

# The Dalles Dam Fishway Status Report

Date: 10/21/2013  
 Inspection Period: 10/20-26/2013

## THE DALLES DAM



**US Army Corps  
 of Engineers**  
 Portland District

The Dalles Project-Fisheries  
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 The Dalles, OR 97058-9998  
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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: 20	Temperature: 58.5 F
			Comments	Secchi: in ' 5.6
<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 1.4	
Entrance weir N1	0	depth (≥ 8')	Average 8.8	
Entrance weir N2		Closed	Bulkhead installed.	
PUD Intake differential	1	≤ 0.5'	Out of criteria at 0.6'. Raked on 10/22/13.	
<b>EAST FISHWAY</b>				
Exit differential	0	≤ 0.5'		
Removable weirs 154-157	1	Per forebay	Auto adjusts 1' increments.	Out of criteria with forebay at 158.3'
Weir 158-159 differential	0	1.0' ± 0.1'		
Count station differential	0	≤ 0.3'	Picketed leads raked several times per week..	
Weir crest depth	0	1.0' ± 0.1'		
Junction pool weir JP6	3	depth (≥ 7')	Out of criteria due to low tailwater and was pulled out of the water on 10/21/13.	
East entrance differential	0	1.0' - 2.0'	Average 1.5	
Entrance weir E1	0	No criteria	Average 11.4	Manually adjusted.
Entrance weir E2	0	depth (≥ 8')	Average 11.4	
Entrance weir E3	0	depth (≥ 8')	Average 11.5	
Collection channel velocity	0	1.5 - 4 fps	Average 2.3	See <b>Velocities</b> tab for more complete information.
Transportation channel velocity	0	1.5 - 4 fps	Average 2.4	
North channel velocity	0	1.5 - 4 fps	Average 3.0	
South channel velocity	0	1.5 - 4 fps	Average 3.4	
West entrance differential	0	1.0' - 2.0'	Average 1.3	Daily differentials & weir depths, see <b>AVGS</b> tab.
Entrance weir W1	1	depth (≥ 8')	Average 8.1	Out of criteria at 7.9'.
Entrance weir W2	1	depth (≥ 8')	Average 8.1	Out of criteria at 7.9'.
Entrance weir W3	0	No criteria	Average closed	
South entrance differential	3	1.0' - 2.0'	Average 1.1	OOC at 0.9' (3), manually adjusted; Low tailwater.
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 1,8,18		
Turbine trashrack drawdown	0	<1.5', wkly	Range: 0.0' - 0.4'	
Spill volume	0	40%, 24hr	On seal.	
Spill Pattern	0	per FPP	On seal.	
Turbine Unit Priority	0	per FPP		
Turbine 1% Efficiency	0	per FPP		

**OTHER ISSUES:**

**Birds/Sea lions:**

Bird observation data collected twice daily. Gull and cormorant numbers increasing on rocks upstream of bridge. See avian zones map and distribution tabs. No sea lion sightings this week.

**Operations:**

On 10/25/13, Fish unit 2 was forced out of service for about half hour due to faulty wire. Differential on the south entrance and the depth of JP 6 has been found out of criteria due to the low tailwater on four occasions during nighttime hours for a total of 15 hours and 20 minutes, This is a result of tailwater below 73' Gatewell drawdown completed 10/25. Values ranged from 0 - 0.4' (within criteria). Calibration completed 10/25 w/ a few items ooc, TDE notified

**Current Outages:**

Main Unit 15 out of service 9/17 to 10/31 for five year overhaul.  
Station Service 01 out of service 10/15 to 11/29 for digital governor installation.  
Transformer 5 out of service 10/21 to 10/31 for bushing replacement.  
Main Unit 10 out of service 10/21 to 10/24 for annual.

**Maintenance:**

Fishway PLC automation inaccuracy problem for east fishway entrance weir E2 corrected.  
Fishway winter maintenance dewatering schedule; East fishway Dec 4 to mid Jan. North fishway Jan 15 through end of Feb.  
Main jobs to be addressed; west entrance grating attachment upgrade, east exit weir upgrades, East exit water leak over electrical panel repair, west entrance wheel replacement, north ladder brush removal and fish lock back flushing operation.  
North and south entrance bulkhead sills to be cleaned via ROV or diver Nov 12.

**Studies:**

**PIT** - Temporary Thin Wall PIT tag Antenna continues to work successfully. Slight modification to north upstream antenna positioning planned.  
**EFL** - Project resumed after Government shutdown. Plan to run 10' pipe through dam directly to AWS conduit under east fishladder.  
**PUD** - "Freedom" turbine proposal out for review. Modification of original FERC license underway. PUD consultant meeting Nov 7 at NOAA office.  
**Lamprey** - A pre-construction meeting completed for lamprey plating modifications in east ladder. Work to begin Dec 9.

**Research/Contractors:**

Tribal lamprey trapping completed.  
WDFW Northern Pike minnow dam Angling completed.  
Plans underway for dive removal of remaining pier nose antennas this winter.  
USFWS camera lamprey monitoring at both count stations completed. Equipment removal this winter.  
Normandeau fish counters performing video counting through 9/30 and visual counting to 10/31.  
Last set of 3 derelict Vertical Barrier Screens (VBS) from 90's research remains in MU 12 gateway slot. To be removed as time/funding allows.  
University of Idaho adult RT new antennas both fish ladders completed and operating. Plans to clean up unused antennas this winter.

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

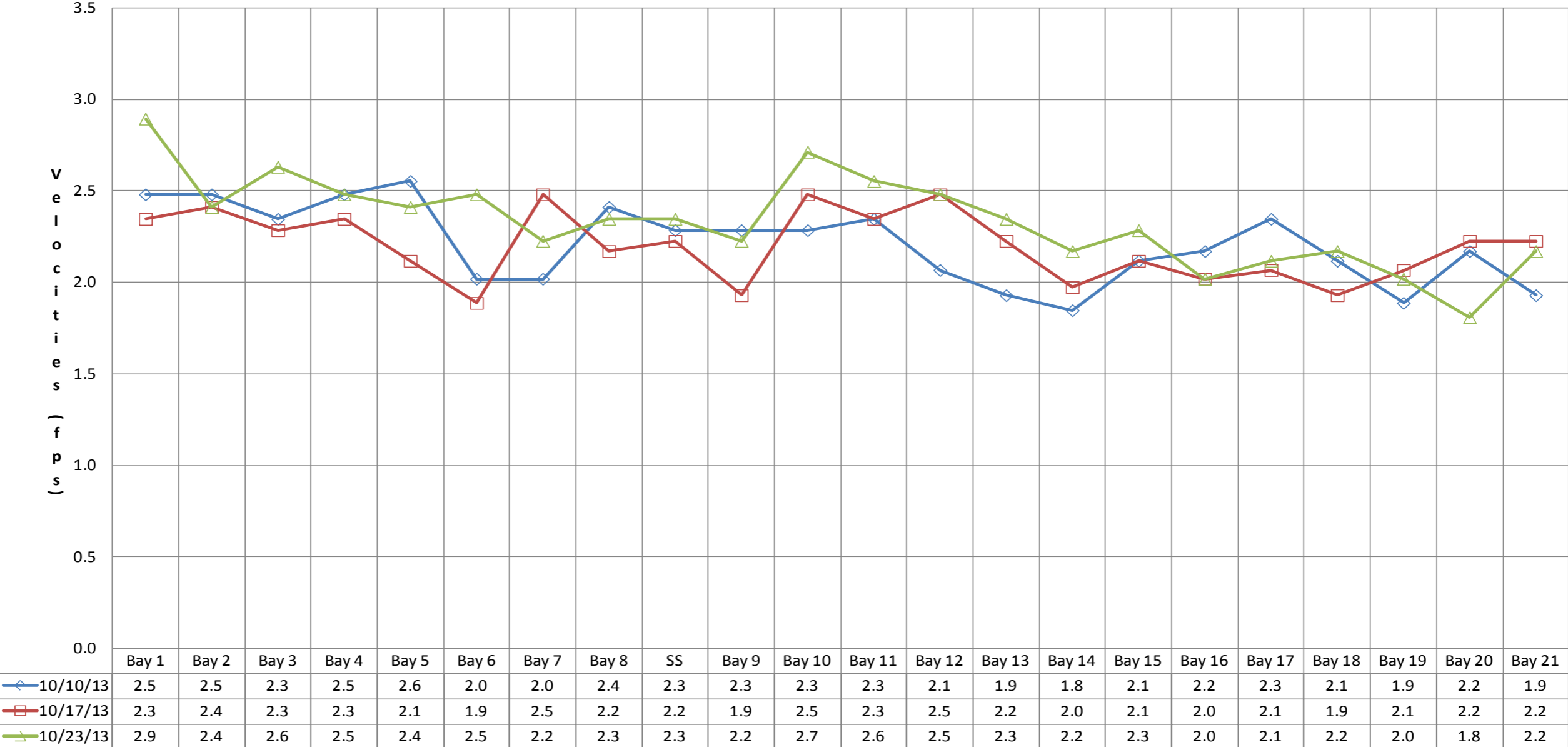
DART The Dalles Adult Ladders Daily Usage with Spill Percent and Outflow

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	#						
10/20/2013	95.7	1571	4.3	70	92.6	174	7.4	14	87	167	13	25	91.7	66	8.3	6	0	0	93.3	56	6.7	4	87.5	7	12.5	1	0	0	0	0	99.2			
10/21/2013	96.6	1046	3.4	37	97.1	134	2.9	4	90.5	124	9.5	13	96.2	50	3.8	2	0	0	81	34	19	8	100	2	0	0	0	0	0	0	114.9			
10/22/2013	94.6	769	5.4	44	93	172	7	13	91.1	144	8.9	14	92.9	52	7.1	4	0	0	97.7	86	2.3	2	75	6	25	2	0	0	0	0	106.8			
10/23/2013	91.1	733	8.9	72	86.2	100	13.8	16	91.3	136	8.7	13	88.9	48	11.1	6	0	0	92.5	98	7.5	8	100	7	0	0	0	0	0	0	114.1			
10/24/2013	84.5	552	15.5	101	87.5	98	12.5	14	89.5	111	10.5	13	85.4	41	14.6	7	0	0	85.4	41	14.6	7	0	6	-1	0	0	100	1	0	99.4			
10/25/2013	90.8	515	9.2	52	90.6	58	9.4	6	89.2	116	10.8	14	96.9	31	3.1	1	0	0	90.2	37	9.8	4	66.7	4	33.3	2	0	0	0	0	96.2			
10/26/2013	93.5	617	6.5	43	92.6	100	7.4	8	89.6	86	10.4	10	93.8	30	6.2	2	0	0	77.3	17	22.7	5	83.3	5	16.7	1	0	0	0	0	93.2			
<b>Week Total</b>		<b>5803</b>		<b>419</b>		<b>836</b>		<b>75</b>		<b>884</b>		<b>102</b>		<b>318</b>		<b>28</b>	<b>0</b>	<b>0</b>		<b>369</b>		<b>38</b>		<b>37</b>		<b>5</b>		<b>0</b>	<b>1</b>					
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																		
	93.3	6.7	91.8	8.2	89.7	10.3	91.9	8.1	0	0	90.7	9.3	88.1	11.9	0	100																		

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 (In criteria 1.5 - 4.0 fps)



# The Dalles Dam Avian Zones

Washington Shore

FB1

PH-T1

PH-T2

SW-T1

PH-T3

SW-T3

SW-T2

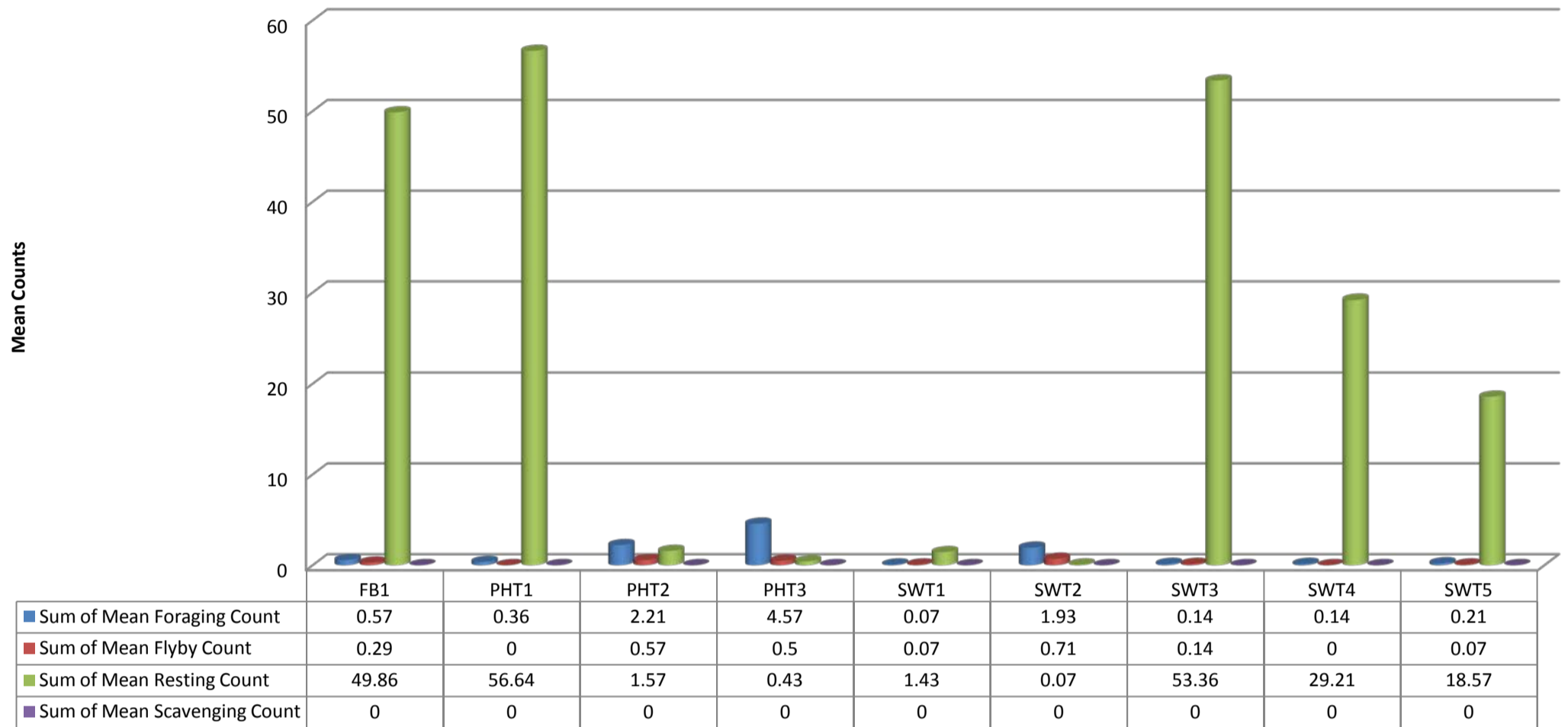
SW-T4

SW-T5

Oregon Shore

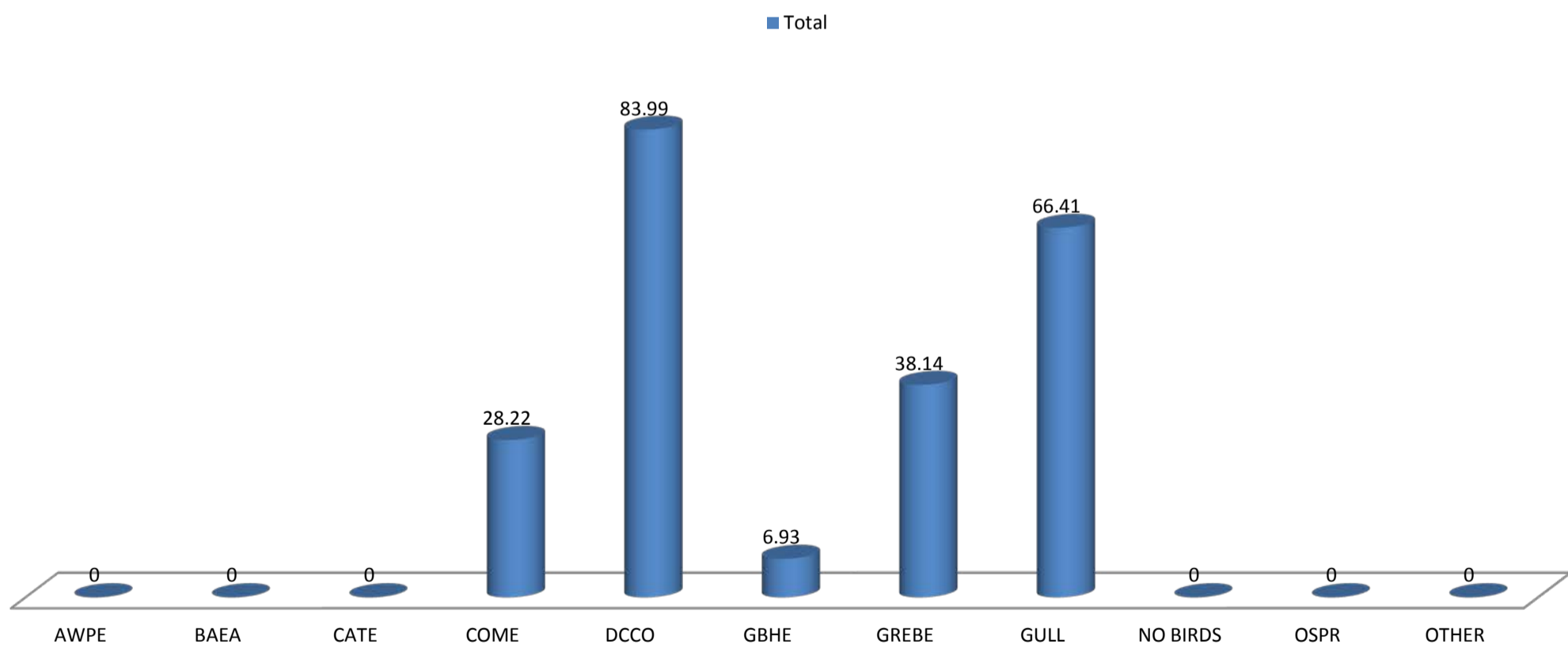


### Avian Behavior by Zone 10/20-26/13

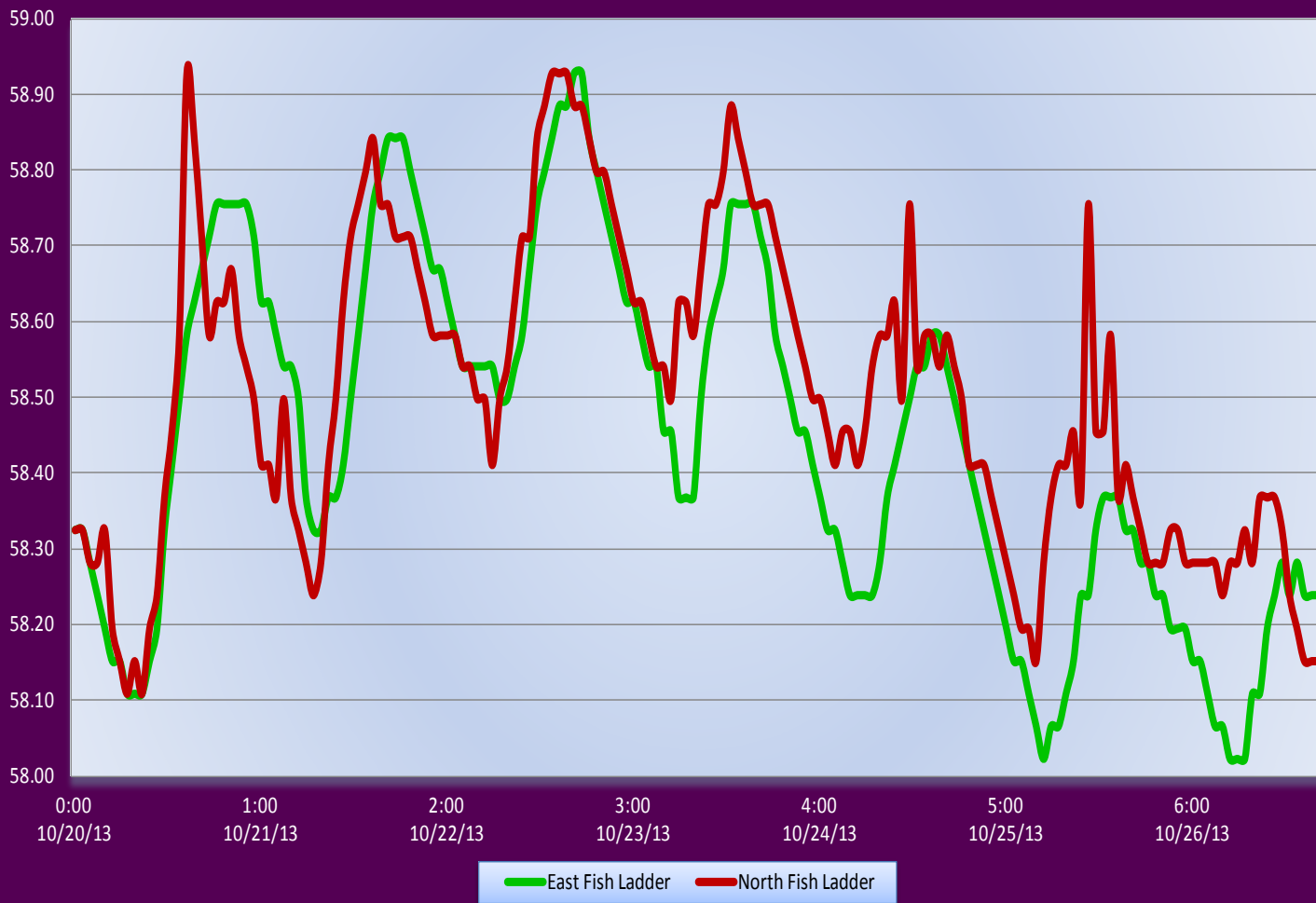


AWPE - American White Pelican; BAEA - Bald Eagle; CATE - Caspian Tern; COME - Common Merganser; DCCO - double crested cormorant; GBHE - Great Blue Heron; GREBE - Grebe; GULL- Gull (all species); OSPR - Osprey

### Mean Avian Counts by Species 10/20-26/13



# The Dalles Dam River/Water Temperatures

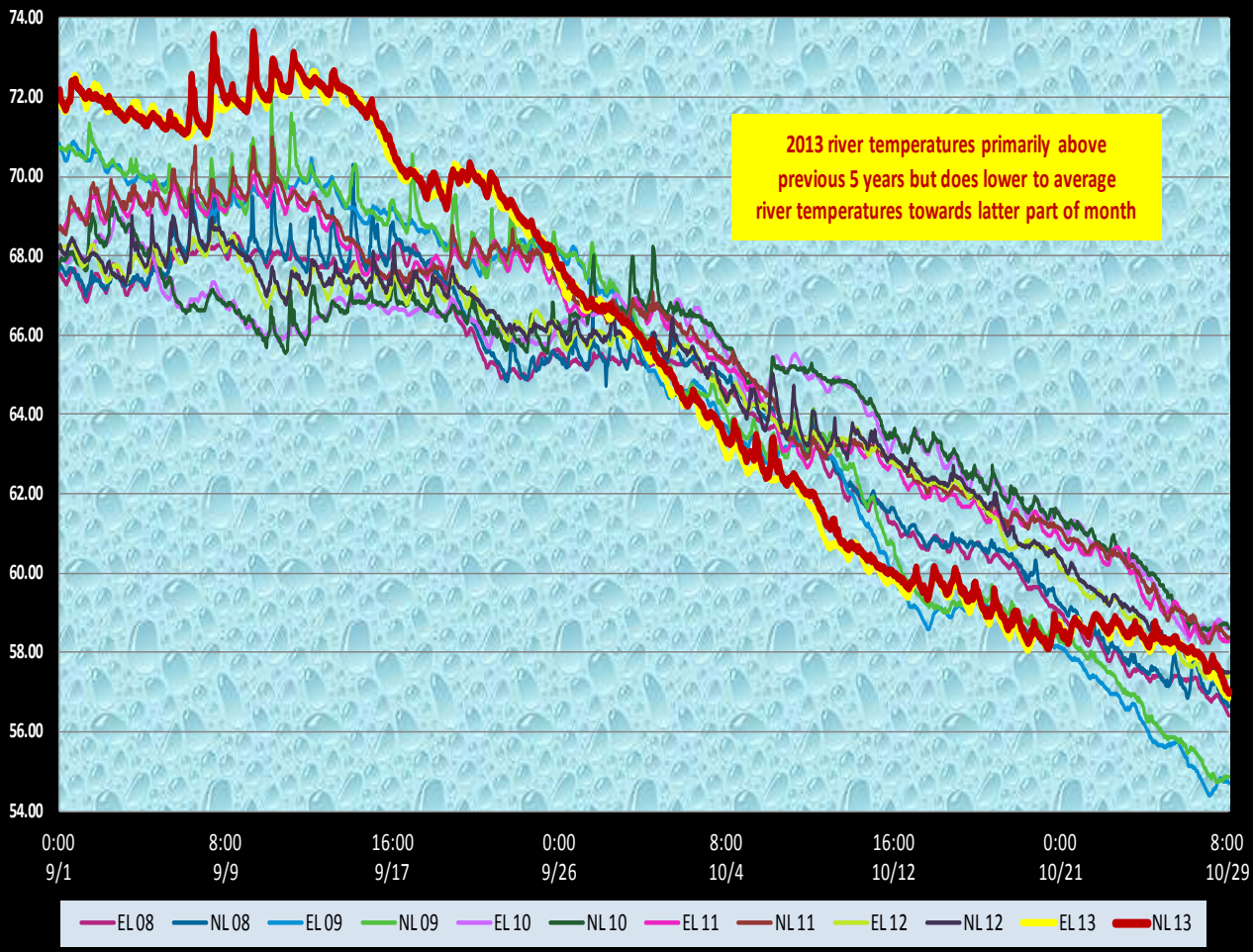






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# The Dalles Dam Adult Fish Ladder(s) Water Temperatures 08-present



Temp:			Secchi:	
	58.3	SUN		6.0
	58.6	MON		5.5
	58.7	TUES		5.5
	58.7	WED		6.0
	58.5	THUR		5.5
	58.3	FRI		5.5
	58.2	SAT		5.5
AVG:	58.5	AVG:		5.6

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

= out of criteria

Date:	North Fish Ladder		East Fish Ladder					East Fish Ladder			South Entrance			KCFS	
	North Entrance		East Entrance					West Entrance			South Entrance			% Spill	
	Differential	N1 Depth	Differential	E1Depth	E2 Depth	E3 Depth	JP 6	Differential	W1Depth	W2 Depth	W3 Depth	Differential	S1 Depth	S2 Depth	
20-Oct-13	1.0	9.3	1.5	10.9	11.4	10.9	5.9	1.3	8.2	8.1		1.2	8.1	8.0	O n s e a l
20-Oct-13	1.0	10.5	1.4	11.0	11.3	10.0	5.8	1.3	8.2	8.2		1.1	8.1	8.1	
20-Oct-13			1.5	11.0	11.0	11.0		1.3	8.0	8.0		1.1	8.1	8.1	
21-Oct-13	1.4	8.5	1.4	10.8	12.6	10.6	5.8	1.3	8.1	8.1		1.1	8.1	8.1	
21-Oct-13	1.4	8.7	1.8	11.1	11.7	10.5	8.5	1.3	8.1	8.1		1.0	8.2	8.2	
21-Oct-13			1.5	10.7	11.0	11.1		1.2	8.1	8.1		1.1	8.1	8.1	
22-Oct-13	1.4	8.7	1.3	12.0	11.3	12.0	8.3	1.2	8.0	8.1		1.2	8.0	8.0	
22-Oct-13	1.5	8.7	1.5	12.4	11.8	12.5	8.8	1.4	7.9	7.9		1.2	8.1	8.1	
22-Oct-13			1.8	10.6	10.0	11.0		1.2	8.2	8.1		0.9	8.3	8.3	
23-Oct-13	1.3	9.0	1.5	11.5	12.1	11.4	9.1	1.4	8.0	8.0		1.2	8.1	8.0	
23-Oct-13	1.6	8.9	1.5	12.0	12.4	11.9	9.4	1.5	8.1	8.0		1.1	8.2	8.2	
23-Oct-13			1.3	12.6	11.9	12.6		1.2	8.2	8.2		0.9	8.3	8.2	
24-Oct-13	1.4	8.4	1.4	11.6	12.0	12.0	7.9	1.2	8.0	8.1		1.0	8.1	8.3	
24-Oct-13	1.4	8.4	1.4	11.6	12.0	12.0	7.9	1.2	8.0	8.1		1.0	8.1	8.3	
24-Oct-13			1.6	11.9	12.3	12.0		1.4	8.1	8.1		1.1	8.1	8.1	
25-Oct-13	1.4	8.5	1.5	11.3	11.2	11.5	7.7	1.2	8.2	8.0		1.1	8.1	8.1	
25-Oct-13	1.5	8.4	1.5	11.7	10.7	11.9	8.0	1.3	8.0	8.1		1.2	8.0	8.0	
25-Oct-13			1.4	11.6	10.8	11.6		1.2	8.2	8.1		1.1	8.2	8.2	
26-Oct-13	1.4	8.4	1.6	11.0	10.6	11.2	8.0	1.2	8.1	8.2		1.0	8.2	8.2	
26-Oct-13	1.5	8.5	1.5	11.6	11.1	11.7	8.5	1.3	8.1	8.2		1.0	8.3	8.1	
26-Oct-13			1.6	11.1	11.1	11.2		1.1	8.2	8.3		0.9	8.2	8.2	
<b>AVG:</b>	1.4	8.8	1.5	11.4	11.4	11.5	7.8	1.3	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).