

FISHWAY STATUS REPORT

Date: 6/29/2013
 Inspection Period: 6/23 to 6/29/2013

THE DALLES DAM



**US Army Corps
 of Engineers**
 Portland District

The Dalles Project-Fisheries
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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:	62.9	F
	Out of Criteria	Limit	Comments		Secchi:	4.9	Ft.
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	9.9			
Entrance weir N2		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'	Picketed leads raked twice 6/29, am and pm.				
Weir crest depth	0	1.0' ± 0.1'	Depth over weir changed from 1.0' to 1.3' due to shad passage > 5000/day May 18.				
Junction pool weir JP6	0	depth (≥ 7')	Manually adjusted as needed.				
East entrance differential	0	1.0' - 2.0'	Average	1.6	Daily differentials & weir depths, see AVGS tab.		
Entrance weir E1	0	No criteria	Average	0.4	Manually adjusted.		
Entrance weir E2	0	depth (≥ 8')	Average	13.1			
Entrance weir E3	0	depth (≥ 8')	Average	13.1			
Collection channel velocity	0	1.5 - 4 fps	Average	2.5	See Velocities tab for more complete information.		
Transportation channel velocity	0	1.5 - 4 fps	Average	2.8			
North channel velocity	0	1.5 - 4 fps	Average	2.2			
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	9.2			
Entrance weir W2	0	depth (≥ 8')	Average	9.2			
Entrance weir W3	0	No criteria	Average	closed			
South entrance differential	0	1.0' - 2.0'	Average	1.4	Daily differentials & weir depths, see AVGS tab.		
Entrance weir S1	0	depth (≥ 8')	Average	9.4	Manually adjusted.		
Entrance weir S2	0	depth (≥ 8')	Average	9.4			
JUVENILE PASSAGE							
Sluiceway operation	0	units 1,8,18	Gates 2-1, 2-2, 2-3, 8-2, 18,2, and 18.3 open. MU1 OOS for digital governor repair.				
Turbine trashrack drawdown	0	<1.5', wkly	Range	0.2'-0.6'			
Spill volume	3	40%, 24hr	Out of criteria at 38.6, 37.8, 32.8. Fish passage cap 107kcsf.				
Spill Pattern	0	per FPP					
Turbine Unit Priority	5	per FPP	Main Units 15, 16, 17, forced out of service. Cannot maintain block sequence.				
Turbine 1% Efficiency	0	per FPP					

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

Bird observation data collected twice daily. The majority of the foraging piscivorous birds are gulls, upstream and downstream of the bridge, See avian zones map and distribution tabs. There were no sea lion sightings this week.

Operations:

Current Outages:

Main Unit 15, 16, and T8 forced out of service due to transformer oil issues. Return to service ~ 8/8.

Main Unit 21 out of service 4/29 to 6/27 for five year overhaul, as built, gen heat, heat exchanger, and cavitation. Returned to service 1644 hrs. 6/27.

Main Unit 17 out of service 6/3 to 7/11 for digital governor installation and annual maintenance. MU1 OOS 6/24 to 8/1 for digital governor installation.

Powerhouse line #6 tripped 1014 hrs. 6/26. Main Unit 17, 18, 19, 20, 21 and 22 were forced out of service. Returned at 1024 hr.

Fish Unit 1 offline 6/26 1025-1044hr and Fish Unit 2 offline 6/26 1027-1055 hr. for DC bus transfer. Was planned to be a 5 min transfer. No obvious affect to Chinook and Steelhead passage per count station data. Possible affect to sockeye, refer to FU outage data tab.

Calibration completed 6/26. All entrance weirs, channel/tailwater and exit staff gauges in criteria within +/- 0.3'.

Gatewell drawdown completed on 6/24. All values were within the 1.5' criteria and ranged from 0.2' to 0.6'.

Maintenance:

Main Unit 19 scroll case dewatered 6/27. Four sturgeon salvaged and released to tailwater; draft tube dewatered and three sturgeon and one channel catfish released to tailwater, one adult lamprey released to forebay.

East count station window cleaning brush out of service 6/24; repaired and returned to service 6/25.

North intake trashrack and PUD intake rake dismantled for hydraulic line repairs. On hold due to budget constraints. Raking done with mobile crane.

Entrance weir W2 wheel replacement on hold due to budget constraints. Still operable,

East exit backup power supply on hold due to budget constraints.

Fishway grating attachment parts for next winter on hold due to budget constraints. Plan to purchase with FY 14 funds.

Entrance weirs lift beam repairs on hold due to budget constraints. Still operable

Due to a possible electrical problem, the DVR at east count station did not start as scheduled at 9:00 pm on 6/17/13. This resulted in the loss of 8 hrs of fish passage data.

Studies:

PIT - Temporary Thin Wall PIT tag Antenna continues to work successfully. Plans to replace all aluminum paneling over north count station to correct noticeable minor interference. Wall enclosure constructed by Natural Resources around north PIT computer room as time permits.

Fish ladder PIT antennas continue high detection efficiency (99.7%).

EFL - Current design is 10' intake pipe near fish lock. 60% DDR in review. Value Engineering study complete.

PUD - Freedom turbine planning continues. PUD/COE memorandum of understanding for present operation edited and awaiting approvals.

Lamprey - MU 19 cooling water strainer checked; two decomposed juvenile lamprey morts found 6/27. Bagged and frozen for future confirmation.

Lamprey Improvements PDT developing weir orifice floor plating in lower ladders to improve lamprey passage through high velocity areas.

Research/Contractors:

CRITFC tribes to trap adult lamprey from east count station picket leads started 6/24; total collected - 5. Collection allocation 281 per tribe.

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

WDFW Columbia River Northern Pikeminnow Management Program Dam Angling 6/7 thru 6/23: effort hrs - 46.25, total NPM - 240, NPM \geq 230 mm 238, sturgeon - 1, game fish - 7, non-game fish - 6. No electro fishing occurred.

University of Idaho adult RT new antennas both fish ladders completed and operating. Conduit and two new electrical outlets installation complete.

Fish counting continues with Normandeau staff. Refer to fish count web site for latest results. Digital night fish counts 6/15 to 9/30.

Plans to finish USGS derelict gear removal from powerhouse peir noses this winter.

Funding now available for the removal of "I - beams" on the powerhouse forebay pier-noses. Structural currently trying to fit into their work schedule.

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

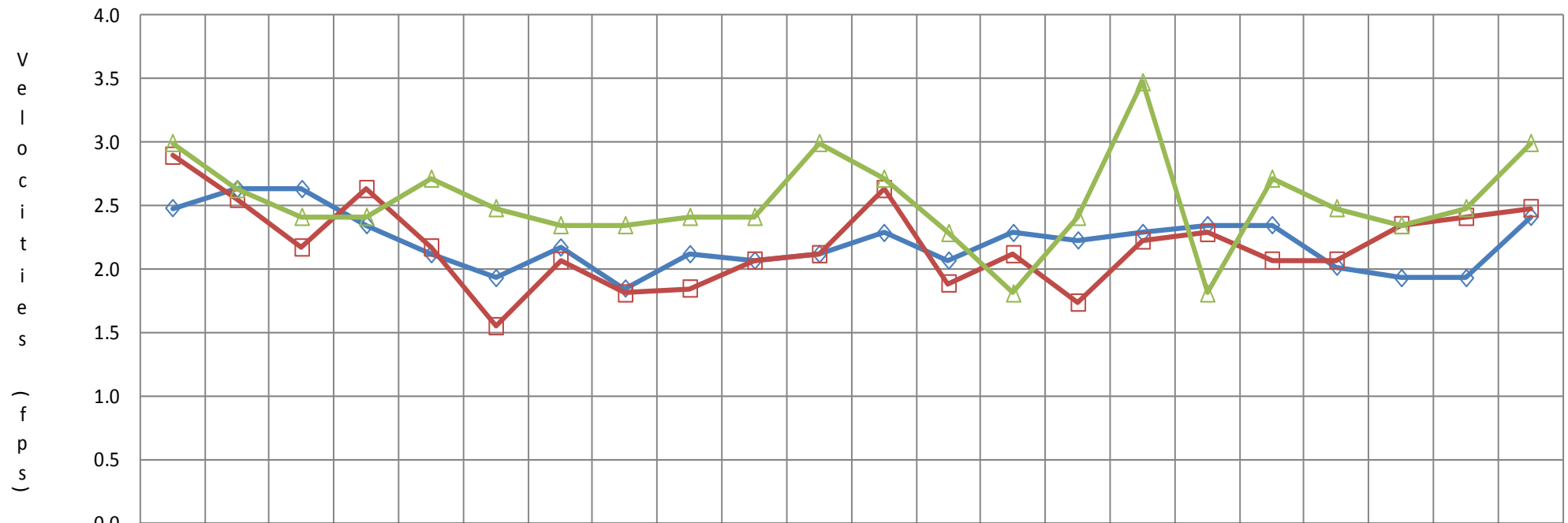
DART The Dalles Adult Ladders Daily Usage with Spill Percent and Outflow

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	#	Pct	#				
6/23/2013	73	1711	28	649	84	416	16	77	94	94	6	6	86	24	14	4	92	5120	8.2	457	0	0	0	0	0	0	43	19	57	25	40	242.8		
6/24/2013	71	1705	29	707	74	556	26	192	89	100	12	13	89	40	11	5	89	5530	11	673	0	0	0	0	0	0	30	11	70	26	40	235.3		
6/25/2013	79	1255	22	343	93	509	6.8	37	93	71	6.6	5	85	22	15	4	93	4002	7.4	322	0	0	0	0	0	0	70	19	30	8	40	249.7		
6/26/2013	78	1016	22	284	89	317	11	40	98	90	2.2	2	96	23	4.2	1	94	5065	6.3	338	0	0	0	0	0	0	74	28	26	10	39.7	250.8		
6/27/2013	85	1475	15	260	97	426	3	13	88	79	12	11	78	25	22	7	93	5633	7.5	460	0	0	0	0	0	0	15	2	85	11	39.3	250.7		
6/28/2013	92	1898	8.4	173	92	317	7.6	26	97	146	3.3	5	98	50	2	1	97	7958	3.5	288	0	0	0	0	0	0	65	22	35	12	39.6	247.6		
6/29/2013	87	1286	13	193	99	466	1.5	7	98	153	1.9	3	96	52	3.7	2	97	5980	3.4	208	0	0	0	0	0	0	78	18	22	5	36.9	282.8		
Weekly Totals		10346		2609		3007		392		733		45		236		24		39288		2746	0	0	0	0	0	0		119		97				
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	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				
	79.9	20.1	88.5	11.5	94.2	5.8	90.8	9.2	93.5	6.5	0	0	0	0	55.1	44.9																		

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 Collection Channel Velocities (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
6/11/13	2.5	2.6	2.6	2.3	2.1	1.9	2.2	1.8	2.1	2.1	2.1	2.3	2.1	2.3	2.2	2.3	2.3	2.3	2.0	1.9	1.9	2.4
6/19/13	2.9	2.6	2.2	2.6	2.2	1.6	2.1	1.8	1.8	2.1	2.1	2.6	1.9	2.1	1.7	2.2	2.3	2.1	2.1	2.3	2.4	2.5
6/28/13	3.0	2.6	2.4	2.4	2.7	2.5	2.3	2.3	2.4	2.4	3.0	2.7	2.3	1.8	2.4	3.5	1.8	2.7	2.5	2.3	2.5	3.0

The Dalles Dam Avian Zone Map

Washington Shore

FB1

PH-T1

PH-T2

SW-T1

PH-T3

SW-T2

SW-T3

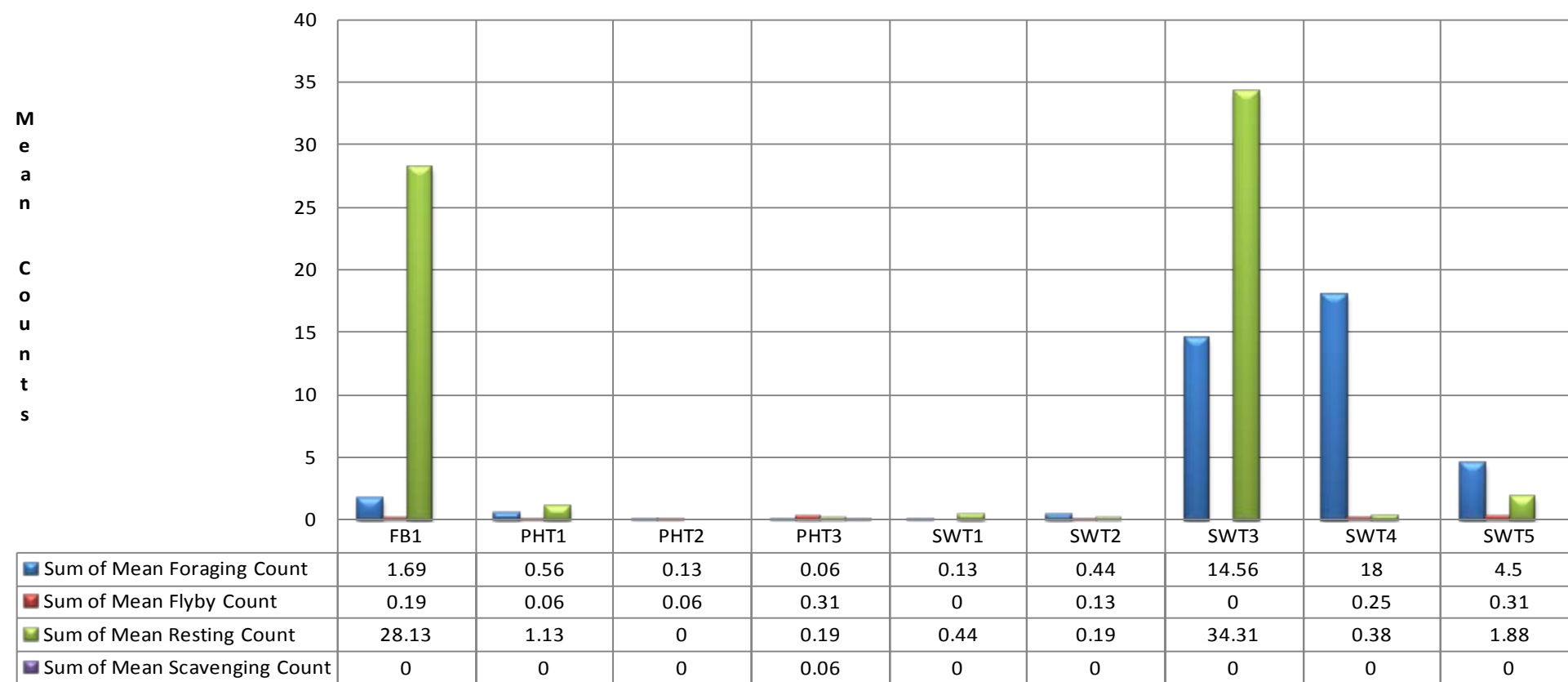
SW-T4

Oregon Shore

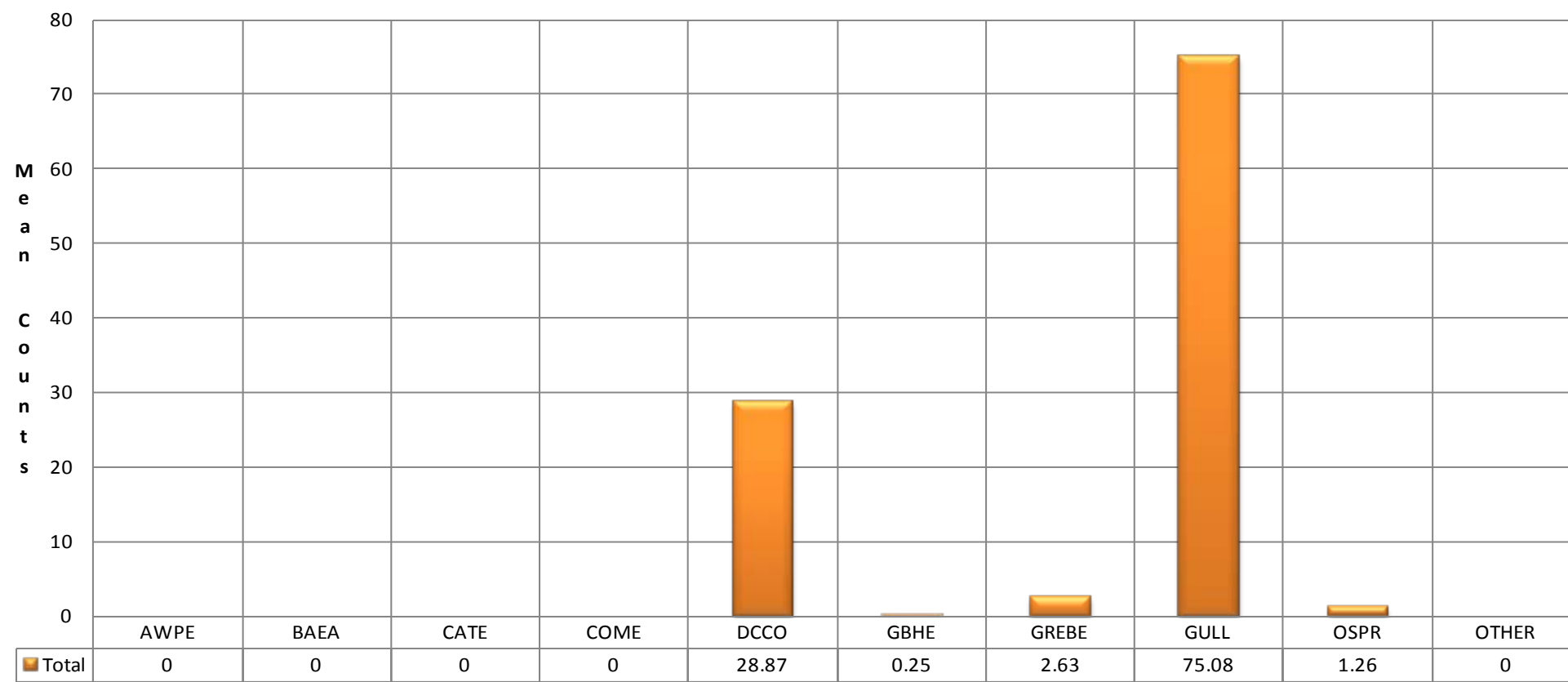
SW-T5



Mean Avian Counts by Behavior



Mean Avian Counts by Species



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

Temp:			Secchi:	
	63.1	SUN		4.0
	62.8	MON		5.0
	62.6	TUES		5.0
	62.4	WED		5.0
	62.8	THUR		5.0
	63.2	FRI		5.0
	63.6	SAT		5.0
AVG:	62.9	AVG:		4.9

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

North Fish Ladder			East Fish Ladder												KCFS
North Entrance		East Entrance						West Entrance				South Entrance			
Date:	Differential	N1 Depth	Differential	E1Depth	E2 Depth	E3 Depth	JP 6	Differential	W1Depth	W2 Depth	W3 Depth	Differential	S1 Depth	S2 Depth	% Spill
6/23/13	1.4	9.8	1.6	-0.4	13.0	12.9	12.2	1.5	9.4	9.4		1.5	9.3	9.4	39.9
6/23/13	1.4	9.9	1.5	-0.5	13.1	13.2	12.5	1.6	9.4	9.4		1.5	9.4	9.3	40.1
6/23/13			1.6	-0.5	12.7	12.8		1.5	9.3	9.3		1.6	9.3	9.2	
6/24/13	1.4	9.8	1.5	-0.6	12.4	12.5	11.1	1.5	8.4	8.5		1.6	8.9	9.0	39.2
6/24/13	1.4	9.9	1.6	-0.5	13.5	13.4	13.4	1.6	9.4	9.4		1.6	9.4	9.4	40.5
6/24/13			1.4	-0.5	13.1	13.1		1.2	9.2	9.2		1.4	9.4	9.4	
6/25/13	1.3	10.1	1.4	0.6	14.0	14.0	13.0	1.5	9.0	9.0		1.4	9.5	9.6	40.1
6/25/13	1.4	9.9	1.5	0.6	14.0	14.0	13.0	1.6	9.0	9.0		1.5	9.4	9.4	39.8
6/25/13			1.5	0.0	12.9	13.1		1.5	9.0	9.0		1.5	9.0	9.0	
6/26/13	1.3	9.8	1.5	0.5	13.5	13.6	12.9	1.6	9.1	9.0		1.6	9.0	9.0	39.4
6/26/13	1.4	9.8	1.6	0.4	13.5	13.5	13.3	1.5	9.6	9.6		1.5	9.5	9.6	40.2
6/26/13			1.6	0.6	11.6	11.7		1.5	8.6	8.5		1.5	9.1	9.0	
6/27/13	1.4	9.9	1.4	0.6	12.6	12.6	11.2	1.6	8.4	8.3		1.5	9.3	9.4	39.0
6/27/13	1.3	9.8	1.7	1.1	13.6	13.6	14.1	1.5	10.6	10.6		1.5	9.5	9.8	38.6
6/27/13			1.5	0.4	12.5	12.5		1.4	9.1	8.7		1.4	9.5	9.4	
6/28/13	1.4	10.0	1.7	1.0	13.0	13.0	11.7	1.6	8.5	8.6		1.5	9.6	9.6	39.7
6/28/13	1.4	9.9	1.7	0.9	13.5	13.4	12.6	1.6	9.5	9.5		1.5	9.5	9.5	40.2
6/28/13			1.6	1.0	12.4	12.4		1.4	9.0	8.9		1.5	9.5	9.5	
6/29/13	1.3	9.9	1.7	1.1	13.5	13.6	13.4	1.7	9.4	9.5		1.6	9.4	9.4	37.8
6/29/13	1.4	9.9	1.7	0.9	13.5	13.3	13.7	1.7	9.6	9.5		1.4	9.7	9.7	32.8
6/29/13			1.5	1.2	13.7	13.7		1.5	9.6	9.5		1.4	9.5	9.6	
AVG:	1.4	9.9	1.6	0.4	13.1	13.1	12.7	1.5	9.2	9.2	closed	1.5	9.4	9.4	39.1

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



U of I electrical conduit installed upper east ladder for OSHA compliance
Leading to half duplex antenna in background.

Fish count data 6/27 for affect from fish unit outage.

Time	Sockeye	
500	44	
600	36	
700	172	
800	356	
900	390	
1000	339	Time of fish unit outage ~1030
1100	379	
1200	211	Possible affect from outage
1300	362	
1400	335	
1500	413	Expected affect time from Uof I
1600	479	1997 RT data
1700	411	
1800	236	
1900	304	
2000	243	

Sockeye entry and ladder passage time ~5.2 hrs according to University of Idaho 1997 sockeye radiotelemetry data.

Chinook and Steelhead hourly counts showed no affect.

Sockeye showed slight drop just prior to the expected time.