The Dalles Dam Fishway Status Report

Date: 4/20/2014
Inspection Period: 4/13/2014 to 4/19/2014

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 plus one SCADA inspection

The Dalles Dam	Inspections Out of Criteria	Criteria Limit	Total Number of Inspections: 21 / Comments		Temperature: 49.5 F / Secchi: 3.7 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'	Trash racks raked everyday until spill started on April 10		
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'			
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.
Entrance weir E1	0	No criteria	Average	8.1	Manually adjusted.
Entrance weir E2	0	depth (≥ 8')	Average	12.3	
Entrance weir E3	0	depth (≥ 8')	Average	10.9	
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	1.4	
Entrance weir W1	0	depth (≥ 8')	Average	9.0	
Entrance weir W2	0	depth (≥ 8')	Average	9.0	
Entrance weir W3	closed	No criteria	Average	closed	
South entrance differential	0	1.0' - 2.0'	Average	1.5	
Entrance weir S1	1	depth (≥ 8')	Average	9.7	Manually c
Entrance weir S2	0	depth (≥ 8')	Average	9.4	
JUVENILE PASSAGE					
Sluicegate operation	0	1, 8, 18	Gate 1-1 inadvertently left closed. Corrected.		
Turbine trashrack drawdown	0	<1.5', wkly			
Spill volume	4	40%	Spill for juvenile passage started Apr 10. RCC mandated.		
Spill Pattern	0				
Turbine Unit Priority	1	per FPP	Operations notified for correction.		
Turbine 1% Efficiency	0	per FPP			

OTHER ISSUES:

Birds/Sea lions:
Bird observation data collected once daily. Gull numbers are increasing down stream of the bridge. See avian zones map and distribution details. USDA on site hazing gulls as needed 7 days/week, 14 hours/day.
Sea lion observed at west entrance 4/18 ~0900 hrs. USDA notified to haze, but are tryin to locate sea lion hazing gun.

Operations:
Entrance weir and channel/tailwater calibration checked Apr 17. West entrance tailwater off, maintenance notified
Gatewell drawdown performed 4/14, all well w/ in criteria

Current Outages:
Transformer T8 (MU15 & MU16) de-rated to single unit full load ops through 9/14/2017.
Turbine unit MU22 out fo service 3/24 to 5/1/14 for overhaul maintenance.
Turbine unit MU5 out of service 4/7to 4/17/2014 for annual maintenance.

Maintenance:
Ordering materials for replacement weir 158/159. Design changes; 3 to 2 leafs, d/s skin plate, plastic wheels. FPOM approved Apr10.
North fishway pump motor replacement on order for next winter dewatering.
Work started rebuilding failed east fishway collection channel dewatering pump.
Planning for equalizing valve for PUD intake bulkhead for next winter dewatering.
Long term repair plans funding dependent ; Upgrade east exit weirs 154-157, stabilize north ladder rock walls, remove collection channel 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 PIT tag monitoring continues at count stations with high efficiency.
EFL - Plan 10' dia. pipe through dam, under roadway and into AWS conduit at junction pool. Starting Plans and Specs. Construction winter 2015.
A test dig planning underway for area near east fishway. FPOM approval in progress due to close proximity to east fishway.
Flow survery work by boat planned within 100' of fishway exit. FPOM coordination form in progress.
PUD - FERC license modification request submitted for additional north turbine. Project comments through PM.
Error in previous status report; Test digs are not associated with PUD. They are only intended for EFL backup mentioned above.
Lamprey - Skin plate for lamprey improvement to new east ladder 159 weir construction. Planning for tribal lamprey collection from count stations.

Research/Contractors:
PSMFC PUD weekly report for 4/16; mostly Chinook fry and two yearlings. Debris was an issue despite the onset of spill.
Normandeau fish counting program started conducting live counts 4/1 and will continue through 10/31.
University of Idaho maintaining antennas.
Removal last set of 3 derelict Vertical Barrier Screens from MU 12 gatewell slot scheduled week of Aug11. Coordination in progress.
WDFW to conduct hook and line removals of predatory northern pikeminnow from the BRZ adjacent to the project.
Research approval letter forwarded for Yakama Nation. Yakama Nation Fisheries Resource Management Program (FRMP) proposes to collect up to 374 adult Pacific lampreys from The Dalles Project
USDA to resumed gull hazing 15 April. Pyrotechnics to be launched from shore. Most activity to occur downstream of spillway on navlock peninsula.

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							
	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#						
4/13	77.2	115.0	22.8	34.0		0.0		0.0	100.0	11.0	0.0	0.0	100.0	6.0	0.0	0.0					39.9	228.3
4/14	96.8	300.0	3.2	10.0	100.0	1.0	0.0	0.0	95.7	22.0	4.3	1.0	100.0	16.0	0.0	0.0					40.0	214.7
4/15	94.0	560.0	6.0	36.0	100.0	8.0	0.0	0.0	94.7	18.0	5.3	1.0	100.0	6.0	0.0	0.0					44.9	212.9
4/16	93.4	521.0	6.6	37.0	100.0	5.0	0.0	0.0	94.7	18.0	5.3	1.0	92.3	12.0	7.7	1.0					40.0	237.7
4/17	95.6	673.0	4.4	31.0	100.0	16.0	0.0	0.0	95.8	23.0	4.2	1.0	85.7	6.0	14.3	1.0					40.8	237.0
4/18	93.9	841.0	6.1	55.0	100.0	6.0	0.0	0.0	92.3	12.0	7.7	1.0	100.0	4.0	0.0	0.0					39.9	226.9
4/19	90.7	458.0	9.3	47.0	100.0	4.0	0.0	0.0	100.0	7.0	0.0	0.0	100.0	2.0	0.0	0.0					39.8	243.5

These fish not present to date

Date	Chinook		Jack Chinook		Steelhead		Steelhead Wild		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	avg	avg
	93.3	6.7	100.0	0.0	95.7	4.3	96.3	3.7	40.8	228.7

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 Avian Zones
Washington Shore
PH-T1: 0-2 cormorant
SW-T1: 0-2 gulls
PH-T2: 0-3 gulls
SW-T3: 0-3 cormorant and gulls
SW-T4: 0-22 gulls 0-4 cormorant
SW-T2: 0-2 gulls
Oregon Shore
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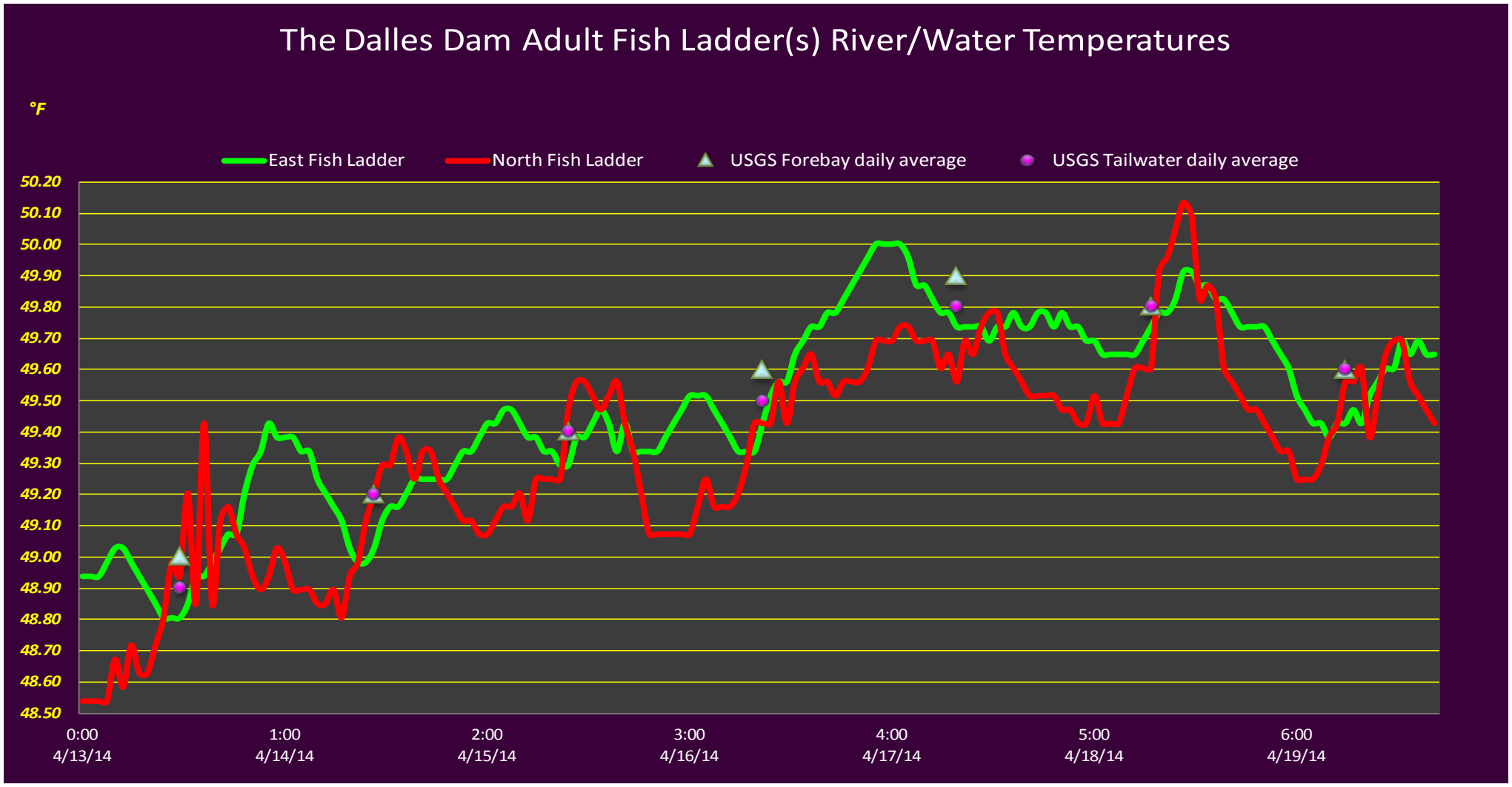
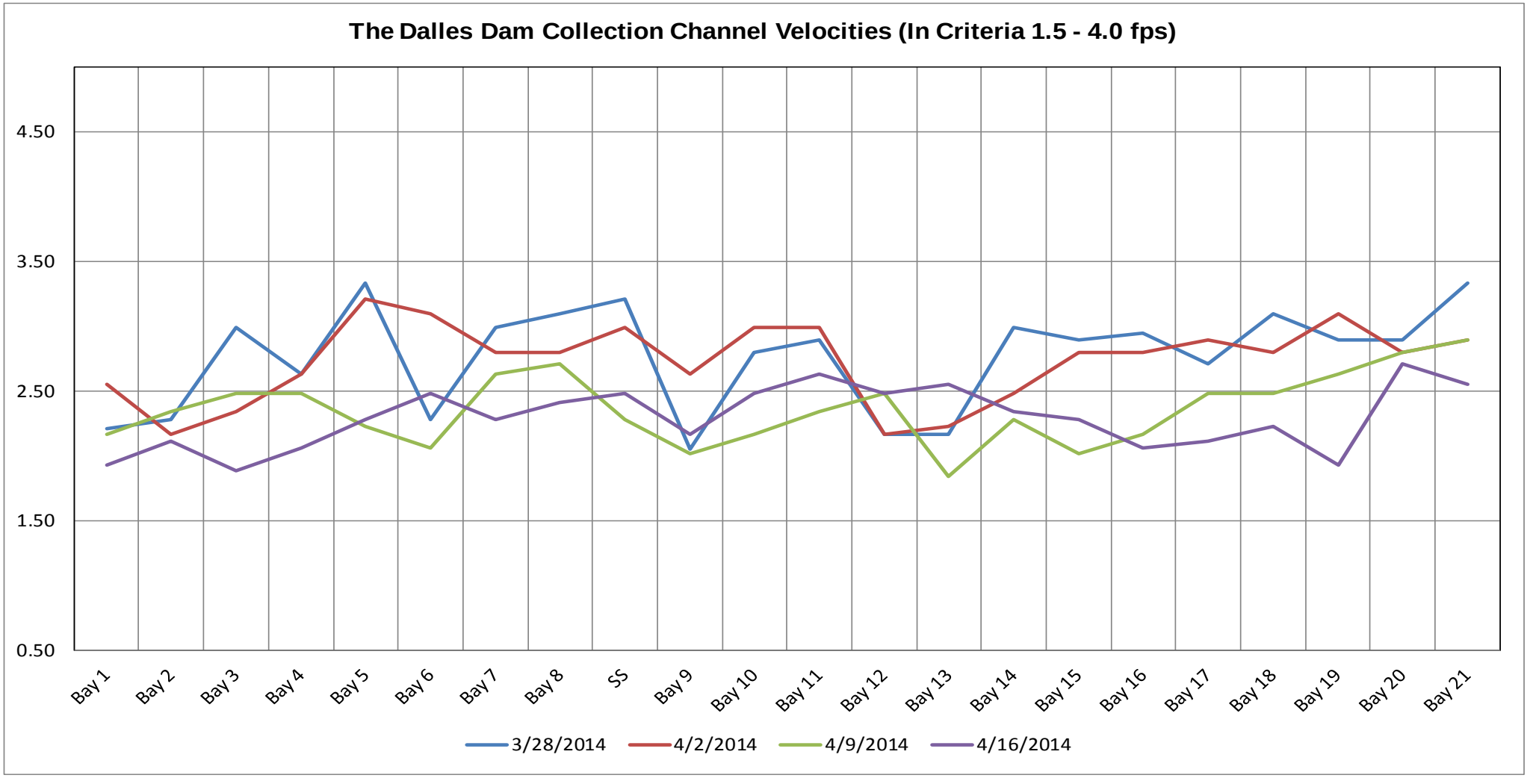

The Dalles Dam Adult Fish Ladder(s) River/Water Temperatures
°F
East Fish Ladder
North Fish Ladder
USGS Forebay daily average
USGS Tailwater daily average
50.20
50.10
50.00
49.90
49.80
49.70
49.60
49.50
49.40
49.30
49.20
49.10
49.00
48.90
48.80
48.70
48.60
48.50
0:00
4/13/14
1:00
4/14/14
2:00
4/15/14
3:00
4/16/14
4:00
4/17/14
5:00
4/18/14
6:00
4/19/14


The Dalles Dam Collection Channel Velocities (In Criteria 1.5 - 4.0 fps)
4.50
3.50
2.50
1.50
0.50
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
3/28/2014
4/2/2014
4/9/2014
4/16/2014

	Temp:		Secchi:
	49.0	SUN	3.5
	49.2	MON	3.5
	49.4	TUES	4.0
	49.6	WED	4.0
	49.9	THUR	4.0
	49.8	FRI	3.5
	49.6	SAT	3.5
AVG:	49.5	AVG:	3.7

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

= out of criteria

Fisheries office SCADA

	North Fish Ladder		East Fish Ladder												Spill%
	North Entrance		East Entrance					West Entrance				South Entrance			
Date:	Differential	N1 Depth	Differential	E1 Depth	E2 Depth	E3 Depth	JP 6	Differential	W1 Depth	W2 Depth	W3 Depth	Differential	S1 Depth	S2 Depth	
4/13/14			1.4	8.1	12.5	10.6	10.9	1.2	9.0	9.0		1.5	9.6	9.4	
	1.4	9.9	1.6	8.1	12.4	10.6	11.5	1.5	9.1	9.1		1.5	9.6	9.6	39.7
	1.4	9.9	1.4	8.5	12.4	10.6	11.6	1.4	9.5	9.5		1.5	8.5	8.5	39.7
4/14/14			1.4	8.6	12.3	10.5	11.2	1.2	9.5	9.5		1.3	10.4	9.5	
	1.4	9.9	1.4	8.5	12.4	10.4	11.1	1.2	9.4	9.5		1.4	10.3	9.4	40.1
	1.3	10.0	1.4	7.9	12.4	10.6	11.3	1.4	8.9	8.9		1.4	10.5	9.0	39.6
4/15/14			1.5	8.0	12.4	10.6	10.6	1.4	8.5	8.5		1.4	10.0	9.2	
	1.4	9.9	1.5	8.0	12.4	10.6	11.4	1.6	8.5	8.5		1.4	10.6	8.9	39.9
	1.4	10.0	1.6	7.8	12.4	10.5	11.2	1.5	8.4	8.4		1.4	10.5	9.0	61.3
4/16/14			1.7	8.0	12.5	10.6	13.3	1.7	8.5	8.6		1.3	12.4	9.0	
	1.4	10.8	1.6	7.9	12.4	10.6	13.0	1.5	9.5	9.5		1.3	12.0	8.9	40.0
	1.3	10.1	1.5	8.0	13.0	13.0	12.1	1.3	9.6	9.5		1.6	9.0	8.9	40.0
4/17/14			1.5	8.0	12.0	11.1	11.8	1.5	9.0	9.0		1.6	8.8	9.0	
	1.4	9.9	1.6	7.9	11.9	11.1	11.5	1.5	9.1	9.1		1.7	8.6	9.0	39.5
	1.4	9.9	1.5	8.0	12.0	12.0	12.0	1.6	9.1	9.1		1.5	9.2	9.1	39.3
4/18/14			1.6	8.1	12.1	11.1	10.2	1.3	9.1	9.1		1.7	7.4	9.9	
	1.4	9.6	1.6	8.0	12.1	11.0	11.8	1.5	9.0	9.1		1.5	9.1	10.1	39.4
	1.4	10.0	1.6	8.1	11.9	10.9	11.2	1.5	9.0	8.9		1.6	8.7	10.0	39.8
4/19/14			1.4	7.9	11.9	11.0	11.9	1.5	8.9	9.0		1.4	9.1	10.1	
	1.4	9.9	1.5	8.0	12.0	11.1	12.2	1.5	9.0	9.1		1.4	9.3	10.0	39.6
	1.4	10.0	1.4	7.9	11.9	11.0	12.1	1.5	8.9	8.9		1.5	9.2	9.9	37.3
AVG:	**1.4**	**10.0**	**1.5**	**8.1**	**12.3**	**10.9**	**11.6**	**1.4**	**9.0**	**9.0**		**1.5**	**9.7**	**9.4**	**41.1**

Closed