

# The Dalles Dam Fishway Status Report

**Date:** 9/8/2013  
**Inspection Period:** 9/1-9/7/2013

## 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	Criteria	Total Number of Inspections:	21	Temperature:	71.8 F
	Out of Criteria	Limit	Comments		Secchi:	5.4 Ft.
<b>NORTH FISHWAY</b>						
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	1.2		
Entrance weir N1	0	depth (≥ 8')	Average	9.8		
Entrance weir N2		Closed	Bulkhead installed.			
PUD Intake differential	0	≤ 0.5'				
<b>EAST FISHWAY</b>						
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'				
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	12.1	Manually adjusted.	
Entrance weir E2	0	depth (≥ 8')	Average	12.9		
Entrance weir E3	0	depth (≥ 8')	Average	12.9		
Collection channel velocity	0	1.5 - 4 fps	Average	2.0	See <b>Velocities</b> 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		
Entrance weir W1	0	depth (≥ 8')	Average	8.2		
Entrance weir W2	0	depth (≥ 8')	Average	8.2		
Entrance weir W3	0	No criteria	Average	closed		
South entrance differential	0	1.0' - 2.0'	Average	1.1	Daily differentials & weir depths, see <b>AVGS</b> tab.	
Entrance weir S1	0	depth (≥ 8')	Average	8.1		
Entrance weir S2	0	depth (≥ 8')	Average	8.1		
<b>JUVENILE PASSAGE</b>						
Sluiceway operation	0	units 1,8,17	MU18 is out of service. The sluiceways have been changed to MU 17.			
Turbine trashrack drawdown	0	<1.5', wkly	Range:	0.1' - 0.6'		
Spill volume	0	40%, 24hr				
Spill Pattern	0	per FPP				
Turbine Unit Priority	0	per FPP				
Turbine 1% Efficiency	0	per FPP				

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

Bird observation data collected twice daily. Bird numbers are low, the majority of piscivorous birds are gulls upstream and downstream of the bridge and cormorants resting on forebay electrical 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 to 1700 9/19/2013 for Digital Governor installation.

MU18 OOS 0600 8/26/2013 to 1700 10/3/2013 for Digital Governor Installation.

The Dalles north Ladder, east ladder, and I/T sluiceway are operational in accordance with the Fish Passage Plan except sluiceways open at MU 17 instead of MU 18.

Gatewell drawdown completed on 9/2. Values ranged from 0.1' - 0.6' and were within criteria.

Calibration completed 9/9; entrance weir W2, east entrance tailwater, and south entrance channel OOC by 0.1', 0.4', 0.1'. TDE notified.

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.

Spill for juvenile salmon off 8/31 per Fish Passage Plan.

The spillway was 9/4 and 9/5 so that engineers could inspect spillway gates. TDS provided crane support for this operation.

**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 - 12.25, Total NPM - 15, NPM  $\geq$  15. Season scheduled to end 9/30 or sooner.

Cordie and Keller to attend Wasco Co PUD clearance training 9/4.

Cordie attended salmon watch steering committee meeting 9/3. Goal is to help develop curriculum for numerous middle school field trips in October to stream locations in the Columbia Gorge.

Planning underway for 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.

Derelict VBSs from 1990s research removed from unit gatewell. One more set remains in unit 12. VBSs stored on north side. Investigating if upriver projects can use as spares.

ODFW and Pacific States Marine Fisheries Commission completed collecting gut samples of pikeminnow from dam anglers the end of August.

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.

Derelict USGS I-beams on pier noses removed by project maintenance. Plans to remove remaining pier nose antennas this winter by dive.

Removed derelict Vertical Barrier Screen (VBS) panels from gatewell slot on unit 5 leftover from early 90s screen bypass research.

Checking with other projects if usable. One more set of 11 panels to be removed as time allows.

USFWS plans to remove all of their old equipment this winter dewatering and maintenance period from the fish ladders.

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

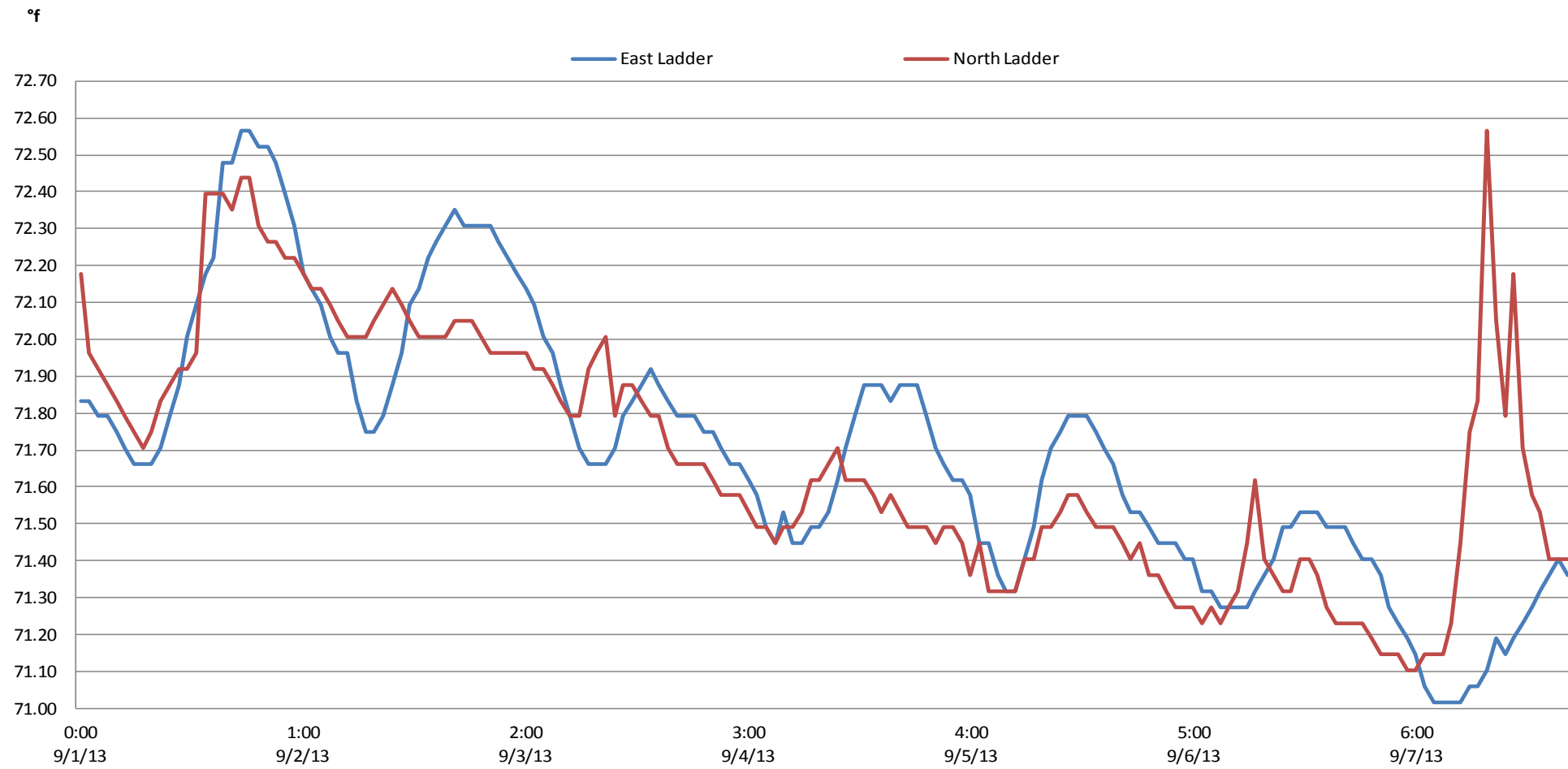
DART The Dalles Adult Ladders Daily Usage with Spill Percent and Outflow

Date	Chinook				Jack Chinook				Steelhead				Steelhead Wild				Sockeye				Coho				Jack Coho				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							
	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#						
9/1/2013	93	12341	7.1	948	90	1493	10.2	169	90	1454	10.1	163	89.7	488	10	56	0	0	78.4	127	21.6	35	90.5	19	9.5	2	24.1	7	75.9	22	0	97.4		
9/2/2013	94	8701	5.7	522	97	2161	2.7	61	94	2115	5.8	130	93.7	715	6.3	48	0	0	97.5	194	2.5	5	68.8	11	31.2	5	92.9	26	7.1	2	0	87.1		
9/3/2013	96	8028	4.2	355	94	1348	6.4	92	90	1607	9.7	173	90	552	10	61	100	1	0	84.6	66	15.4	12	100	12	0	0	73.9	17	26.1	6	0	92.6	
9/4/2013	97	7814	2.7	217	96	1890	4.3	84	95	1437	5	76	94.9	479	5.1	26	0	0	96.2	154	3.8	6	100	50	0	0	61.5	16	38.5	10	0	93.3		
9/5/2013	94	5728	5.7	346	97	2033	2.8	58	96	2272	4.3	103	95.8	736	4.2	32	100	1	0	96	167	4	7	76	19	24	6	80	24	20	6	0	91.4	
9/6/2013	94	9389	5.7	565	95	1507	5.3	85	90	2351	10.5	275	89	762	11	94	0	0	93.3	112	6.7	8	95.8	46	4.2	2	44.4	8	55.6	10	0	90.1		
9/7/2013	94	12773	6.2	839	96	1866	4.1	80	97	3783	3.1	123	96.9	1460	3.1	46	100	1	0	94.1	160	5.9	10	65	13	35	7	63.3	19	36.7	11	0	91.8	
<b>Weekly Sum</b>		64774		3792		12298		629		15019		1043		5192		363		3			980		83		170		22		117		67			
Date	Chinook		Jack Chinook		Steelhead		Steelhead Wild		Sockeye		Coho		Jack Coho		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	On Seal																	
	94.5	5.5	95.1	4.9	93.5	6.5	93.5	6.5	100	0	92.2	7.8	88.5	11.5	63.6	36.4																		

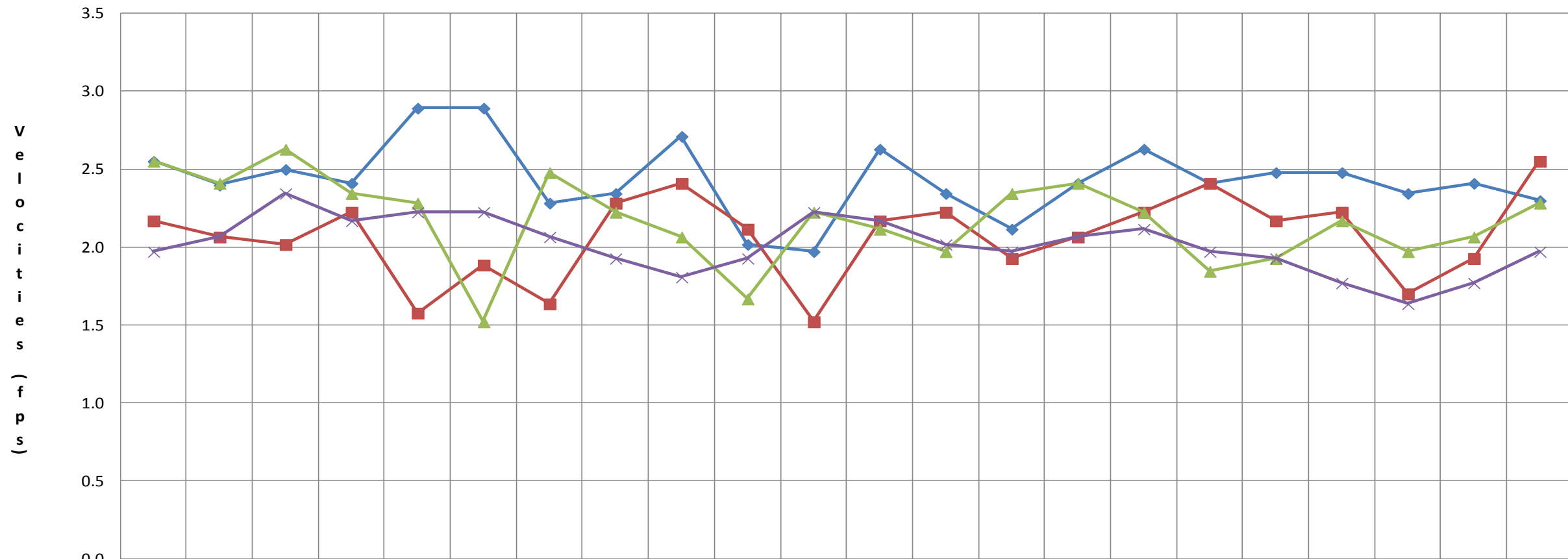
NOTES:

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.
3. Data Provided Courtesy of U.S. Army Corps of Engineers

# The Dalles Dam Adult Fish Ladder River/Water Temperatures

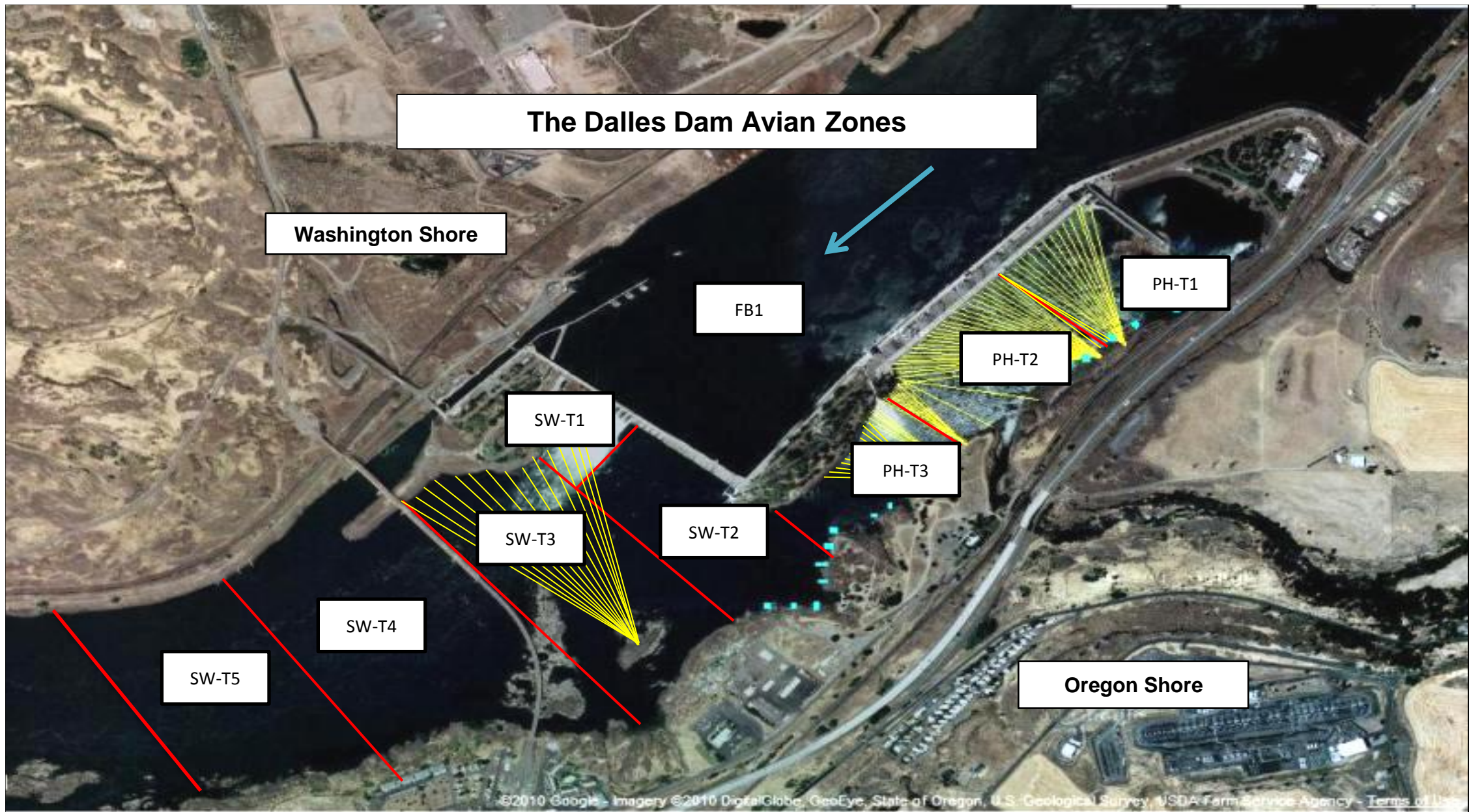


The Dalles Dam Collection Channel Velocities (In criteria 1.5 - 4.0 fps)

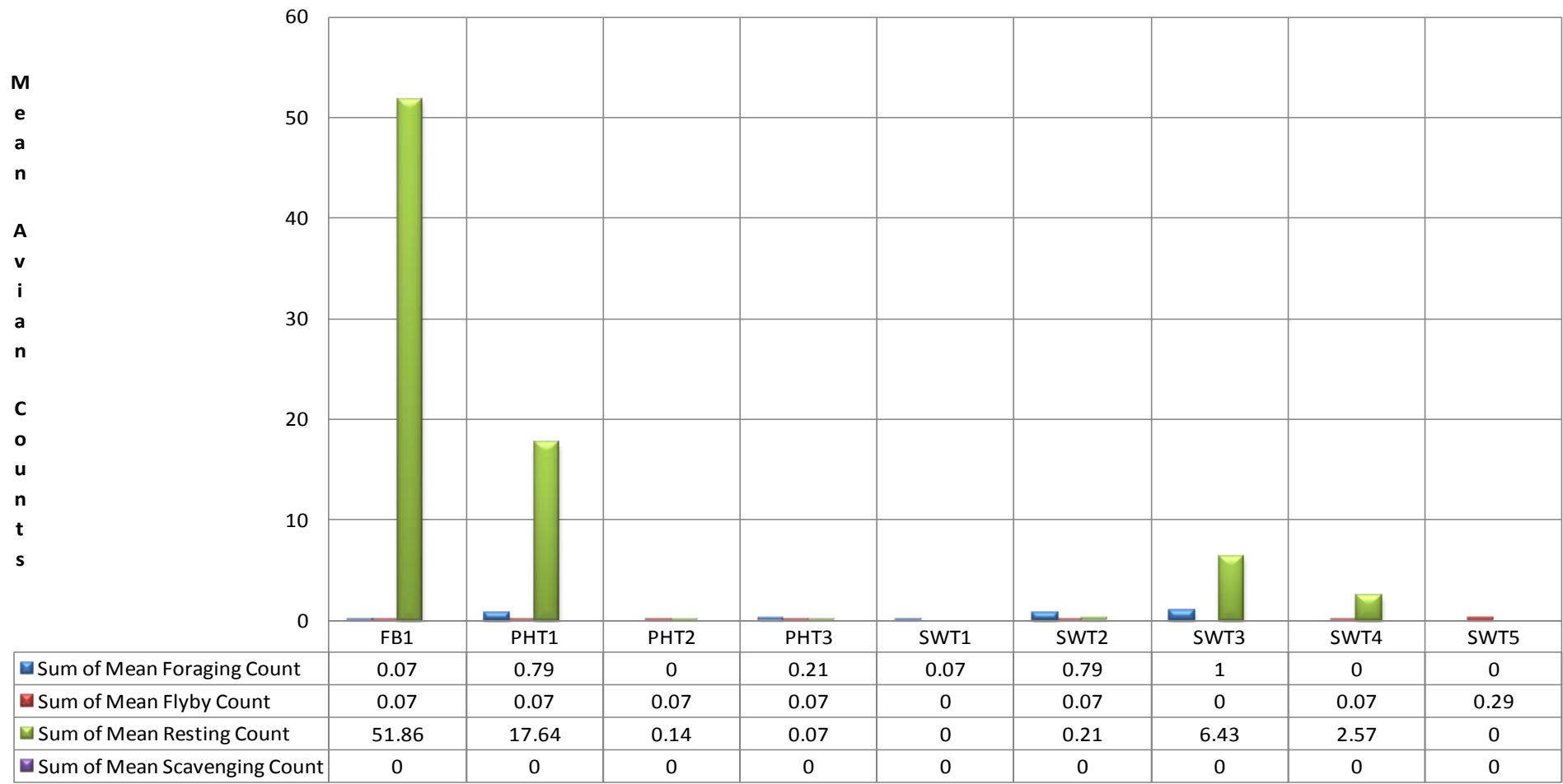


	Bay 1	Bay 2	Bay 3	Bay 4	Bay 5	Bay 6	Bay 7	Bay 8	SS	Bay 9	Bay 10	Bay 11	Bay 12	Bay 13	Bay 14	Bay 15	Bay 16	Bay 17	Bay 18	Bay 19	Bay 20	Bay 21
8/13/13	2.6	2.4	2.5	2.4	2.9	2.9	2.3	2.3	2.7	2.0	2.0	2.6	2.3	2.1	2.4	2.6	2.4	2.5	2.5	2.3	2.4	2.3
8/22/13	2.2	2.1	2.0	2.2	1.6	1.9	1.6	2.3	2.4	2.1	1.5	2.2	2.2	1.9	2.1	2.2	2.4	2.2	2.2	1.7	1.9	2.6
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



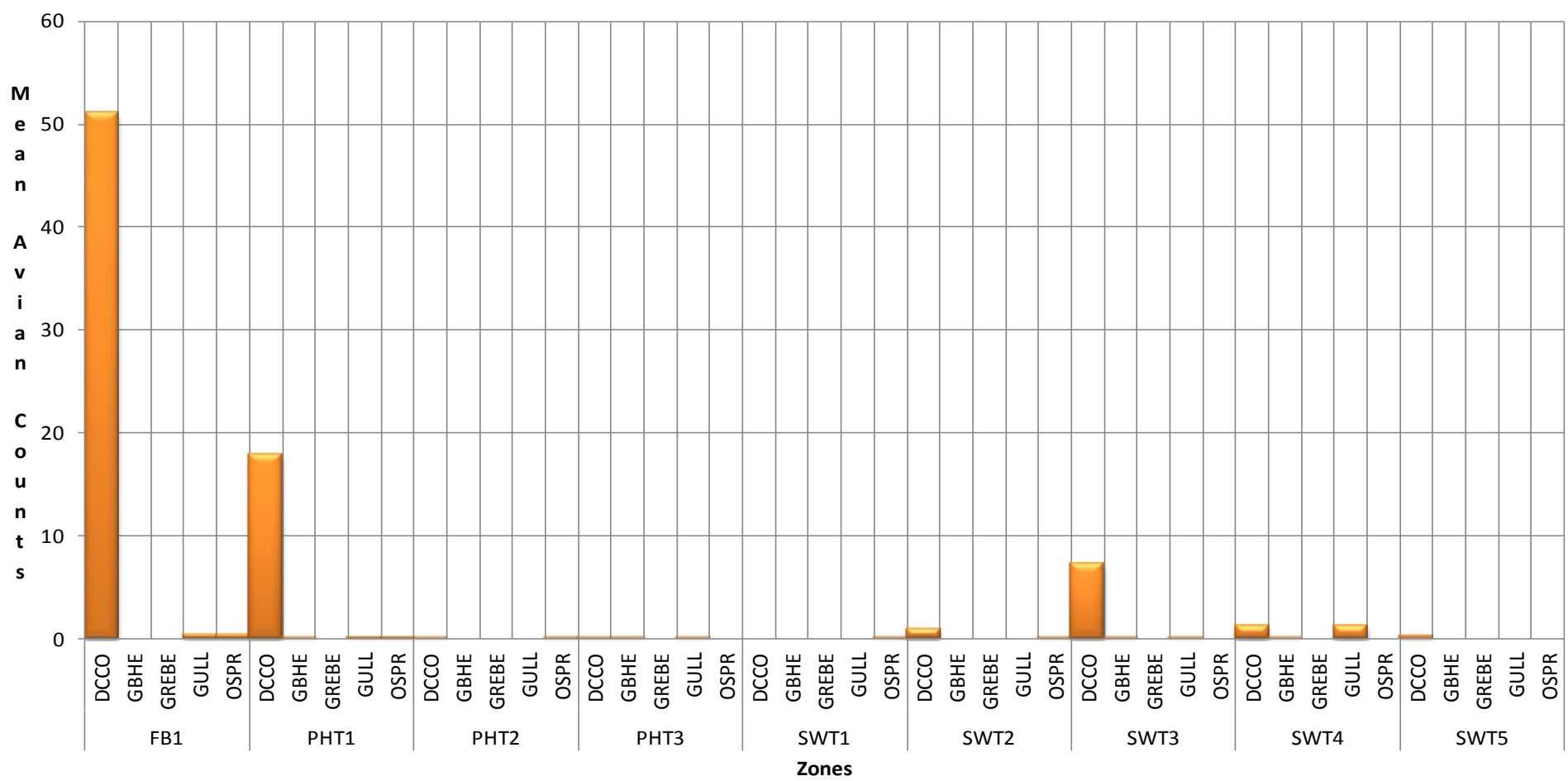


### Mean Avian Counts by Behavior



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

### Mean Avian Counts by Species



Temp:			Secchi:	
72.1	SUN		5.0	
72.2	MON		5.5	
72.0	TUES		5.5	
71.7	WED		5.5	
71.6	THUR		5.5	
71.4	FRI		5.5	
71.3	SAT		5.5	
AVG: 71.8	AVG:		5.4	

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

= out of criteria

North Fish Ladder			East Fish Ladder												KCFS
North Entrance			East Entrance					West Entrance				South Entrance			% Spill
Date:	Differential	N1 Depth	Differential	E1Depth	E2 Depth	E3 Depth	JP 6	Differential	W1Depth	W2 Depth	W3 Depth	Differential	S1 Depth	S2 Depth	
1-Sep-13	1.2	9.7	1.4	12.7	13.2	13.1	7.1	1.3	8.4	8.4		1.1	8.0	8.1	O N S E A L - N O  S P I L L
1-Sep-13	1.3	9.8	1.7	12.9	12.8	12.8	8.4	1.3	8.4	8.3		1.0	8.2	8.2	
1-Sep-13			1.5	12.9	13.2	13.2	7.3	1.3	8.6	8.6		1.1	8.1	8.2	
2-Sep-13	1.1	10.9	1.3	13.2	13.4	13.4	7.9	1.4	8.2	8.2		1.2	8.0	8.0	
2-Sep-13	1.2	9.7	1.3	11.8	13.1	13.1	8.0	1.4	8.3	8.3		1.2	8.0	8.0	
2-Sep-13			1.3	13.2	13.5	13.4	8.1	1.4	8.3	8.3		1.2	8.0	8.0	
3-Sep-13	1.2	9.7	1.5	12.0	13.0	13.0	7.5	1.4	8.2	8.2		1.2	8.1	8.1	
3-Sep-13	1.2	9.9	1.6	12.0	12.4	12.4	8.2	1.4	8.1	8.2		1.2	8.1	8.1	
3-Sep-13			1.2	11.7	12.9	12.9	7.4	1.2	8.4	8.4		1.1	8.1	8.1	
4-Sep-13	1.1	9.8	1.3	11.9	12.4	12.5	7.3	1.4	8.0	8.0		1.0	8.2	8.2	
4-Sep-13	1.3	9.7	1.7	13.0	13.5	13.6	8.4	1.5	8.1	8.2		1.2	8.2	8.2	
4-Sep-13			1.4	11.9	12.4	12.5	7.3	1.4	8.0	8.2		1.2	8.0	8.0	
5-Sep-13	1.2	9.5	1.5	12.4	12.5	12.5	8.1	1.4	8.1	8.2		1.1	8.2	8.2	
5-Sep-13	1.3	9.7	1.7	12.5	12.6	12.6	8.6	1.6	8.1	8.1		1.2	8.1	8.1	
5-Sep-13			1.4	12.5	12.5	12.6	7.5	1.3	8.2	8.1		1.1	8.1	8.1	
6-Sep-13	1.3	9.5	1.5	12.9	12.9	13.0	8.6	1.5	8.2	8.2		1.3	8.1	8.0	
6-Sep-13	1.3	9.6	1.7	12.9	13.1	12.9	8.8	1.6	8.1	8.1		1.1	8.3	8.2	
6-Sep-13			1.6	12.6	12.6	12.7	8.7	1.6	8.1	8.1		1.2	8.1	8.1	
7-Sep-13	1.2	9.7	1.5	10.0	13.1	13.0	7.7	1.4	8.2	8.2		1.1	8.1	8.1	
7-Sep-13	1.3	9.6	1.6	9.0	13.1	13.0	8.4	1.4	8.2	8.1		1.0	8.1	8.0	
7-Sep-13			1.4	10.0	13.1	13.0	7.7	1.5	8.0	8.0		1.1	8.0	8.0	
<b>AVG:</b>	1.2	9.8	1.5	12.1	12.9	12.9	8.0	1.4	8.2	8.2	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).															





Derelict USGS I-beams on pier noses removed by project maintenance.