/24	1761	1553	208	316	179	137	53	46	7	0	0	0	0
total	11830	10466	1364	3218	1861	1357	336	311	25	2	0	0	2
% North Passage	7.1	7.3	5.8	14.8	15.0	14.5	14.3	14.3	13.8	0.0	0.0	0.0	66.7

The Dalles North

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

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
10/18	199	170	29	132	76	56	28	26	2	0	0	0	0
10/19	171	164	7	120	76	44	11	11	0	0	0	0	0
10/20	188	169	19	76	46	30	7	6	1	0	0	0	2
10/21	25	19	6	53	29	24	0	0	0	0	0	0	1
10/22	151	139	12	80	46	34	0	0	0	0	0	0	1
10/23	75	70	5	42	22	20	5	5	0	0	0	0	0
10/24	96	90	6	56	34	22	5	4	1	0	0	0	0
total	905	821	84	559	329	230	56	52	4	0	0	0	4

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



USGS: [tp://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201510.lcol.ht](http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201510.lcol.ht)

Secchi:		Temperatures
5.0	Sun	63.3
5.0	Mon	63.2
5.0	Tue	63.0
5.0	Wed	62.8
5.0	Thurs	62.7
5.0	Fri	62.3
5.0	Sat	62.1
5.0	AVG	62.8

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

= Out of criteria

Date:	North Ladder		East Ladder					East Ladder				South Entrance			S P I L L O N S E A L
	Differential	N1 Depth	Differential	E1 Depth	E2 Depth	E3 Depth	JP 6	Differential	W1 Depth	W2 Depth	W3 Depth	Differential	S1 Depth	S2 Depth	
10/18			1.6	7.5	10.9	9.8		1.5	9.0	9.0		1.5	8.3	8.3	
	1.1	9.1	1.6	8.5	10.9	9.8	8.4	1.5	9.3	9.3		1.5	8.2	8.2	
	1.0	9.2	1.6	8.4	10.8	9.7	8.3	1.6	8.9	8.9		1.4	8.3	8.3	
10/19			1.6	8.6	11.4	10.3		1.6	9.0	9.0		1.4	8.3	8.3	
	1.5	8.4	1.6	8.4	11.2	10.1	8.7	1.6	9.1	9.1		1.5	8.2	8.2	
	1.4	8.3	1.5	8.4	11.2	10.1	8.7	1.6	8.9	8.9		1.4	8.3	8.3	
10/20			1.9	8.6	11.0	9.9		1.7	9.1	9.1		1.3	8.5	8.5	
	1.4	8.0	1.5	8.4	11.3	10.2	8.8	1.5	9.0	9.0		1.5	8.3	8.3	
	1.5	7.9	1.6	8.5	11.2	10.1	8.7	1.6	8.9	8.9		1.4	8.3	8.3	
10/21			1.6	8.6	11.1	10.0		1.6	8.9	8.9		1.5	8.3	8.3	
	1.5	8.0	1.5	11.6	10.9	9.8	8.4	1.6	8.6	8.6		1.4	8.4	8.4	
	1.3	9.3	1.5	7.3	11.3	10.2	8.8	1.5	10.5	9.0		1.4	8.3	8.4	
10/22			1.8	7.5	8.7	10.1		1.5	10.4	10.4		1.4	8.3	8.4	
	1.3	9.3	1.7	7.4	11.2	10.1	8.7	1.5	10.5	10.1		1.4	8.3	8.4	
	1.3	9.3	1.5	7.4	11.5	10.4	9.0	1.5	10.5	9.2		1.5	8.2	8.2	
10/23			1.5	8.7	11.2	10.2		1.4	9.2	9.2		1.4	8.3	8.4	
	1.4	8.6	1.4	8.7	11.4	10.3	8.9	1.4	9.2	9.2		1.3	8.3	8.3	
	1.5	8.5	1.6	8.6	11.4	10.3	8.9	1.5	9.3	9.3		1.4	8.4	8.3	
10/24			1.6	8.8	10.6	9.5	8.1	1.3	9.2	9.2		1.3	8.2	8.2	
	1.3	8.7	1.5	6.9	11.0	9.9	8.5	1.6	8.9	8.9		1.4	8.3	8.3	
	1.3	8.7	1.5	7.1	11.2	10.1	8.7	1.5	9.1	9.1		1.5	8.3	8.3	
AVG:	1.3	8.7	1.6	8.3	11.0	10.0	8.6	1.5	9.3	9.2	closed	1.4	8.3	8.3	

Fishways are inspected twice daily plus one SCADA inspection.

