The Dalles Dam Fishway Status Report

Date: 5/11/2014
Inspection Period: 5/04/2014 to 5/10/2014

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	Temperature: 53.3 F
			Comments	Secchi: 4.0 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'		
Weir crest depth	0	1.0' ± 0.1'		
Junction pool weir JP6	0	depth (≥ 7')	Manually adjusted as needed.	
East entrance differential	1	1.0' - 2.0'	Average 1.6	Fish unit outage 0356--0524 for maintenance
Entrance weir E1	0	No criteria	Average 7.6	Manually adjusted.
Entrance weir E2	0	depth (≥ 8')	Average 12.5	
Entrance weir E3	0	depth (≥ 8')	Average 10.3	
Collection channel velocity	0	1.5 - 4 fps	Average 2.2	
Transportation channel velocity	0	1.5 - 4 fps	Average 2.7	
North channel velocity	0	1.5 - 4 fps	Average 2.4	
South channel velocity	0	1.5 - 4 fps	Average 3.1	
West entrance differential	0	1.0' - 2.0'	Average 1.6	
Entrance weir W1	0	depth (≥ 8')	Average 9.8	
Entrance weir W2	0	depth (≥ 8')	Average 9.8	
Entrance weir W3	closed	No criteria	Average closed	
South entrance differential	0	1.0' - 2.0'	Average 1.5	
Entrance weir S1	0	depth (≥ 8')	Average 9.7	
Entrance weir S2	0	depth (≥ 8')	Average 9.7	
JUVENILE PASSAGE				
Sluicegate operation	1	1, 8, 18	MU 18 off ~30 min for rolling unit outage	
Turbine trashrack drawdown	0	<1.5', wkly	Range 0.2' - 0.5'.	
Spill volume	5	40%+-1%	Average 35.3	<40% due to gas cap
Spill Pattern	0	per FPP		
Turbine Unit Priority	1	per FPP		
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.
Hazing appears temporarily effective downstream of bridge.
No sea lion sightings for this week.

Operations:
Spill reduced from 40% due to gas cap. Noticeable affect of increased north fishladder passage with spill <100KCFS.

Current Outages:
T8 (MU15 & MU16) de-rated to single unit full load ops through 2017. Out of service several days for maintenance.
MU22 out of service 3/24 to 5/15/2014 for overhaul.

Maintenance:
All parts for new weir 158/159 ordered. Wheels and shaft assembly started.
North fishway pump motor replacement ordered.
Failed collection channel pump repaired. Installation next week. Remaining 9 pumps to be inspected for similar problem.
Planning to install 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 and 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 - Backup water bore through dam, under roadway and into AWS conduit at junction pool. Starting Plans and Specs. Construction winter 2015. East fishway backup water supply; test pits to be excavated between fishladder and fishlock parking area this summer. ADCP flow velocity survey in forebay near east exit this summer. Planning/approval underway for both.
PUD - PUD 'freedom' turbine; second turbine proposal for north fishway in FERC review process. COE reviewed and commented.
Lamprey - Skin plate planned for downstream face of new 159 weir for lamprey improvement. Planning for tribal lamprey collection at count stations.

Research/Contractors:
ODFW Northern Pikeminnow Management Program evaluation electrofishing; # NPM tagged-74, # NPM undersized-38, effort hours-25, NPM ≥ 230 74, adult salmonids-58, juvenile salmonids -6,431, sturgeon-31, game fish-1,289, non game fish-5,659.
Fish counters on site at north and east count stations 16 hours a day 1 April through 30 October.
PSMFC PUD weekly sampling 5/7; seven Chinook yearling, one smolt, 3 fry, and one steelhead.
Normandeau fish counting program started conducting live counts 4/1 through 10/31.
USDA gull hazer's on site launching pyrotechnics from downstream padlock peninsula. Gull numbers moderate. USDA also called to haze sea lion from taking fish at west entrance.
University of Idaho maintaining antennas.
Removal last set of 3 derelict Vertical Barrier Screens from MU 12 gate well slot scheduled week of Aug11. Coordination in progress.
WDFW started 6/6 conducting hook and line removals of predatory northern pike minnow from the BRZ adjacent to the project.

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

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		Left Ladder		Right Ladder			
	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#		
5/4	86.3	6799	13.7	1079	96.1	396	3.9	16	100	12	0	0		5		-1		0		0		0		0		0		0		0		0	37.4	261
5/5	84.7	3347	15.3	605	97.1	330	2.9	10	100	6	0	0	100	4	0	0		0		0		0		0		0		0		0		0	35.1	275
5/6	70.7	3223	29.3	1336	79.7	322	20.3	82	87.5	7	12.5	1	50	1	50	1		0		0		0		0		0		0		0		0	30.2	313
5/7	67.2	3119	32.8	1519	84.2	586	15.8	110	72.7	16	27.3	6	100	4	0	0		0		0		0		0		0		0		0		0	33.7	281
5/8	67.4	3258	32.6	1577	83.8	714	16.2	138	54.5	6	45.5	5		-2		1		0		0		0		0		0		0		0		0	35	278
5/9	87.8	3932	12.2	545	98.1	970	1.9	19	100	10	0	0	100	2	0	0		0		0		0		0		0		0		0		0	38.3	266
5/10	77.2	2778	22.8	820	94	1130	6	72	87.1	27	12.9	4		1		-1		0		0		0		0		0		0		0		0	40.2	231

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		
	78	22	90.9	9.1	84	16	100	0	0	0	0	0	0	0	0	0		

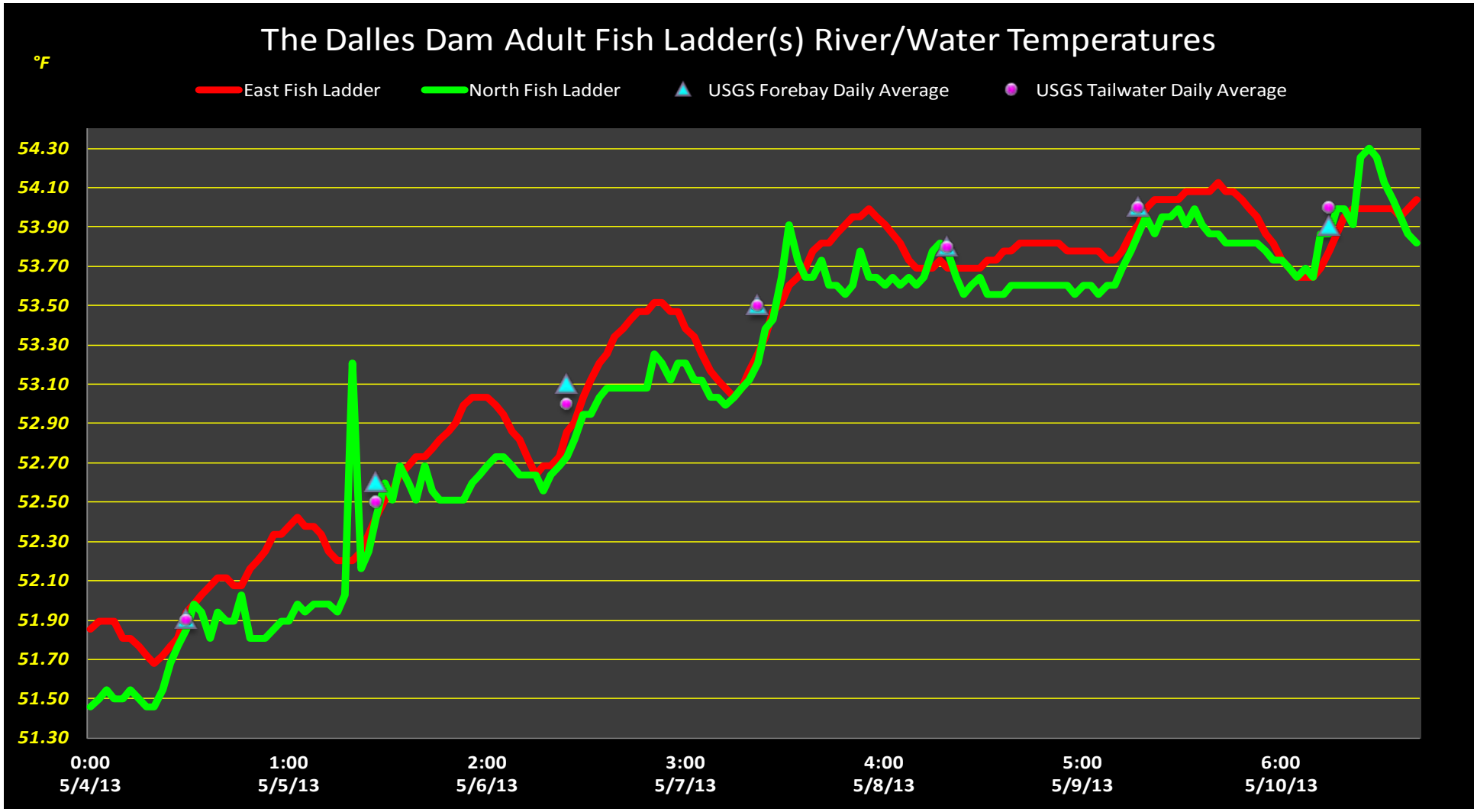
NOTES:

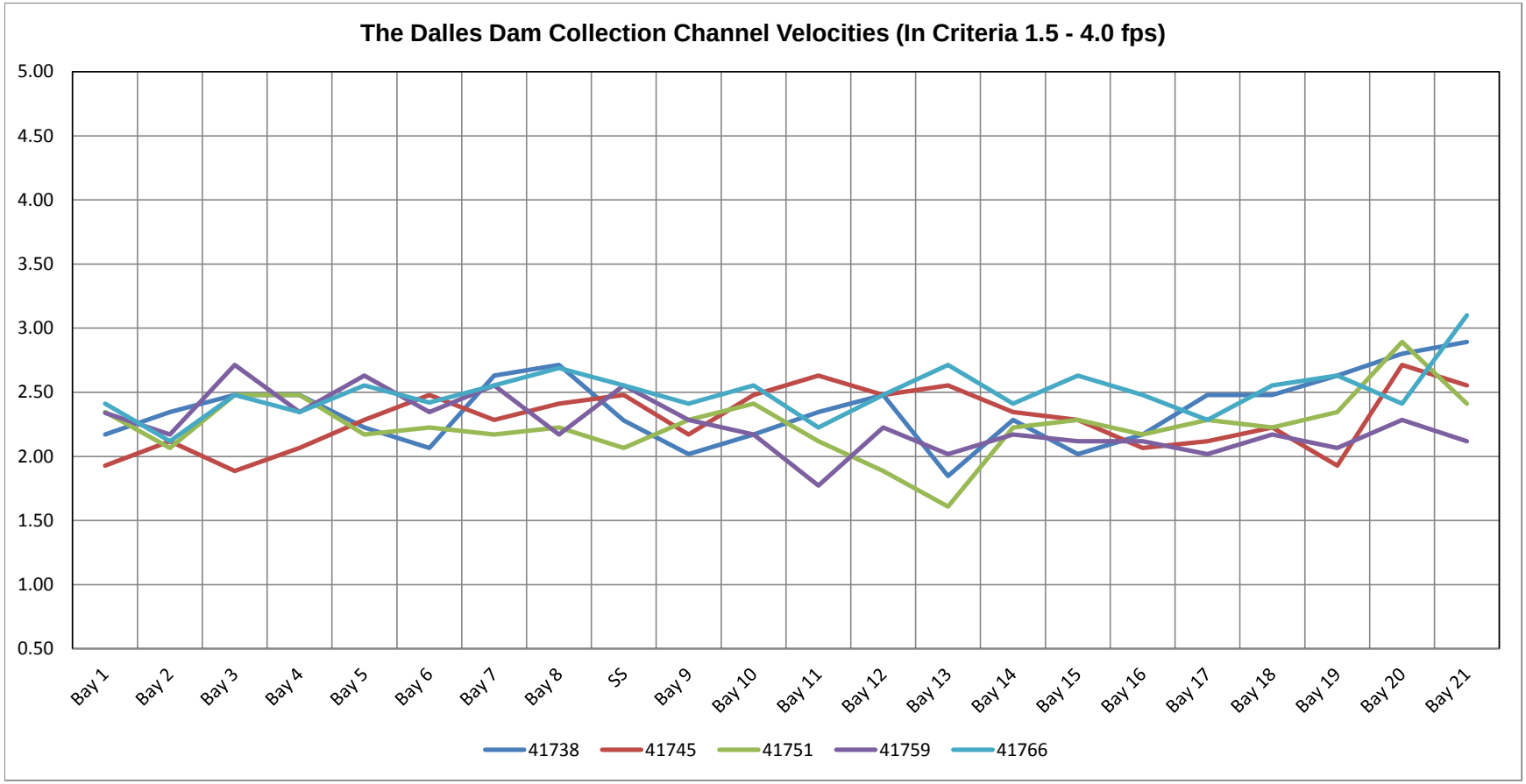
1. The species passage percent is not calculated for either ladder on a day, if either the Right Ladder or Left Ladder species count is: negative or null for the day.

2. Ladder orientations reference the side of the river when facing downstream.

3. Data Provided Courtesy of U.S. Army Corps of Engineers

Hazing activity primarily in SW-T4
Numbers reflect weekly range of daily averages


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
54.30
54.10
53.90
53.70
53.50
53.30
53.10
52.90
52.70
52.50
52.30
52.10
51.90
51.70
51.50
51.30
0:00 5/4/13
1:00 5/5/13
2:00 5/6/13
3:00 5/7/13
4:00 5/8/13
5:00 5/9/13
6:00 5/10/13


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
Bay 17
Bay 18
Bay 19
Bay 20
Bay 21
41738
41745
41751
41759
41766

	Temp:		Secchi:
	51.9	SUN	3.5
	52.9	MON	4.5
	53.1	TUES	4.5
	53.5	WED	4.5
	53.8	THUR	4.5
	54.0	FRI	3.2
	53.9	SAT	3.5
AVG:	53.3	AVG:	4.0

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

= out of criteria

	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	
5/4/14			1.7	7.5	12.5	9.5	11.9	1.7	8.5	8.6	Closed	1.6	9.1	9.0	
	1.3	10.1	1.7	7.4	12.4	9.4	13.2	1.9	8.4	8.4		1.7	8.9	9.0	**37.3**
	1.4	10.0	1.7	7.5	12.5	9.6	12.9	1.7	8.6	8.5		1.5	9.0	9.1	**33.5**
5/5/14			1.7	7.5	12.6	9.6	13.5	1.8	8.5	8.6		1.7	9.0	9.1	
	1.3	10.1	1.4	9.0	12.6	10.1	14.3	1.5	10.0	10.0		1.5	9.5	9.5	**34.6**
	1.4	9.9	1.5	8.3	12.6	10.1	13.4	1.6	9.3	9.4		1.6	8.8	8.9	**38.1**
5/6/14			1.5	6.0	12.5	10.5	15.6	1.6	10.1	10.1		1.5	10.1	10.1	
	1.4	9.9	1.6	6.1	12.6	10.4	15.7	1.5	10.0	10.0		1.5	10.0	10.0	**29.2**
	1.3	10.1	1.4	6.0	12.5	10.9	15.6	1.6	10.2	10.2		1.5	9.9	9.9	**32.2**
5/7/14			1.5	5.9	12.5	11.1	14.7	1.6	9.8	9.8		1.5	9.9	9.9	
	1.4	10.0	1.5	6.1	12.6	11.1	14.4	1.5	9.9	10.0		1.4	10.0	10.0	**32.7**
	1.4	9.9	1.5	6.0	12.6	11.1	15.0	1.6	9.8	9.9		1.5	9.9	9.9	**33.4**
5/8/14			1.4	6.1	12.5	11.0	14.6	1.6	9.9	9.9		1.4	10.0	10.0	
	1.4	9.9	1.7	6.2	12.6	11.2	14.7	1.8	10.1	10.0		1.7	9.9	9.9	**31.8**
	1.4	9.9	1.7	7.2	13.6	12.1	16.3	1.8	10.0	10.0		1.6	10.1	10.1	**33.5**
5/9/14			**2.3**	6.0	12.6	9.0	13.2	1.8	10.1	10.1		1.5	10.1	10.0	
	1.4	10.0	1.6	10.1	12.2	10.1	13.2	1.5	10.6	10.5		1.5	9.9	9.9	**39.4**
	1.4	10.0	1.5	9.9	12.0	9.8	13.2	1.5	10.3	10.4		1.5	9.9	9.9	**36.4**
5/10/14			1.6	9.9	12.0	10.0	12.5	1.5	10.4	10.4		1.5	10.0	10.0	
	1.3	10.0	1.6	10.0	11.9	9.9	12.4	1.5	10.5	10.5		1.5	10.0	9.9	**41.5**
	1.4	9.9	1.6	10.0	12.1	10.1	13.2	1.5	10.4	10.4		1.5	10.1	10.0	**40.1**
AVG:	**1.4**	**10.0**	**1.6**	**7.6**	**12.5**	**10.3**	**14.0**	**1.6**	**9.8**	**9.8**		**1.5**	**9.7**	**9.7**	**35.3**