

The Dalles Dam Fishway Status Report

Date: 4/7/2014
 Inspection Period: 3/30/2014 to 4/5/2014

THE DALLES DAM



**US Army Corps
 of Engineers**
 Portland District

The Dalles Project-Fisheries
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Fishways are inspected twice daily plus one SCADA inspection

The Dalles Dam	Inspections Out of Criteria	Criteria Limit	Total Number of Inspections:		Temperature:
			21	44.9	F
			Comments		Secchi: 3.2 feet
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'			
Entrance weir N1	0	depth (≥ 8')			
Entrance weir N2	0	Closed			
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'	East count station raked 3/30, 3/31.		
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	Daily differentials & weir depths, see AVGS tab. Manually adjusted.
Entrance weir E1	0	No criteria	Average	0.9	
Entrance weir E2	0	depth (≥ 8')	Average	12.4	
Entrance weir E3	0	depth (≥ 8')	Average	12.3	
Collection channel velocity	0	1.5 - 4 fps	Average	2.7	
Transportation channel velocity	0	1.5 - 4 fps	Average	3.3	
North channel velocity	0	1.5 - 4 fps	Average	2.2	
South channel velocity	0	1.5 - 4 fps	Average	3.9	
West entrance differential	0	1.0' - 2.0'	Average	1.5	
Entrance weir W1	0	depth (≥ 8')	Average	10.1	
Entrance weir W2	0	depth (≥ 8')	Average	10.0	
Entrance weir W3	closed	No criteria	Average	closed	
South entrance differential	0	1.0' - 2.0'	Average	1.6	
Entrance weir S1	0	depth (≥ 8')	Average	10.8	
Entrance weir S2	0	depth (≥ 8')	Average	10.7	
JUVENILE PASSAGE					
Sluiceway operation	5	1, 8, 18	Gates 1-2, 1-3, 8-2, 8-3 and 18-2 Apr 1. Gate 1-1 inadvertently left closed. Corrected.		
Turbine trashrack drawdown	0	<1.5', wkly			
Spill volume			Spill for juvenile passage starts Apr 10.		
Spill Pattern					
Turbine Unit Priority	0	per FPP	West to east block priority started Apr 1.		
Turbine 1% Efficiency	0	per FPP			

OTHER ISSUES:

Birds/Sea lions:

Bird observation data collected once daily. There are very few birds around the project. See avian zones map and distribution details.
Bird observation data collection changed Apr1. RNT website will no longer be used. Data with range input into avian zone map tab.
A sealion was observed near east entrance Apr4. No sightings inside fishway entrance to date.

Operations:

Calibration checked Apr4. East entrance tailwater reading found off by ~0.7'. Setting compensated to maintain criteria until it was calibrated.

Current Outages:

T8 (MU15 & MU16) de-rated to single unit full load.
MU22 out of service 3/24/14 to 5/1/14 for overhaul.

Maintenance:

Work to start on new weir to replace 158/159. Materials on order. Planned changes design; 3 to 2 leaves, skin plate for lamprey, plastic wheels
Proposed design changes to be brought to Apr10 FPOM for approval.
North fishway pump motor replacement in progress for next winter dewatering.
Work to start rebuilding failed east fishway collection channel dewatering pump in preparation for next winter dewatering.
Long term repair plan items ; Upgrade east exit weirs 154-157, stabilize north ladder rock walls, remove collection channel unneeded diffusers, replace all entrance weir wheels with plastic composite wheels and repair/modify all east fishway dewatering pumps.
Fish related but non-fish funded items ; spillway evaluation, spillway crane rehab, spillgate 10/11 wire rope replacement, update fish unit reliability assessment, planning upgrade fish unit breakers, Fish unit transformer replacement.
All spillway items on Critical Infrastructure list and Unfunded Requirement list

Studies:

PIT - PSMFC monitoring antennas at count stations. 100% efficiency on last report.
EFL - Plan 10' dia. pipe through dam, under roadway and into AWS conduit at junction pool. Starting Plans and Specs. Construction winter 2015.
PUD - FERC license modification request submitted for additional north turbine. Investigating two entrance test proposal.
Lamprey - Possible lamprey improvements to new east ladder 159 weir construction. Planning for tribal lamprey collection from count stations.

Research/Contractors:

The first sample of the 2014 migration season at the Northern Wasco County PUD turbine intake dewater structure by PSMFC occurred on 4/2. Incidental catch included: one bluegill, one northern pikeminnow, one perch, four Siberian prawn, and seven sculpin. See PSMFC PUD weekly report; Report #14-1 for details. <http://www.fpc.org/documents/weekrpt/wr2014/WR14-01.pdf>
University of Idaho maintaining antennas. Plans for solar panel installation for east forebay deck antenna for next season.
Removal last set of 3 derelict Vertical Barrier Screens from MU 12 gatewell slot scheduled week of Aug11. Pending CRFM funding.
Research approval letters forwarded for; ODFW forebay pikeminnow survey, USGS total dissolved gas monitoring, Yakama Nation for adult lamprey collection and PSMFC monitoring and maintaining thin walled PIT tag antennas and computer equipment.
Normandeau fish counters computer training, project specific training and fish identification training completed; counting started 4/1.
U of I will not be conducting mobile tracking of Pacific Lamprey tagged with JSAT tags by boat in the BRZ.
WDFW to conduct hook and line removals of predatory northern pikeminnow from the BRZ adjacent to the project.
Columbia River Inter-Tribal Fish Commission to collect frozen juvenile lamprey morts found in Main Unit scroll case strainers next week.

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	#	Pct	#						
4/1	96.9	31.0	3.1	1.0		0.0		0.0	66.7	8.0	33.3	4.0	33.3	2.0	66.7	4.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	221.2
4/2	94.7	108.0	5.3	6.0		###		0.0	100.0	18.0	0.0	0.0	100.0	6.0	0.0	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	217.2
4/3	100.0	36.0	0.0	0.0		0.0		0.0	100.0	13.0	0.0	0.0	100.0	6.0	0.0	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	211.2
4/4	97.3	72.0	2.7	2.0	100.0	1.0	0.0	0.0	83.3	10.0	16.7	2.0	100.0	5.0	0.0	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	209.9
4/5	87.5	42.0	12.5	6.0	100.0	1.0	0.0	0.0	91.7	11.0	8.3	1.0	80.0	4.0	20.0	1.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	229.6
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								
	95.1	4.9	100.0	0.0	89.6	10.4	82.1	17.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0										

NOTES:

either the Right Ladder or Left Ladder species count is: negative or null for the day.

side of the river when facing downstream.

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The Dalles Dam Avian Zones

Washington Shore

SW-T1: no birds

SW-T3: 0-2 cormorants not foraging, 0-3 gulls not

SW-T4: 1-2 gulls not foraging.

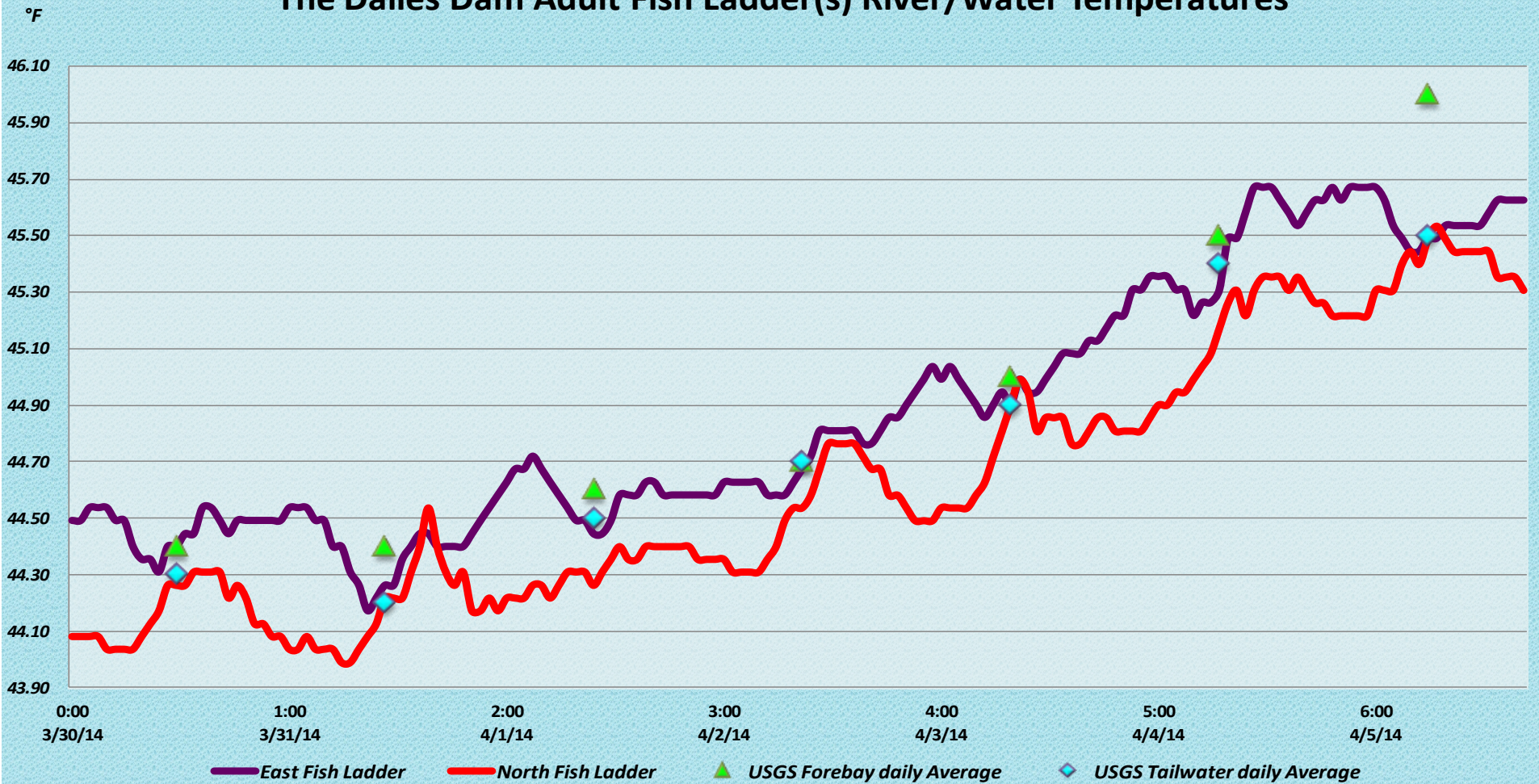
SW-T2: no birds

PH-T2: no birds

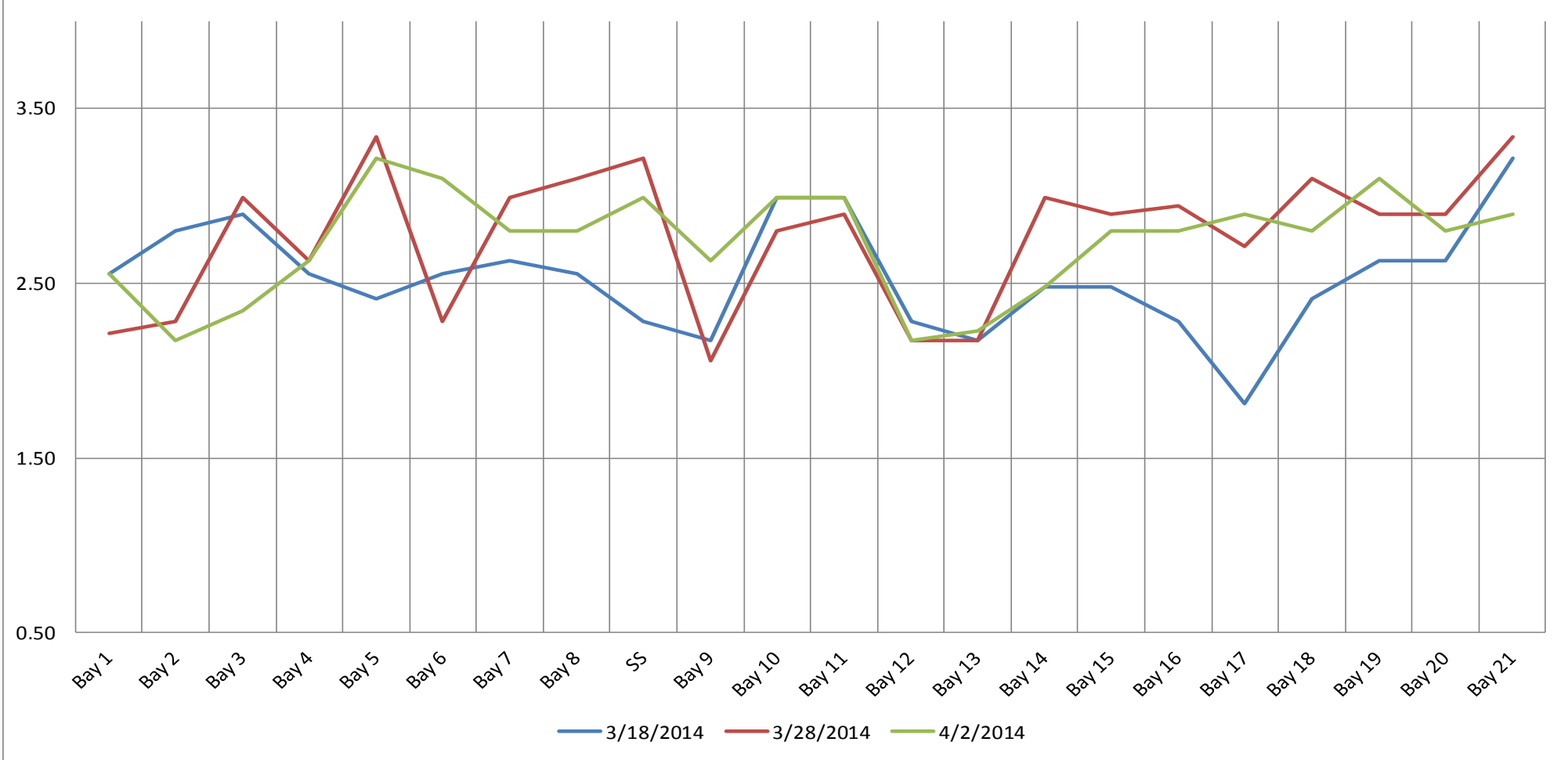
PH-T1: 0-1 gull not foraging, 0-1 gull foraging.

Oregon Shore

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



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



Criteria range 1.5-4 fps

Temp:		Secchi:
44.4	SUN	2.0
44.4	MON	2.0
44.6	TUES	3.5
44.7	WED	3.5
45.0	THUR	4.0
45.5	FRI	4.0
46.0	SAT	3.3
AVG: 44.9	AVG:	3.2

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

= out of criteria

Date:	North Fish Ladder		East Fish Ladder											Spill%	
	North Entrance		East Entrance					West Entrance				South Entrance			
	Differential	N1 Depth	Differential	E1 Depth	E2 Depth	E3 Depth	JP 6	Differential	W1 Depth	W2 Depth	W3 Depth	Differential	S1 Depth	S2 Depth	
3/30/14			1.5	0.9	12.0	12.0		1.6	10.0	9.9	C l o s e d	1.5	11.0	11.0	O n s e a l
	1.4	9.7	1.4	1.0	12.1	12.1	14.0	1.6	9.9	9.9		1.6	11.0	11.0	
	1.3	9.8	1.4	1.0	12.0	12.0	13.3	1.5	10.1	10.0		1.5	11.1	11.0	
3/31/14			2.0	1.0	12.1	12.1		1.7	10.1	10.0		1.6	11.0	11.0	
	1.4	9.8	1.4	1.0	11.9	11.0	14.7	1.5	10.4	10.4		1.5	11.0	11.0	
	1.4	9.7	1.5	1.0	12.0	12.1	14.5	1.5	10.6	10.5		1.6	11.0	11.0	
4/1/14			1.5	1.0	11.9	11.9		1.5	10.5	10.4		1.5	10.9	11.0	
	1.4	9.7	1.6	0.9	12.0	12.0	13.5	1.6	10.1	10.1		1.7	10.1	10.0	
	1.3	10.0	1.5	0.8	11.9	11.8	13.4	1.5	10.5	10.4		1.6	10.4	10.5	
4/2/14			1.4	1.0	12.0	12.1		1.5	10.6	10.5		1.6	10.6	10.6	
	1.3	10.0	1.6	0.9	12.0	12.1	14.0	1.6	10.0	10.1		1.5	11.0	11.1	
	1.3	10.0	1.4	0.9	12.5	12.4	13.4	1.5	10.0	9.9		1.5	10.9	11.0	
4/3/14			1.4	1.1	12.5	12.6		1.5	10.0	9.8		1.6	11.0	11.0	
	1.3	10.0	1.4	1.0	12.6	12.5	13.4	1.5	10.0	9.9		1.5	11.0	11.0	
	1.3	10.0	1.7	-0.3	12.1	12.2	12.0	1.6	9.4	9.4		1.5	10.9	10.9	
4/4/14			1.5	0.9	13.0	12.9		1.7	9.0	8.9	1.7	10.0	10.0		
	1.3	10.0	1.3	1.1	13.0	13.1	13.9	1.5	10.1	10.1	1.5	10.6	10.6		
	1.3	9.9	1.4	1.0	12.9	12.8	12.3	1.4	10.0	10.0	1.4	10.6	10.5		
4/5/14			1.3	1.0	13.1	13.1		1.4	10.1	10.0	1.6	10.6	10.5		
	1.4	9.9	1.3	1.0	13.1	13.1	13.6	1.5	10.1	10.0	1.6	10.6	10.5		
	1.3	11.4	1.3	1.0	13.1	13.0	13.7	1.4	10.0	10.0	1.5	10.5	10.4		
AVG:	1.3	10.0	1.5	0.9	12.4	12.3	13.6	1.5	10.1	10.0		1.6	10.8	10.7	#DIV/0!