

The Dalles Dam Fishway Status Report

8/24/2015

Inspection Period: 8/16/2015 - 8/22/2015

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: 71.6 F
			Comments		Secchi: 5.4 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	9.3	
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	12.3	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	12.3	
Entrance weir E3	0	depth (≥ 8')	Average	12.3	
Collection channel velocity	0	1.5 - 4 fps	Average	3.1	
Transportation channel velocity	0	1.5 - 4 fps	Average	2.8	
North channel velocity	0	1.5 - 4 fps	Average	2.3	
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	11.5	
Entrance weir W2	0	depth (≥ 8')	Average	11.5	
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	8.5	
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:		
Spill volume	0	40%±1%	Average	40.0	
Spill Pattern	0	per FPP			
Turbine Unit Priority	2	per FPP	T4 OOS (MU7, MU8) 0613 8/17/2015 for disconnect maintenance; RTS 1649 8/17/2015.		
Turbine 1% Efficiency	0	per FPP			

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

Bird observation data collected once daily. Refer to Avian Zone Map. Sea lion observed near south entrance 8/21. No identifiable marks observed.

Operations:

Turbine trashrack drawdown completed 8/15. The difference between forebay and gatewells in criteria.

Fishway calibration completed 8/10, most values within criteria

Current Outages:

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

MU19 out of service 8/3/2015 to 9/17/2015 for overhaul and Turbine Integrity Testing.

T10 out of service 8/10/2015 to 8/20/2015 for Transformer testing.

T10 and MU20 return to service 8/20/15.

T4 out of service (MU7, MU8) 8/17/2015 for disconnect maintenance, returned 8/17/2015.

Maintenance:

Three failed collection channel dewatering pump being repaired.

Two new water sensor units being purchased to replace east exit systems for improved reliability. Installation this winter.

FCQ7 electrical panel for east exit upgrade funding in place and awaiting contracting approval. Installation planned for next outage season.

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

Preparing workload for upcoming winter maintenance period; entrance weir wheel replace, entrance weir guide repair, exit 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 planning by small projects team stopped.

Studies:

North fishladder rehab study for rock wall 90% DDR review. Plans/Specs 2017. Construction 2017/18. Alternatives to be reviewed by FPOM.

Fish count video at north count station recording / testing underway. Results to be presented at FPOM.

East fishladder backup system construction start this winter. No plan changes.

Crane rail replacement on tailrace and intake 2016-2017. Locations and timing of work being coordinated through FPOM.

Transformer replacement planning underway. Plans to eliminate need for TA transformers with fish unit tie through T1 with redundancy.

Research/Contractors:

Columbia River Northern Pikeminnow Management Program dam angling; NPM \geq 230mm - 92, YTD NPM \geq 4,372.

ODFW collecting biological data from harvested pikeminnow.

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

PSMFC Wasco County PUD weekly sampling; finished for season.

Tribal lamprey trapping at count stations completed. Traps removed. Looking at improvements for next year.

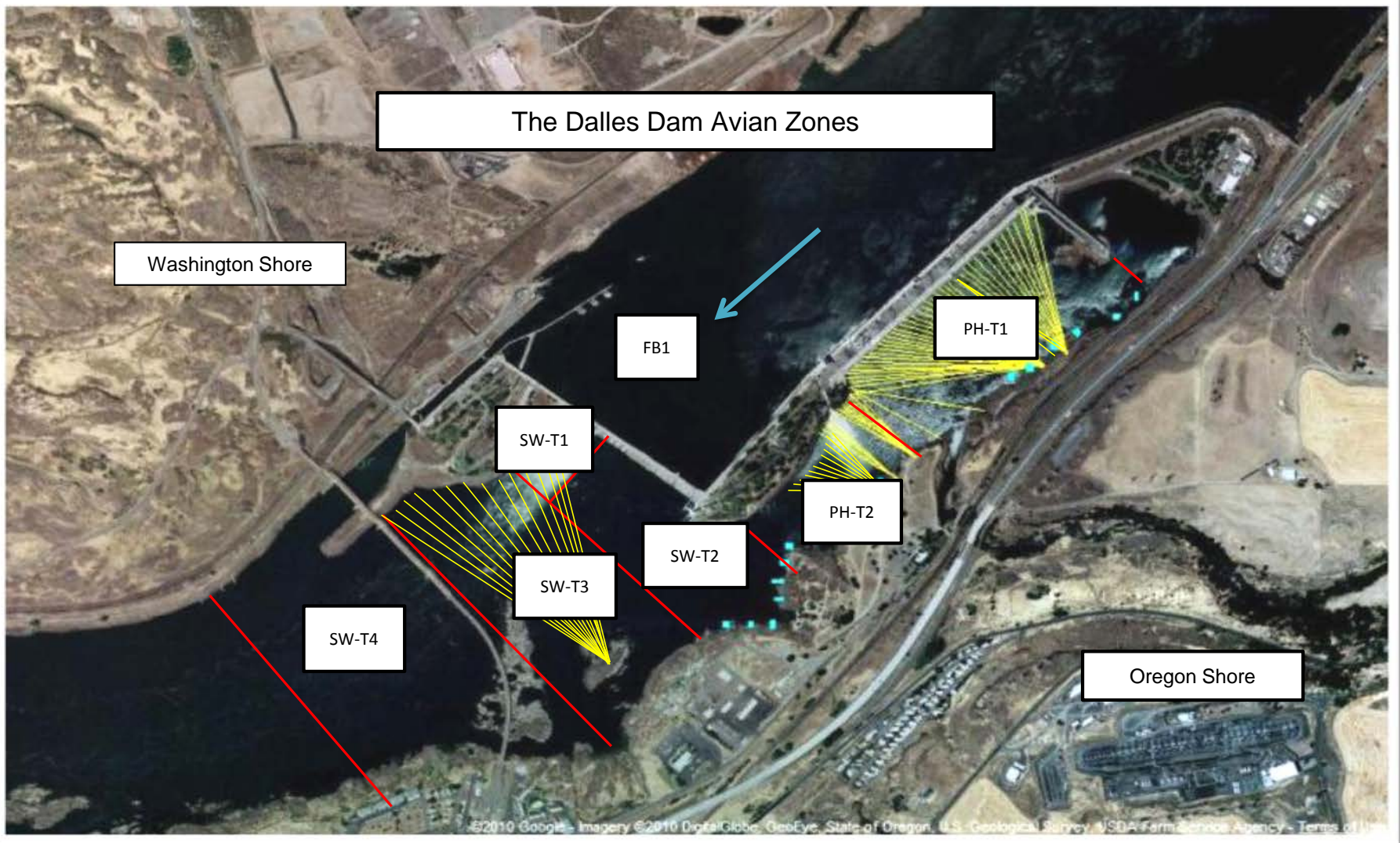
Approved by: Ron Twiner

Operation Project Manager The Dalles Dam

Columbia River DART

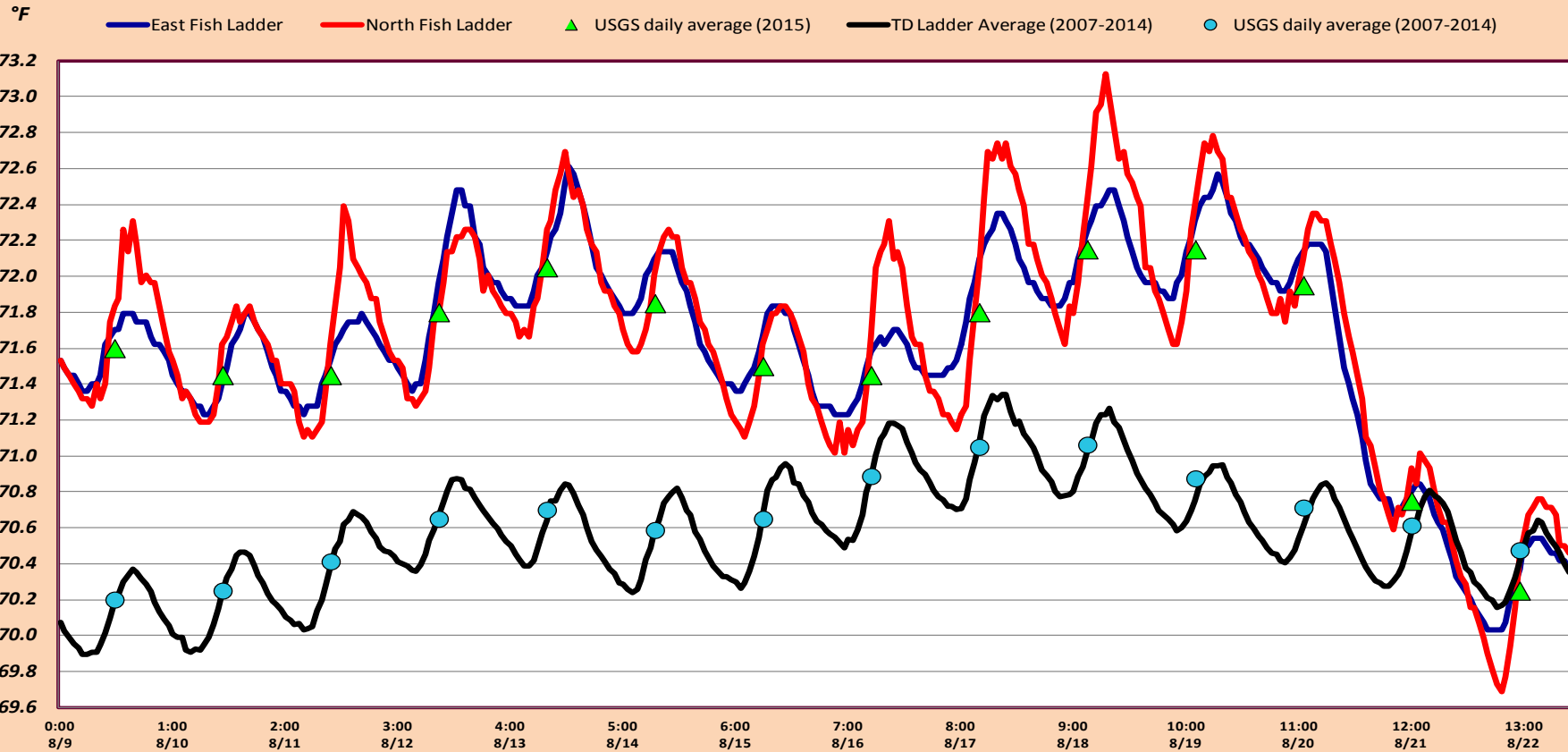
2015 Adult Passage Daily Ladder Counts at The Dalles

Date	Chinook				Jack Chinook				Steelhead				Wild Steelhead				Sockeye				Coho				Jack Coho				Lamprey				Bull Trout				Outflow (kcf)
	Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder						
	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	
16-Aug-15	78	1091	23	317	71	77	29	32	58	1226	42	882	56	456	44	352	50	24	50	24		1		-1		1		0	46	48	54	#		0		0	54
17-Aug-15	79	845	21	227	77	96	23	28	57	1286	43	962	55	470	45	380	50	24	50	24		-1		2		0		0	28	23	72	#		0		0	53
18-Aug-15	68	556	32	263	80	67	20	17	59	927	41	643	61	314	39	204	88	14	13	2		0		0		0		0	55	37	45	#		0		0	48
19-Aug-15	79	674	21	176	88	119	12	16	63	736	37	428	64	242	36	136	33	6	67	12		0		0		0		0	38	34	62	#		0		0	58
20-Aug-15	67	1286	33	628	78	119	22	34	66	595	34	312	66	169	35	89		17		0	50	2	50	2		1		0	56	60	44	#		0		0	47
21-Aug-15	64	1814	36	1030	85	236	15	43	57	570	44	438	57	216	43	162	81	17	19	4	28	5	72	13	50	1	50	1	63	48	37	#		0		0	49
22-Aug-15	79	2658	21	725	76	325	24	104	46	1141	54	1357	47	437	53	491	50	16	50	16		20		0		2		0	35	28	65	#		0		0	52
YTD	Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder						
	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	
	73	8924	27	3366	79	1039	21	274	56	6481	44	5022	56	2304	44	1814	59	118	41	82	63	27	37	16	83	5	17	1	46	278	54	#		0		0	
Date	Chinook				Jack Chinook				Steelhead				Wild Steelhead				Sockeye				Coho				Jack Coho				Lamprey				Bull Trout				Outflow

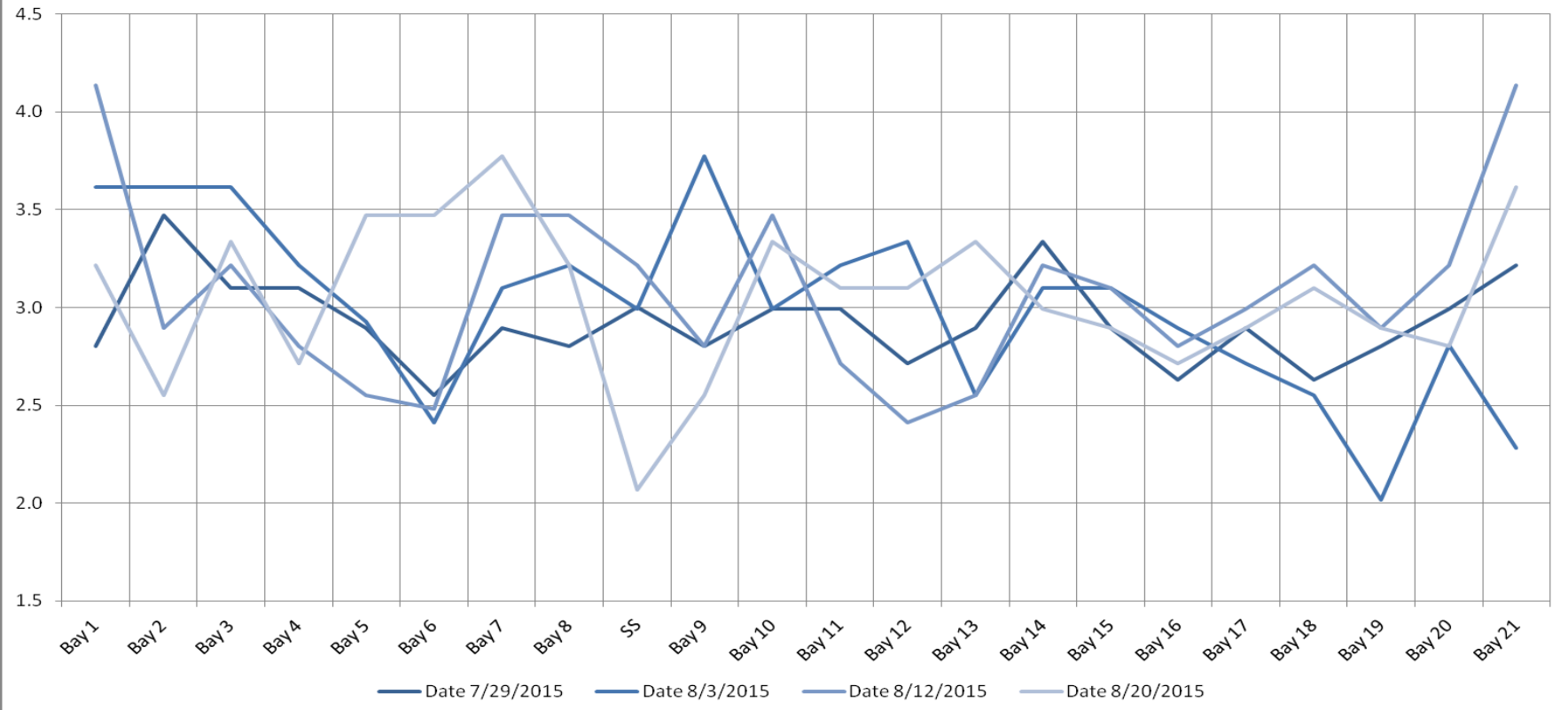


Avian lines in yellow, zones in red, river flow in blue.

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



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



USGS:

<http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201508.lcol.html>

Aug 9 - 22

Temperatures		Secchi:	
71.6	71.5	Sun	5.0
71.5	71.8	Mon	5.0
71.5	72.2	Tue	5.0
71.8	72.2	Wed	6.0
72.1	72.0	Thurs	6.0
71.9	70.8	Fri	5.0
71.5	70.3	Sat	5.6
71.6		AVG	5.4

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

= Out of criteria

Date:	North Ladder			East Ladder												% Spill
	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		
16-Aug-15			1.3	1.8	12.8	12.8		1.5	11.5	11.5	closed	1.5	8.6	8.5	40.0	
	1.4	9.3	1.4	1.8	12.5	12.5	12.5	1.6	11.3	11.3		1.6	8.5	8.4		
	1.4	9.4	1.4	11.9	12.4	12.4	12.4	1.5	11.5	11.5		1.5	8.6	8.6		
17-Aug-15			1.5	1.9	12.1	12.1		1.4	11.6	11.6		1.5	8.6	8.6	39.9	
	1.5	9.2	1.6	1.7	11.9	11.9	11.9	1.5	11.5	11.5		1.5	8.5	8.5		
	1.5	9.3	1.6	1.8	11.8	11.8	11.8	1.4	11.4	11.4		1.5	8.5	8.4		
18-Aug-15			1.6	1.8	11.8	11.8		1.4	11.5	11.5		1.5	8.4	8.5	39.9	
	1.3	9.4	1.5	1.9	12.6	12.5	12.6	1.4	11.6	11.5		1.4	8.6	8.5		
	1.5	9.3	1.6	1.8	11.8	11.8	11.8	1.4	11.5	11.6		1.6	8.4	8.5		
19-Aug-15			1.6	1.8	11.9	11.9		1.4	11.5	11.5		1.5	8.5	8.5	40.0	
	1.4	9.3	1.5	1.9	12.0	12.0	12.0	1.5	11.6	11.5		1.6	8.5	8.5		
	1.4	9.5	1.6	1.9	11.9	11.9	11.9	1.5	11.5	11.6		1.5	8.6	8.5		
20-Aug-15			1.5	1.8	12.4	12.4		1.5	11.5	11.5		1.5	8.5	8.6	N/A	
	1.4	9.4	1.4	1.9	12.5	12.5	12.5	1.5	11.4	11.4		1.5	8.4	8.5		
	1.4	9.3	1.5	1.8	12.4	12.4	12.4	1.4	10.5	10.6		1.5	8.5	8.6		
21-Aug-15			1.5	1.8	12.5	12.5		1.5	11.6	11.9	1.4	8.5	8.5	40.0		
	1.4	9.4	1.4	1.7	12.6	12.6	12.6	1.6	11.5	11.4	1.5	8.4	8.5			
	1.4	9.3	1.4	1.7	12.8	12.8	12.8	1.5	11.5	11.6	1.5	8.4	8.5			
22-Aug-15			1.5	1.7	12.5	12.5		1.6	11.5	11.5	1.5	8.4	8.5	40.0		
	1.5	9.3	1.5	1.7	12.5	12.5	12.5	1.6	11.5	11.5	1.5	8.5	8.4			
	1.4	9.4	1.5	1.7	12.5	12.5	12.5	1.5	11.6	11.5	1.5	8.5	8.4			
AVG:	1.4	9.3	1.5	No criteria	12.3	12.3	12.3	1.5	11.5	11.5	closed	1.5	8.5	8.5	40.0	

Fishways are inspected twice daily plus one SCADA inspection.



Time to retire my good friends. It's been great working with you these past 16 years. Sincerely, Paul Keller