The Dalles Dam Fishway Status Report

Date: 9/15/2013
Inspection Period: 9/8-14/2013

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. Additional daily monitoring done via automation system in fisheries office.

The Dalles Dam	Inspections Out of Criteria	Criteria Limit	Total Number of Inspections: 21 / Comments	Temperature: 72.2 F / Secchi: 5.0 Ft.
NORTH FISHWAY				
Exit differential	0	≤ 0.5'		
Count station differential	0	≤ 0.3'	Window washed on 9/13/13	
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 9.6	
Entrance weir N2		Closed	Bulkhead installed.	
PUD Intake differential	4	≤ 0.5'	Out of criteria at 0.7 - 0.9'. Structural crew has notified to rake the intake.	
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'	Picketed leads are raked everyday due to high debris. Window washed on 9/13.	
Weir crest depth	0	1.0' ± 0.1'		
Junction pool weir JP6	0	depth (≥ 7')	Manually adjusted as needed.	
East entrance differential	0	1.0' - 2.0'	Average 1.5	
Entrance weir E1	0	No criteria	Average 9.4 Manually adjusted.	
Entrance weir E2	0	depth (≥ 8')	Average 13.5	
Entrance weir E3	0	depth (≥ 8')	Average 13.5	
Collection channel velocity	0	1.5 - 4 fps	Average 2.0 See **Velocities** tab for more complete information.	
Transportation channel velocity	0	1.5 - 4 fps	Average 2.2	
North channel velocity	0	1.5 - 4 fps	Average 2.4	
South channel velocity	0	1.5 - 4 fps	Average 2.7	
West entrance differential	0	1.0' - 2.0'	Average 1.4 Daily differentials & weir depths, see **AVGS** tab.	
Entrance weir W1	0	depth (≥ 8')	Average 8.1	
Entrance weir W2	0	depth (≥ 8')	Average 8.1	
Entrance weir W3	0	No criteria	Average closed	
South entrance differential	1	1.0' - 2.0'	Average 1.1 OOC by 0.1' on 9/11 scada inspection	
Entrance weir S1	0	depth (≥ 8')	Average 8.1	
Entrance weir S2	0	depth (≥ 8')	Average 8.1	
JUVENILE PASSAGE				
Sluicegate operation	0	units 1,8,17	MU18 is out of service. The sluicegates have been changed to MU 17.	
Turbine trashrack drawdown	0	<1.5', wkly	Range: 0.4' - 0.6'	
Spill volume	0	40%, 24hr	Spilling 3 kcfs for attraction water for the north fish ladder.	
Spill Pattern	0	per FPP		
Turbine Unit Priority	2	per FPP	9/11/13 and 9/12/13 priority was out of criteria due to maintenance issues .	
Turbine 1% Efficiency	0	per FPP		

OTHER ISSUES:

Birds/Sea lions:

Bird observation data collected twice daily. Bird numbers are low, the majority of birds are cormorants resting on rocks or towers.
See avian zones map and distribution tabs. There were no sea lion sightings this week.

Operations:

Main Unit 15, 16, and T8 limited to 120 MW & +/- 50MVAR - Through ~ 2016.
MU21 OOS 0600 8/5/2013 t0 1700 9/19/2013 for Digital Governor installation.
MU18 OOS 0600 8/26/2013 to 1700 10/3/2013 for Digital Governor Installation.
From 9/14-17/2013, The Dalles Dam is spilling 3kcfs from spill gate 1 to increase attraction water for the north fish ladder.
Note on the fish counts that with most species, the fish are favoring the east ladder by more than 90%.
Gatewell drawdown completed on 9/13. Values ranged from 0.4' - 0.6' and were within criteria.
Calibration completed on 9/9 with minor OOC findings, TDE corrected same day
Fishway grating attachment parts ordered for resecure west entrance grating during winter maintenance dewatering.
West entrance weirs lift beam and weir wheel replacement planned as funding allows. Still operational.

Studies:

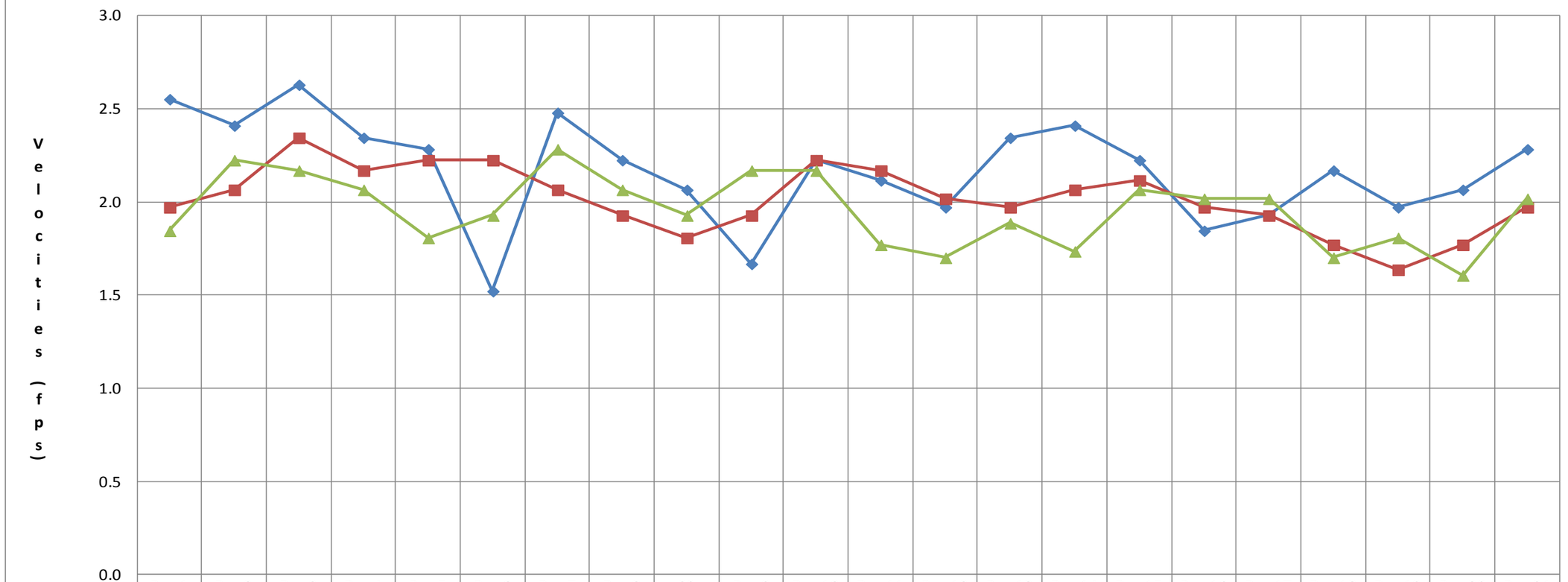
PIT - Temporary Thin Wall PIT tag Antenna continues to work successfully. Minor shad paneling repair planned for winter.
EFL - Current design 10' intake pipe near fish lock. Value Engineering (VE) study completed and some proposals accepted.
PUD - "Freedom" turbine proposal out for review. Pursuing modification of original FERC license. Public meeting and site tour planned 9/11.
Lamprey - Lamprey improvements; PDT developing weir orifice floor plating in lower ladders to improve lamprey passage through high velocity areas. Also investigating feasibility of having a holding tank on project to hold collected lamprey for Tribes.

Research/Contractors:

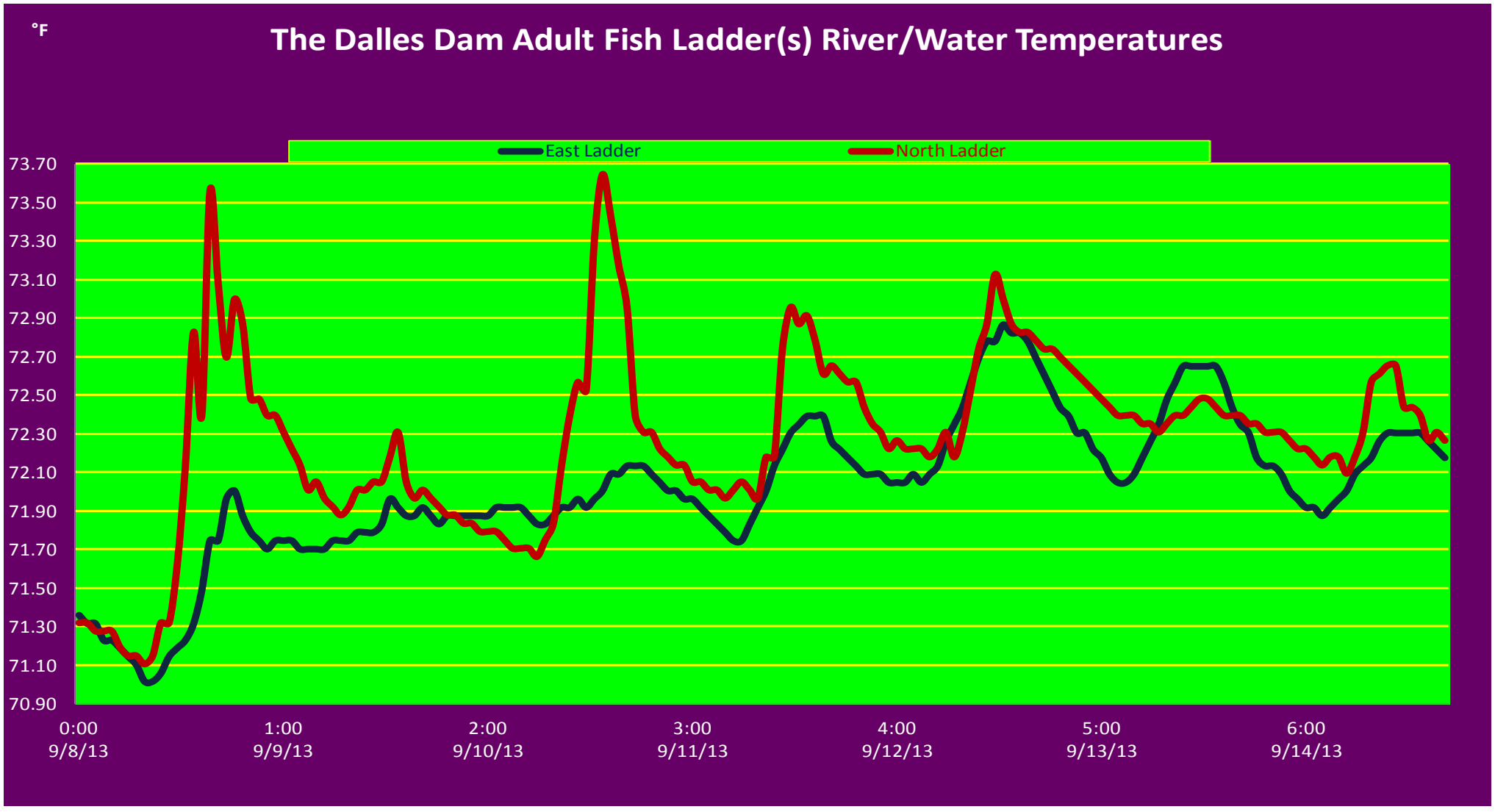
Tribal lamprey trap collection at east count station completed for season. All equipment removed from project. Collected lamprey used to reintroduce into various tributaries to reestablish lamprey populations. Total The Dalles catch were; Yakama Nation - 198, Nez Perce - 54, Umatilla - 97.
WDFW Columbia River Northern Pikeminnow Management Program Dam Angling continues with low catch rates. Most fishing primarily from powerhouse deck. Dam angling effort hours - 12, Total NPM - 26, NPM ≥ 26, Game fish - 1, Non-game fish - 2. Season scheduled to end 9/30 or sooner.
Inland Avian Predation Work Group (IAPWG) conference call to occur 9/16.
Derelict USGS I-beams on pier noses removed by project maintenance. Plans to remove remaining pier nose antennas this winter by dive.
USFWS plans to remove all of their old equipment this winter dewatering and maintenance period from the fish ladders.
The second phase utilizing goats for the removal of vegetation near the north fish ladder to occur 9/30 to 10/4.
The first draft has been completed for the winter fishway dewatering schedule. Workload includes; west entrance grating attachment, junction pool lamprey plate installation (contractor), east exit weir guide/wheel rehab, west entrance weir rehab, north ladder vegetation removal.
One more set of derelict Vertical Barrier Screens (VBS) from 1990's research remains in MU 12 gatewell slot; ROV verified location, TDS notified.
The VBS that have already been removed are currently stored on the north side. Investigating if upriver projects can use as spares.
University of Idaho adult RT new antennas both fish ladders completed and operating. Plans to clean up unused antennas this winter.
Normandeau fish counters continue 16/day fish counts through October. Chinook and steelhead passage steadily increasing. Peak expected around mid September.

Approved by;
Ron D. Twiner
Operation Project Manager
The Dalles Dam

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



	Bay 1	Bay 2	Bay 3	Bay 4	Bay 5	Bay 6	Bay 7	Bay 8	SS	Bay 9	Bay 10	Bay 11	Bay 12	Bay 13	Bay 14	Bay 15	Bay 16	Bay 17	Bay 18	Bay 19	Bay 20	Bay 21
8/29/13	2.6	2.4	2.6	2.3	2.3	1.5	2.5	2.2	2.1	1.7	2.2	2.1	2.0	2.3	2.4	2.2	1.8	1.9	2.2	2.0	2.1	2.3
9/5/13	2.0	2.1	2.3	2.2	2.2	2.2	2.1	1.9	1.8	1.9	2.2	2.2	2.0	2.0	2.1	2.1	2.0	1.9	1.8	1.6	1.8	2.0
9/11/13	1.8	2.2	2.2	2.1	1.8	1.9	2.3	2.1	1.9	2.2	2.2	1.8	1.7	1.9	1.7	2.1	2.0	2.0	1.7	1.8	1.6	2.0


°F
The Dalles Dam Adult Fish Ladder(s) River/Water Temperatures
East Ladder
North Ladder
73.70
73.50
73.30
73.10
72.90
72.70
72.50
72.30
72.10
71.90
71.70
71.50
71.30
71.10
70.90
0:00
9/8/13
1:00
9/9/13
2:00
9/10/13
3:00
9/11/13
4:00
9/12/13
5:00
9/13/13
6:00
9/14/13

DART The Dalles Adult Ladders Daily Usage with Spill Percent and Outflow

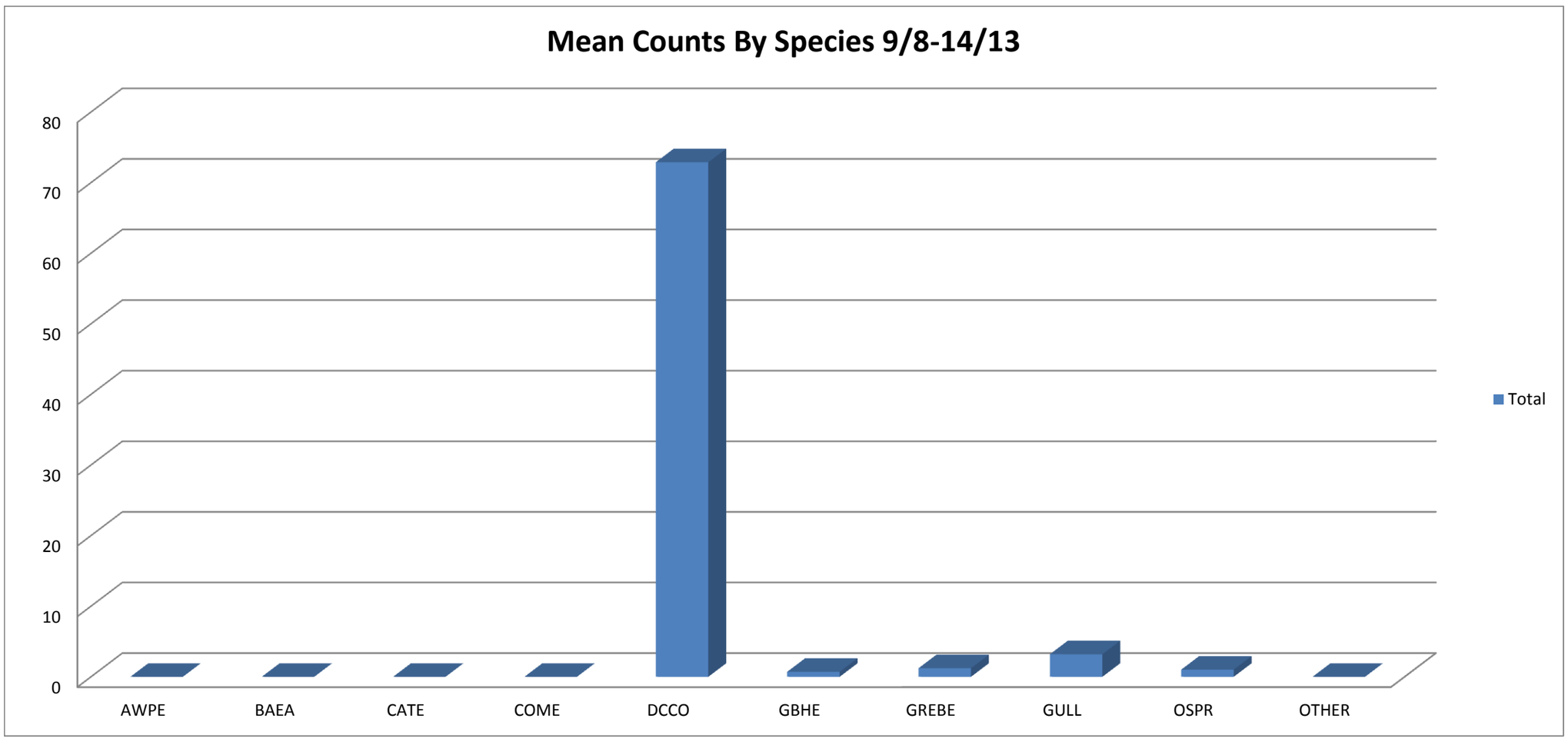
Date	Chinook				Jack Chinook				Steelhead				Steelhead Wild				Sockeye				Coho				Jack Coho				Pink				Lamprey				Spill Pct [Right]	Outflow (kcfs)
	Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder			
	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#		
9/8/2013	91.3	23386	8.7	2242	92	2482	7.7	208	93.2	9424	6.8	685	91.6	2912	8.4	266	100	1	0	0	79.2	293	20.8	77	79	49	21	13	50	1	50	1	85	241	15	44	0	72.2
9/9/2013	89	23338	11	2887	91	2542	8.8	245	92.3	3183	7.7	266	91.6	1022	8.4	94		0		0	85	306	15	54	81.8	36	18.2	8	100	2		0	62	38	38	23	0	79.7
9/10/2013	91.4	24406	8.6	2304	95	3440	5.2	190	93.1	1928	6.9	142	91.2	600	8.8	58		0		0	93.3	671	6.7	48	88.2	60	11.8	8	100	4		0	87	32	14	5	0	113.9
9/11/2013	97.3	24469	2.7	671	97	2630	3.2	86	97.6	1785	2.4	43	97.1	568	2.9	17		0		0	95	454	5	24	83.1	49	16.9	10	100	0		0	69	25	31	11	0	124.5
9/12/2013	97.8	23537	2.2	534	98	2845	1.7	48	95.3	2368	4.7	118	94.8	742	5.2	41		0		0	87.7	371	12.3	52	87.2	34	12.8	5	100	1		0	100	31	0	0	0	106.8
9/13/2013	96.6	17822	3.4	619	95	2069	4.7	103	94.1	1709	5.9	107	93.1	473	6.9	35		0		0	96.3	500	3.7	19	93.7	59	6.3	4	100	1		0	80	20	20	5	0	117.4
9/14/2013	98.2	19685	1.8	352	99	3779	1.1	41	98.4	3985	1.6	66	98.6	1454	1.4	20		0		0	98	642	2	13	95.5	84	4.5	4	90	9	10	1	81	17	19	4	1.3	86.7

Date	Chinook		Jack Chinook		Steelhead		Steelhead Wild		Sockeye		Coho		Jack Coho		Pink		Lamprey		Spill Pct	Outflow
YTD	Left Ladder Pct	Right Ladder Pct	Left Ladder Pct	Right Ladder Pct	Left Ladder Pct	Right Ladder Pct	Left Ladder Pct	Right Ladder Pct	Left Ladder Pct	Right Ladder Pct	Left Ladder Pct	Right Ladder Pct	Left Ladder Pct	Right Ladder Pct	Left Ladder Pct	Right Ladder Pct	Left Ladder Pct	Right Ladder Pct		
	94.2	5.8	95.6	4.4	94.5	5.5	93.6	6.4	100	0	91.9	8.1	87.7	12.3	90	10	81.5	18.5		

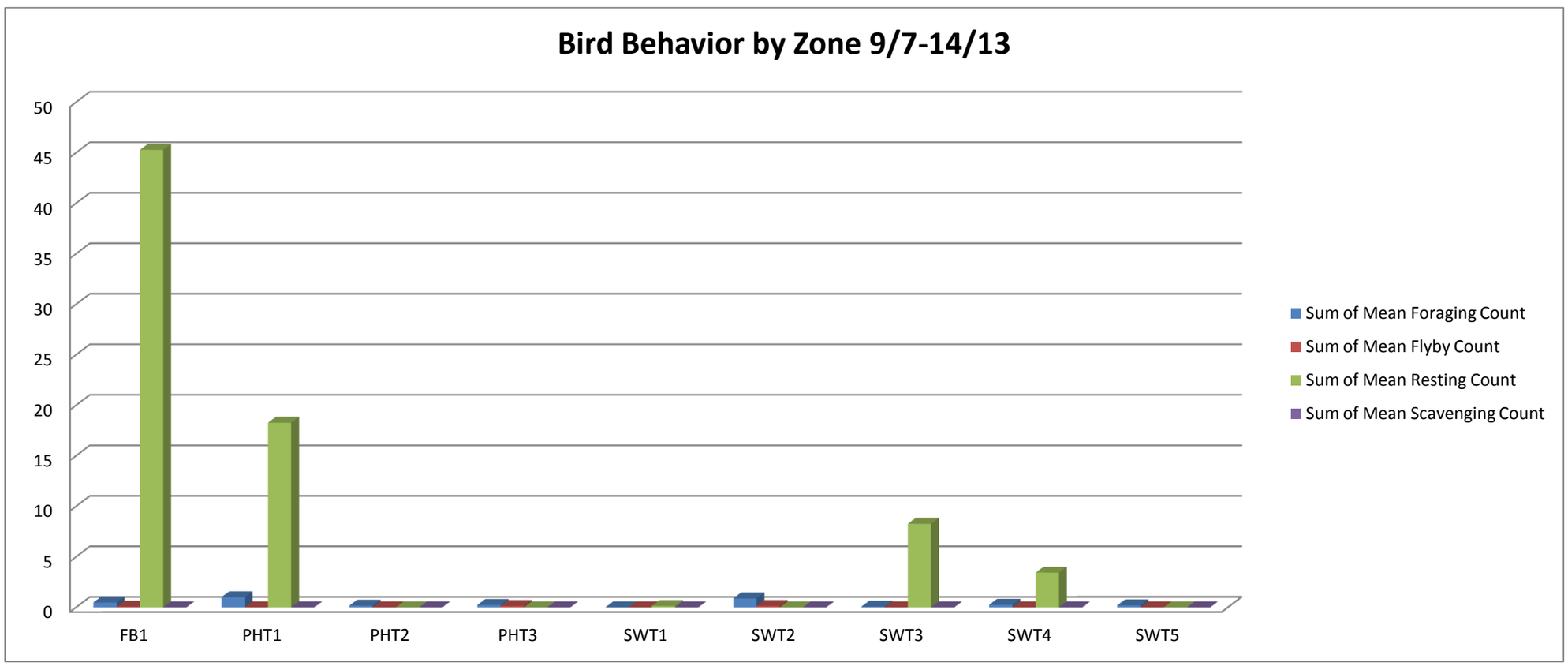
NOTES:

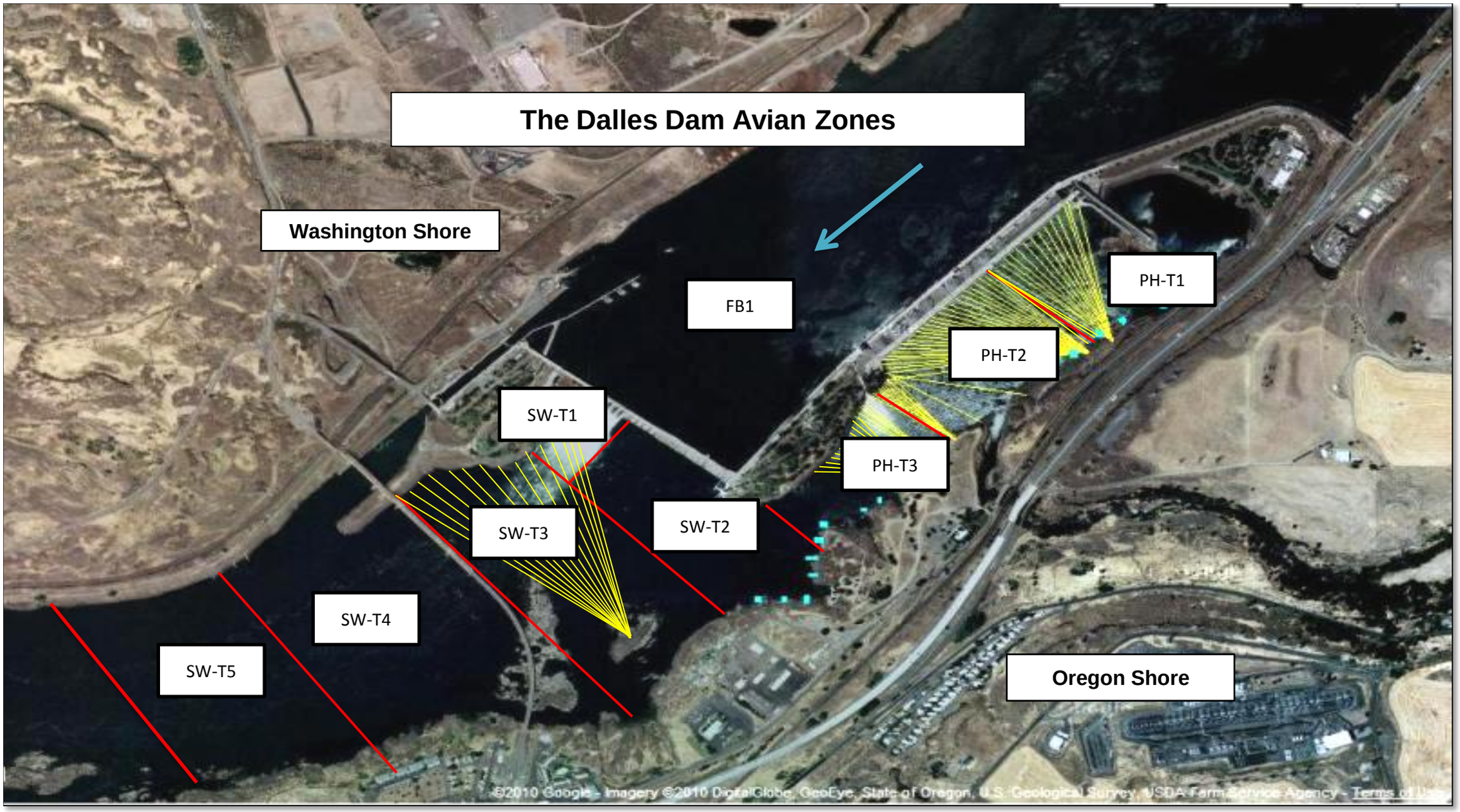
1. The species passage percent is not calculated for either ladder on a day, if either the Right Ladder or Left Ladder species count is: negative or null for the day.

2. Ladder orientations reference the side of the river when facing downstream.



AWPE - American White Pelican; BAEA - Bald Eagle; CATE - Caspian Tern; COME - Common Merganser; DCCO - double crested cormorant; GBHE - Great Blue Heron; GREBE - Grebe; Gull- Gull (all species); OSPR - Osprey




The Dalles Dam Avian Zones
Washington Shore
FB1
PH-T1
PH-T2
PH-T3
SW-T1
SW-T2
SW-T3
SW-T4
SW-T5
Oregon Shore
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	Temp:		Secchi:
	71.4	SUN	5.0
	72	MON	5.0
	72.1	TUES	5.0
	72.2	WED	5.0
	72.5	THUR	5.0
	72.6	FRI	5.0
	72.4	SAT	5.0
AVG:	72.2	AVG:	5.0

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

= out of criteria

	North Fish Ladder		*East Fish Ladder*											
	North Entrance		***East Entrance***					***West Entrance***				***South Entrance***			KCFS
Date:	Differential	N1 Depth	Differential	E1Depth	E2 Depth	E3 Depth	JP 6	Differential	W1Depth	W2 Depth	W3 Depth	Differential	S1 Depth	S2 Depth	% Spill
8-Sep-13	1.3	9.5	1.4	8.1	13.4	13.5	8.1	1.4	8.1	8.1		1.1	8.1	8.0	
8-Sep-13	1.3	9.6	1.6	7.6	13.5	13.4	8.0	1.3	8.1	8.1		1.1	8.2	8.2	
8-Sep-13			1.5	8.9	13.0	13.1	8.2	1.5	8.0	8.0		1.1	8.0	8.1	
9-Sep-13	1.3	9.5	1.6	7.4	13.5	13.5	7.6	1.4	7.5	8.0		1.0	8.1	8.1	
9-Sep-13	1.3	9.6	1.5	7.4	13.5	13.4	8.4	1.3	8.1	8.1		1.1	8.0	8.0	
9-Sep-13			1.6	7.4	13.6	13.5	7.6	1.4	8.0	8.0		1.1	8.0	8.0	
10-Sep-13	1.4	9.5	1.5	8.9	13.6	13.6	8.9	1.4	8.0	8.1		1.1	8.1	8.1	
10-Sep-13	1.4	9.6	1.6	9.0	13.5	13.6	9.6	1.6	8.0	8.0		1.3	8.0	8.0	
10-Sep-13			1.5	7.6	13.5	13.6	8.1	1.4	8.1	8.2		1.0	8.2	8.2	
11-Sep-13	1.3	9.7	1.3	11.0	13.4	13.5	9.2	1.5	8.1	8.0		1.1	8.2	8.2	
11-Sep-13	1.4	9.4	1.3	11.0	13.5	13.5	9.3	1.4	8.1	8.1		1.2	8.0	8.0	
11-Sep-13			1.8	9.1	13.5	13.4	9.1	1.4	8.2	8.3		0.9	8.2	8.2	
12-Sep-13	1.3	9.5	1.3	9.5	13.5	13.5	8.4	1.4	8.0	8.0		1.0	8.3	8.2	
12-Sep-13	1.4	9.5	1.5	9.6	13.4	13.6	9.4	1.5	8.1	8.1		1.1	8.2	8.2	
12-Sep-13			1.3	10.9	13.5	13.4	7.9	1.3	8.1	8.1		1.0	8.1	8.2	
13-Sep-13	1.4	9.6	1.5	9.5	13.6	13.5	9.0	1.5	8.1	8.0		1.2	8.1	8.0	
13-Sep-13	1.4	9.5	1.6	11.2	13.5	13.5	10.4	1.6	8.1	8.1		1.2	8.2	8.1	
13-Sep-13			1.5	9.4	13.4	13.6	8.8	1.5	8.1	8.2		1.1	8.1	8.2	
14-Sep-13	1.2	9.6	1.4	11.2	13.5	13.5	8.4	1.5	8.1	8.0		1.2	8.0	8.1	3.3
14-Sep-13	1.3	9.6	1.6	11.4	13.5	13.5	9.5	1.5	8.1	8.1		1.2	8.1	8.0	
14-Sep-13			1.4	11.4	13.5	13.5	8.4	1.5	8.1	8.0		1.1	8.1	8.2	
AVG:	1.3	9.6	1.5	9.4	13.5	13.5	8.7	1.4	8.1	8.1	closed	1.1	8.1	8.1	

Third fish way inspection for east fish ladder, east, west, and south entrances completed via automation system in fisheries office (SCADA).


VBS Located via ROV in MU 12 gatewell set for removal
e o r a y . c o m
+ 1 6 1 0 - 4 5 8 - 3 0 0 0
Vic