

# The Dalles Dam Fishway Status Report

**Date:** 11/18/2013  
**Inspection Period:** 11/10 to 11/16/2013

## 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 Out of Criteria	Criteria Limit	Total Number of Inspections: 21	Temperature: 53.1 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 9.0	
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	1	Per forebay	Auto adjusts 1' increments. 156 weir off by 0.1'.	
Weir 158-159 differential	0	1.0' ± 0.1'		
Count station differential	0	≤ 0.3'	Picketed leads raked several times per week due to milfoil.	
Weir crest depth	2	1.0' ± 0.1'	Out of criteria at 0.8', 1.2'. Removable weirs auto adjusting during inspection.	
Junction pool weir JP6	0	depth (≥ 7')		
East entrance differential	0	1.0' - 2.0'	Average 1.5	
Entrance weir E1	0	No criteria	Average 8.4	Manually adjusted.
Entrance weir E2	0	depth (≥ 8')	Average 12.8	
Entrance weir E3	0	depth (≥ 8')	Average 12.8	
Collection channel velocity	0	1.5 - 4 fps	Average 2.6	See <b>Velocities</b> tab for more complete information.
Transportation channel velocity	0	1.5 - 4 fps	Average 2.6	
North channel velocity	0	1.5 - 4 fps	Average 2.8	
South channel velocity	0	1.5 - 4 fps	Average 3.5	
West entrance differential	0	1.0' - 2.0'	Average 1.5	Daily differentials & weir depths, see <b>AVGS</b> tab.
Entrance weir W1	0	depth (≥ 8')	Average 8.8	
Entrance weir W2	0	depth (≥ 8')	Average 8.8	
Entrance weir W3	0	No criteria	Average closed	
South entrance differential	0	1.0' - 2.0'	Average 1.3	
Entrance weir S1	0	depth (≥ 8')	Average 8.1	
Entrance weir S2	0	depth (≥ 8')	Average 8.2	
<b>JUVENILE PASSAGE</b>				
Sluiceway operation	0	units 1,8,18		
Turbine trashrack drawdown	0	<1.5', wkly	Range: 0.1' - 0.4'	
Spill volume	0	40%, 24hr	On seal.	
Spill Pattern	0	per FPP	On seal.	
Turbine Unit Priority	8	per FPP	Main Units 13, 14, and 15 out of service for maintenance purposes; see <b>Outages</b> below.	
Turbine 1% Efficiency	0	per FPP		

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

Bird observation data collected twice daily. There are mostly gulls and cormorants around the project, with grebes in the forebay. Most foraging occurring at west end of the powerhouse (PHT2) and downstream of sluiceway outfall (PHT3). This is a normal late fall pattern. See avian zones map and distribution tabs. No sea lion sightings this week.

**Operations:**

Calibration of entrance weirs, entrance channel/tailwater, exit staff gauges 11/1. Few out of criteria by 0.1'. Will notify maintenance if continues. Gatewell drawdown completed 11/11. Values ranged from 0.1' to 0.4' (within criteria). Third seasonal dressinid veliger plankton tow sample collection performed on 11/15, prior two samples and substrate tests results were negative

**Current Outages:**

Transformer 8 (Main Unit 15 and 16) de-rated to 120 MW through 9/14/17.  
Station Service 01 out of service 10/15/13 to 12/6/13 for digital governor installation.  
Transformer 7 out of service 11/4/13 to 11/21/13 for bushing replacement.  
MU13 OOS 11/4/13 to 11/27/13 for annual.  
MU14 OOS 11/12/13 to 11/21/13 for annual.  
Fish units 1 and 2 OOS at 1209 11/12 for ROV inspection of north and south fishway entrance bulkhead sills. FU1 returned to service 1320 and FU2 returned to service 1316 11/12. North fishway PUD turbine RTS 1400 11/12. PUD bypass operated ~1200 - 1400.

**Maintenance:**

Fishway winter maintenance dewatering schedule; East fishway 12/4 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. Fish lock flushing operation cancelled.  
Project and NWW engineering planning a safety inspection of the auxiliary water system (AWS) chamber 12/10.  
ROV inspection of north and south fishway entrance bulkhead sills completed 11/12/13. Follow up dive required to remove gravel buildup on north sill. Tentatively scheduled for 1/8/14.

**Studies:**

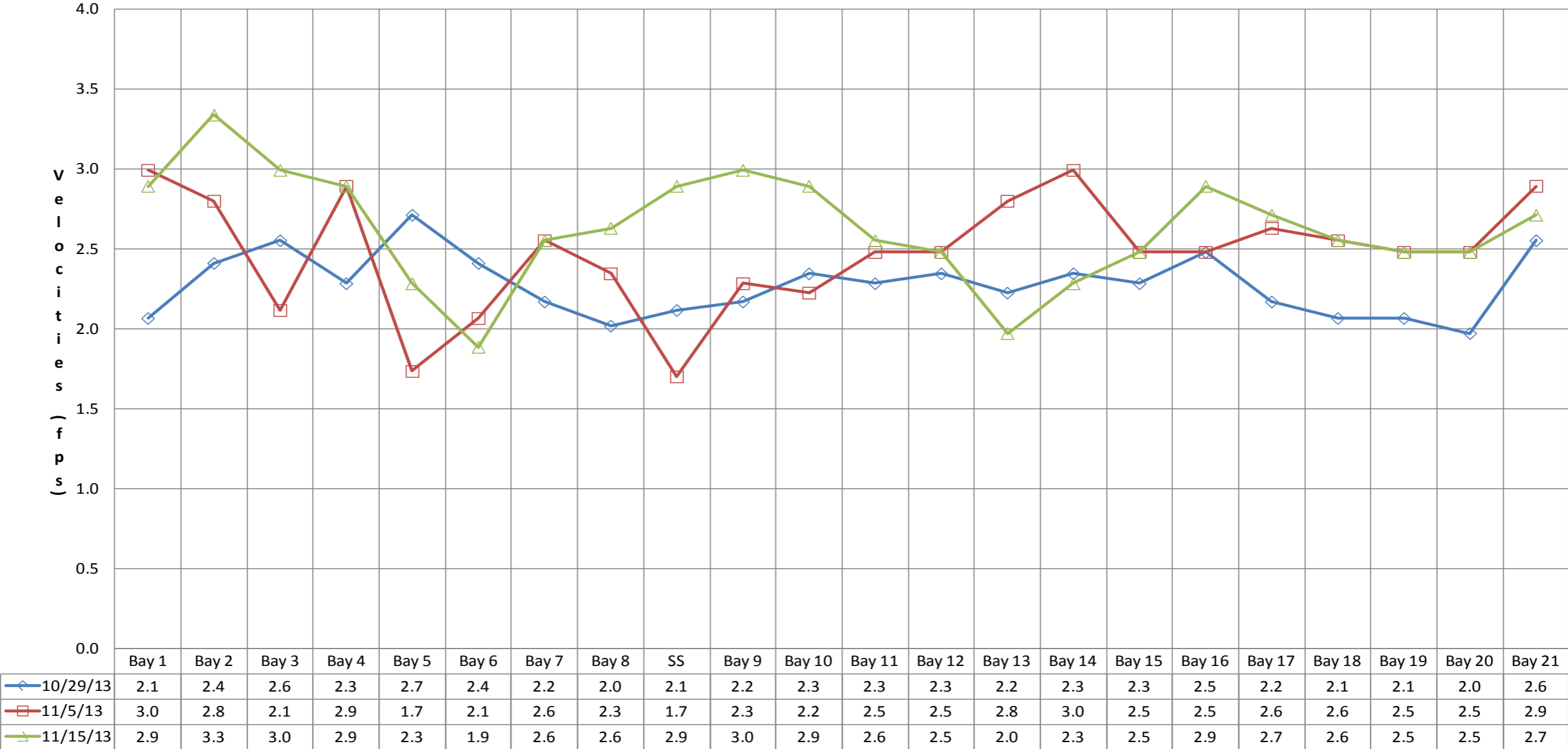
**PIT** - Temporary Thin Wall PIT tag Antenna continues to work successfully. Slight modification to north upstream antenna positioning planned. Interesting data emerging from ODFW 15mile creek steelhead study due to the newly installed PIT antennas at The Dalles. Appears large proportion of these steelhead overshoot the creek and pass over The Dalles dam. Concern of passage survival passing downstream over dam during winter.  
**EFL** - Plan is for 10' dia. pipe through dam to AWS conduit under east fishladder. PDT members site visit and access dewatered fishway early Dec.  
**PUD** - Modification of original FERC license underway for additional north turbine. Fish passage review meeting with PUD/NOAA occurred 11/7. All agreed there are likely no negative fish passage concerns. Additionally, there were no obvious anticipated fish passage improvements. The spill test last september was inconclusive. More information is needed for lamprey. Investigation of potential fish benefits will continue.  
**Lamprey** - A pre-construction meeting completed for lamprey plating modifications in east ladder. Work to begin Dec 9.

**Research/Contractors:**

University of Idaho adult RT new antennas both fish ladders completed and operating. Plans to clean up unused antennas this winter.  
University of Idaho's last remaining fish related contractor is on site periodically downloading data loggers.  
Last set of 3 derelict Vertical Barrier Screens (VBS) from 90's research remains in MU 12 gatewell slot. To be removed as time/funding allows.  
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 completed video counting 9/30 and visual counting to 10/31.

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

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



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



# 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

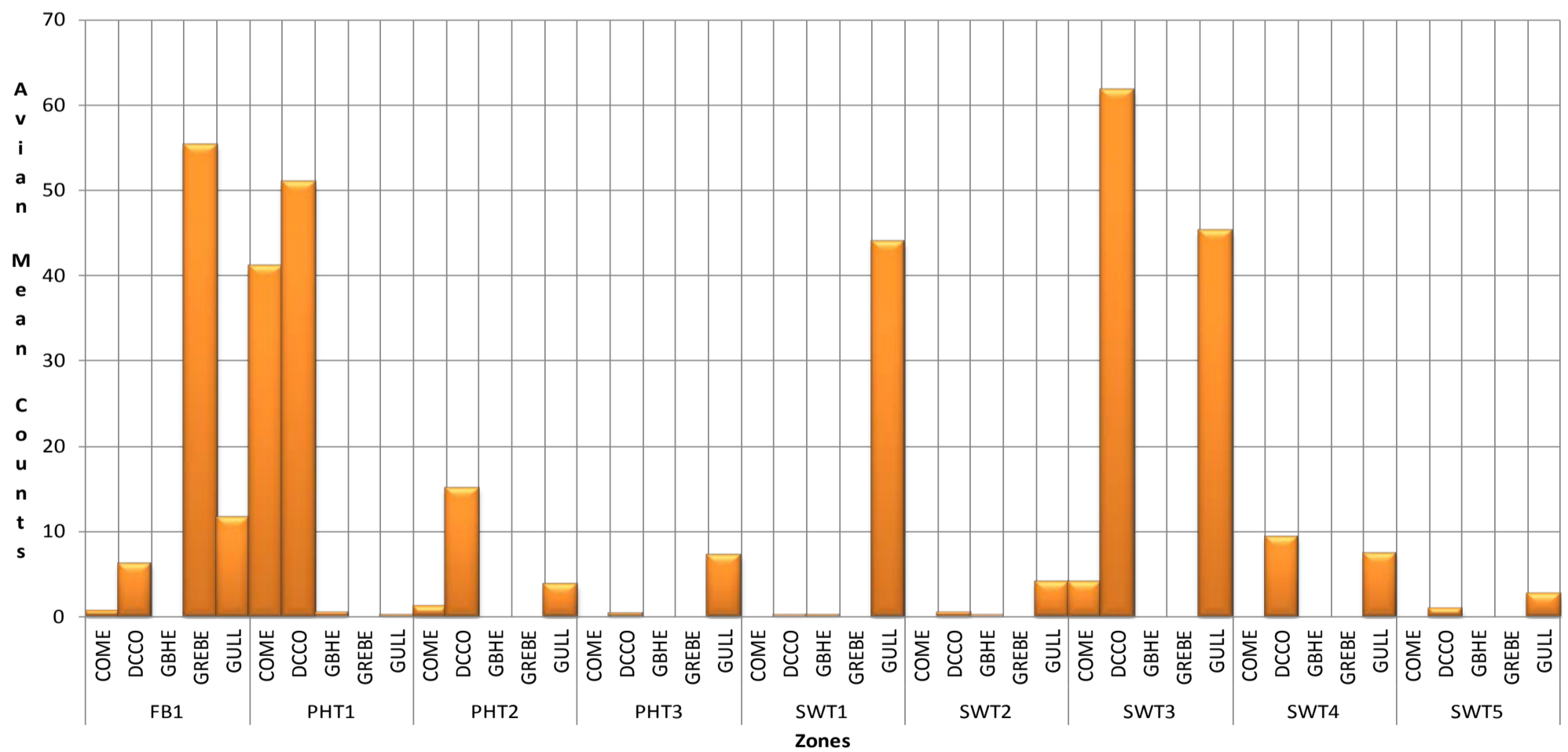


### Avian Mean Counts by Behavior



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

### Avian Mean Counts by Species



Temp:			Secchi:	
	53.9	SUN		5.5
	53.9	MON		5.5
	53.7	TUES		5.5
	53.3	WED		5.5
	52.7	THUR		5.5
	52.3	FRI		5.5
	51.9	SAT		6.0
AVG:	53.1	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	
10-Nov-13	1.3	8.8	1.7	7.3	12.5	12.5	9.8	1.6	8.5	8.6		1.3	8.1	8.2	O n s e a l
10-Nov-13	1.5	8.7	1.5	7.5	12.9	12.9	10.0	1.6	8.4	8.5		1.3	8.2	8.2	
10-Nov-13			1.6	6.9	12.5	12.5		1.6	8.4	8.5		1.3	8.2	8.2	
11-Nov-13	1.4	8.9	1.4	7.8	14.1	14.1	10.3	1.5	8.9	8.9		1.3	8.1	8.1	
11-Nov-13	1.4	9.1	1.6	8.5	13.4	13.3	11.0	1.6	9.1	9.1		1.5	8.5	8.5	
11-Nov-13			1.6	7.1	13.4	13.7		1.1	9.5	9.5		1.2	8.1	8.1	
12-Nov-13	1.3	9.1	1.8	8.5	12.0	12.0	10.4	1.6	8.6	8.5		1.4	8.1	8.2	
12-Nov-13	ROV north ent. sill		1.9	8.4	11.9	11.9	10.3	1.7	8.6	8.5		1.5	8.0	8.1	
12-Nov-13			1.6	8.1	12.0	12.0		1.5	8.5	8.4		1.4	8.0	8.1	
13-Nov-13	1.4	8.7	1.5	8.9	12.4	12.4	9.3	1.4	8.6	8.6		1.3	8.1	8.2	
13-Nov-13	1.4	8.8	1.6	9.0	12.5	12.5	10.0	1.5	8.6	8.5		1.4	8.1	8.0	
13-Nov-13			1.4	9.6	12.6	12.6		1.3	9.0	9.0		1.2	8.1	8.2	
14-Nov-13	1.3	9.3	1.4	9.0	13.0	12.9	9.8	1.5	8.7	8.5		1.3	8.2	8.1	
14-Nov-13	1.2	9.4	1.4	10.0	13.0	12.9	10.4	1.5	8.9	9.0		1.4	8.0	8.1	
14-Nov-13			1.6	9.3	12.8	12.7		1.6	8.5	8.6		1.3	8.2	8.3	
15-Nov-13	1.4	8.9	1.3	10.1	13.1	13.0	10.1	1.5	8.9	9.0		1.4	8.1	8.1	
15-Nov-13	1.4	9.0	1.4	8.0	13.1	13.1	9.9	1.4	8.9	9.0		1.4	8.1	8.1	
15-Nov-13			1.6	9.1	13.0	13.1		1.6	8.7	8.7		1.3	8.1	8.1	
16-Nov-13	1.3	9.0	1.4	8.0	13.1	13.0	9.6	1.4	8.9	9.0		1.3	8.2	8.2	
16-Nov-13	1.3	9.1	1.4	8.0	13.1	13.0	9.4	1.4	8.9	9.0		1.2	8.2	8.2	
16-Nov-13			1.5	8.0	13.1	13.0		1.4	9.1	9.0		1.3	8.1	8.1	
<b>AVG:</b>	1.4	9.0	1.5	8.4	12.8	12.8	10.0	1.5	8.8	8.8	closed	1.3	8.1	8.2	

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