The Dalles Dam Fishway Status Report

Date: 4/26/2014
Inspection Period: 4/20/2014 to 4/26/2014

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: 49.8 F / Secchi: 3.6 feet
NORTH FISHWAY					
Exit differential	0	≤ 0.5'			
Count station differential	0	≤ 0.3'			
Weir crest depth	0	1.0' ± 0.1'			
Entrance differential	1	1.0' - 2.0'	At 0.1'. Power panel trip. Refer to details below.		
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	1	Per forebay	Auto adjusts 1' increments.		
Weir 158-159 differential	0	1.0' ± 0.1'			
Count station differential	0	≤ 0.3'			
Weir crest depth	2	1.0' ± 0.1'	Out at 0.8' and 1.2'. Auto adjusted.		
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	8.5	Manually adjusted.
Entrance weir E2	0	depth (≥ 8')	Average	12.1	
Entrance weir E3	0	depth (≥ 8')	Average	10.2	
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	8.7	
Entrance weir W2	0	depth (≥ 8')	Average	8.7	
Entrance weir W3	closed	No criteria	Average	closed	
South entrance differential	0	1.0' - 2.0'	Average	1.4	
Entrance weir S1	0	depth (≥ 8')	Average	9.7	
Entrance weir S2	0	depth (≥ 8')	Average	10.3	
JUVENILE PASSAGE					
Sluicegate operation	0	1, 8, 18			
Turbine trashrack drawdown	0	<1.5', wkly			
Spill volume	8	40%	Spill above 40% due to load adjustments.		
Spill Pattern	0				
Turbine Unit Priority	2	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 for details.
Sea lion observed at west entrance several times. USDA notified for hazing.

Operations:
Entrance weir and channel/tailwater calibration checked on 4/23. Electricians notified to adjust E1 and S1 weirs.
Gatewell drawdown completed 4/24, all well within criteria.
Spillway requiring up to 4 pattern adjustments per hour. Project concern over equipment fatigue. To be discussed at weekly RCC call.
Power tripped on COE panel DQ1 on Apr22 causing PUD turbine to shut down. Power was also lost to PUD turbine bypass gates. PUD personnel worked to correct bypass gate problems. Total north entrance criteria outage was ~0850-0945.

Current Outages:
Transformer T8 (MU15 & MU16) de-rated to single unit full load operation.
Turbine unit MU22 out of service 3/24 to 5/1/14 for overhaul maintenance.

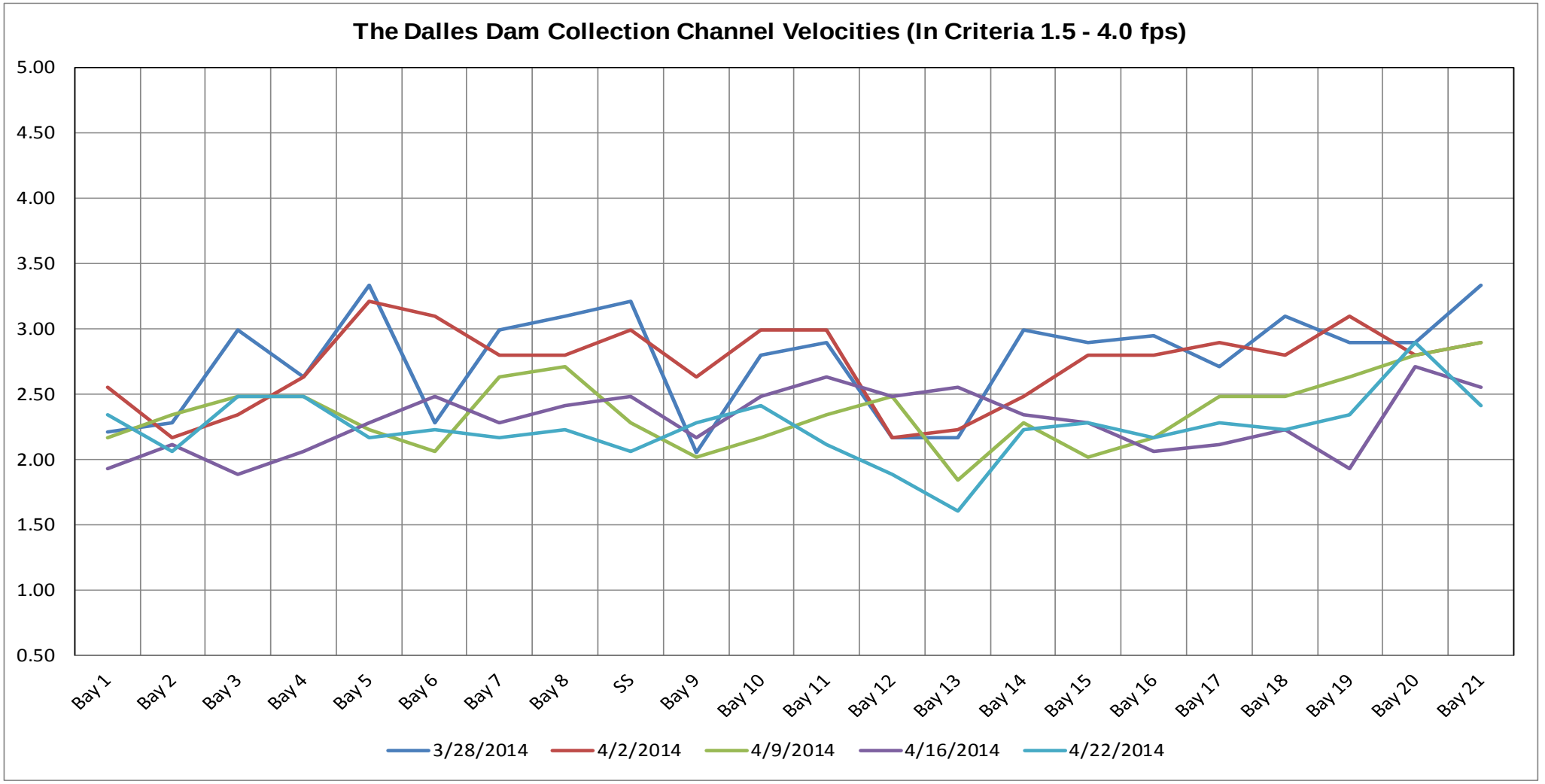
Maintenance:
Starting work on construction weir 158/159 replacement. Design FPOM approved Apr10.
North fishway pump motor replacement on order for next winter dewatering.
Disassembly started of failed east fishway collection channel dewatering pump. Other pumps to be inspected for similar problem.
Planning 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. No issues.
EFL - Plan 10' dia. pipe through dam, under roadway and into AWS conduit at junction pool. Starting Plans and Specs. Construction winter 2015.
Test dig planned for pipe location. FPOM coordination form in progress due to close proximity (within 50') of 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.
Lamprey - Skin plate planned for downstream face of 159 weir for lamprey improvement. Planning for tribal lamprey collection from count stations.

Research/Contractors:
Lamprey pre-collection conference call occurred 4/21. Agenda topics; collection targets, protocols reporting, POC list, duplex scanning.
Collection quota for The Dalles 374 lamprey. Trapping collection to start third week June inside count station picket leads.
PSMFC PUD weekly sampling 4/22; seven Chinook yearlings, one smolt, and 48 fry.
Normandeau fish counting program started conducting live counts 4/1 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. Traps to be placed behind picket leads at count stations.
USDA resumed gull hazing 15 April. Pyrotechnics are launched from shore 7days/week, 14hrs/day. Most hazing from downstream navlock peninsula.

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

Hazing activity primarily in SW-T4


The Dalles Dam Collection Channel Velocities (In Criteria 1.5 - 4.0 fps)
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
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
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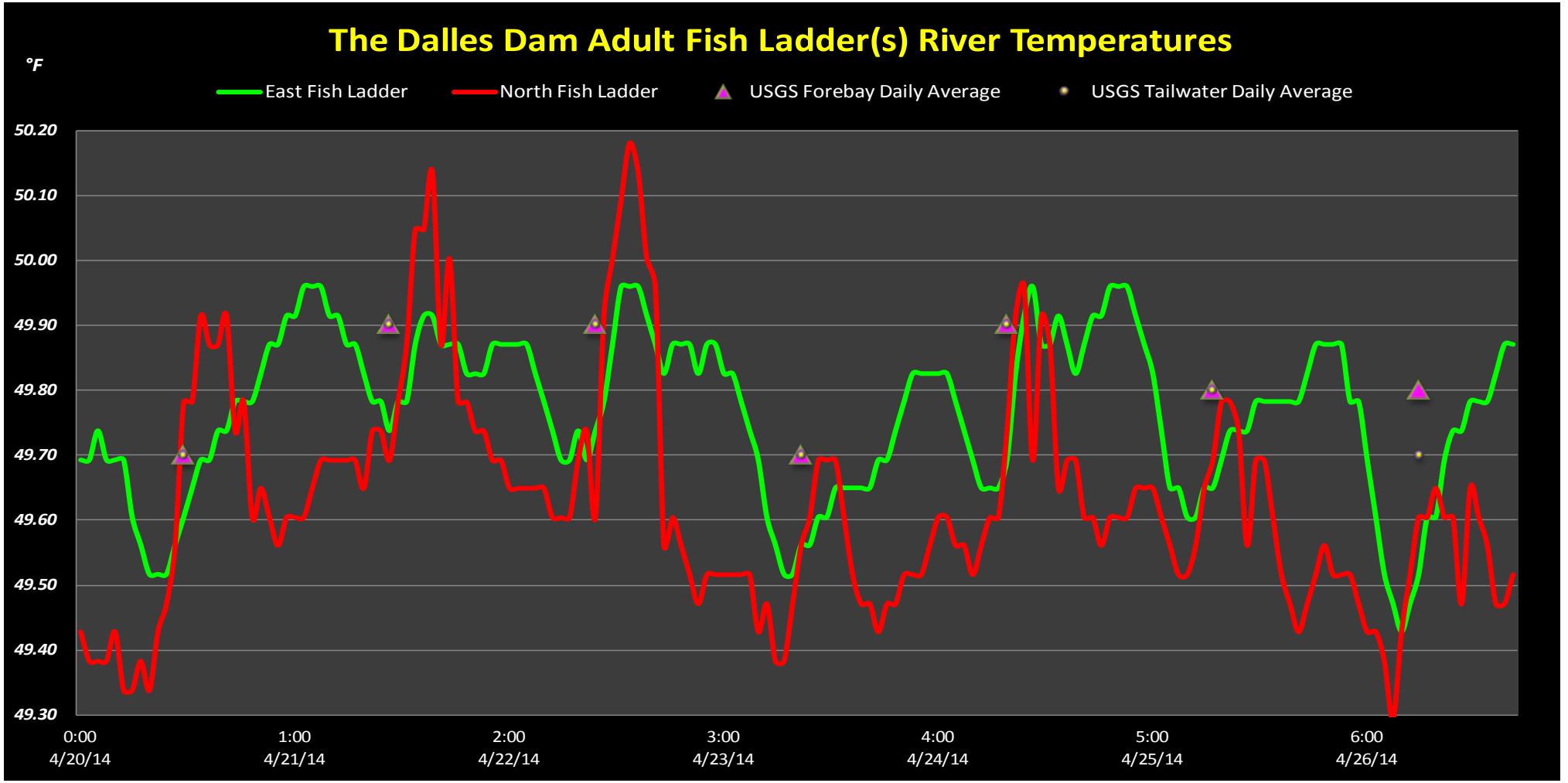
3/28/2014
4/2/2014
4/9/2014
4/16/2014
4/22/2014


The Dalles Dam Adult Fish Ladder(s) River 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
0:00
4/20/14
1:00
4/21/14
2:00
4/22/14
3:00
4/23/14
4:00
4/24/14
5:00
4/25/14
6:00
4/26/14

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	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		Left Ladder		Right Ladder			
	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#		
4/20	96	954	4.3	43	100	5	0	0	100	5	0	0	100	4	0	0	These species not yet present																40	249.8
4/21	92	841	7.8	71	100	6	0	0	100	8	0	0	100	4	0	0																	39.8	232.6
4/22	81	1283	19	305	83	10	17	2	100	17	0	0	100	4	0	0																	40.9	237.7
4/23	96	1796	3.8	70	100	10	0	0	100	9	0	0	100	5	0	0																	45.7	247.4
4/24	99	2244	1	22	100	22	0	0	100	8	0	0	100	2	0	0																	50.9	234.9
4/25	100	1907	0	0	100	11	0	0	100	5	0	0	100	1	0	0																	51.4	254.1
4/26	100	2756	0.3	7	100	43	0	0	100	13	0	0	100	6	0	0																	48.2	254.1

Date	Chinook		Jack Chinook		Steelhead		Steelhead Wild		Sockeye		Coho		Jack Coho		Lamprey			
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		
	95.8	4.2	98.2	1.8	100	0	100	0										

ɔrox 125-135kcfs. This most likely caused the decline of north passage.

Temp:		Secchi:
49.7	SUN	3.0
49.9	MON	4.0
49.9	TUES	3.0
49.7	WED	4.0
49.9	THUR	4.0
49.8	FRI	3.5
49.8	SAT	3.5
AVG: 49.8	AVG:	3.6

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	
4/20/14			1.5	8.1	12.0	11.0	12.7	1.5	9.1	9.0		1.4	9.7	9.9	
	1.4	10.0	1.6	8.0	11.9	10.9	12.6	1.5	9.1	9.2		1.3	10.1	10.1	39.4
	1.4	10.0	1.6	7.9	12.0	11.0	12.5	1.6	8.9	9.0		1.4	9.6	10.0	39.9
4/21/14			1.4	8.1	12.0	11.0	12.0	1.5	8.9	9.0		1.5	9.0	10.0	
	1.3	10.0	1.6	7.0	12.0	11.1	11.8	1.5	9.0	9.1		1.5	8.9	10.1	39.9
	1.4	9.9	1.5	7.0	12.0	10.9	11.6	1.4	8.9	9.0		1.6	8.7	9.9	40.3
4/22/14			1.6	7.9	12.0	11.0	11.2	1.5	8.9	9.0		1.7	8.4	9.4	
	0.1	10.0	1.8	8.1	12.0	10.9	10.4	1.4	9.3	9.3		1.7	8.0	9.0	40.0
	1.4	9.9	1.5	9.0	12.1	9.5	11.5	1.5	8.6	8.5		1.6	8.6	9.6	40.3
4/23/14			1.6	9.1	12.1	9.5	11.6	1.5	8.4	8.5		1.5	8.9	9.9	
	1.4	9.9	1.5	9.1	12.1	9.6	12.4	1.6	8.4	8.5		1.4	9.6	10.6	42.2
	1.3	10.1	1.5	9.1	12.1	9.6	12.8	1.6	8.5	8.4		1.4	9.8	10.8	40.1
4/24/14			1.5	9.0	12.0	9.5	11.6	1.5	8.4	8.4		1.5	8.8	9.8	
	1.4	9.9	1.6	8.9	12.0	9.5	11.4	1.5	8.4	8.5		1.2	10.9	11.0	53.1
	1.3	9.9	1.6	9.0	12.0	9.5	11.8	1.6	8.4	8.5		1.5	8.8	10.9	51.1
4/25/14			1.6	9.0	12.0	9.6	11.7	1.5	8.5	8.6		1.1	11.2	11.2	
	1.4	9.9	1.5	9.1	12.1	9.5	12.0	1.5	8.5	8.6		1.2	11.1	11.1	57.9
	1.5	9.9	1.6	8.9	11.9	9.4	12.2	1.6	8.4	8.5		1.2	11.1	11.1	53.2
4/26/14			1.7	9.0	12.0	9.5	12.7	1.5	8.6	8.4		1.1	11.1	11.1	
	1.5	9.8	1.4	8.8	12.3	12.3	13.8	1.7	8.5	8.6		1.4	10.6	10.5	48.7
	1.4	10.0	1.7	8.9	12.5	9.6	12.7	1.4	9.0	9.0		1.2	10.7	10.6	56.0
AVG:	**1.3**	**9.9**	**1.6**	**8.5**	**12.1**	**10.2**	**12.0**	**1.5**	**8.7**	**8.7**		**1.4**	**9.7**	**10.3**	**45.9**

Closed