

The Dalles Dam Fishway Status Report

10/25/2014
 Inspection Period: 10/19/2014 to 10/25/2014

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: 62.9 F
			Comments		Secchi: > 5.0 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'	Average	1.2	
Entrance weir N1	2	depth (≥ 8')	Average	8.8	OOO at 7.9 due to low tailwater
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'	Window cleaned as needed.		
Weir crest depth	0	1.0' ± 0.1'			
Junction pool weir JP6	2	depth (≥ 7')	Average	8.4	OOO at 6.8 due to low tailwater
East entrance differential	0	1.0' - 2.0'	Average	1.6	
Entrance weir E1	0	No criteria	Average	5.6	Manually adjusted as needed.
Entrance weir E2	0	depth (≥ 8')	Average	12.1	
Entrance weir E3	0	depth (≥ 8')	Average	9.9	
Collection channel velocity	0	1.5 - 4 fps	Average	3.0	
Transportation channel velocity	0	1.5 - 4 fps	Average	2.5	
North channel velocity	0	1.5 - 4 fps	Average	3.0	
South channel velocity	0	1.5 - 4 fps	Average	3.8	
West entrance differential	0	1.0' - 2.0'	Average	1.5	
Entrance weir W1	1	depth (≥ 8')	Average	8.6	OOO at 7.5' - manually adjusted
Entrance weir W2	0	depth (≥ 8')	Average	9.5	
Entrance weir W3	0	No criteria	Closed		
South entrance differential	0	1.0' - 2.0'	Average	1.5	
Entrance weir S1	0	depth (≥ 8')	Average	8.7	
Entrance weir S2	0	depth (≥ 8')	Average	8.7	
JUVENILE PASSAGE					
Sluiceway operation	1	1, 8, 18	MU 18 off for BPA scheduled work on 10/20/14		
Turbine trashrack drawdown	0	<1.5', wkly	Range		
Spill volume	0	40% ±1%	Average	On seal.	
Spill Pattern	0	per FPP	Spillbay	On seal.	
Turbine Unit Priority	1	per FPP	OOO on 10/20/14 due to Line #6 outage for scheduled BPA work		
Turbine 1% Efficiency	0	per FPP			

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

Bird observation data collected once daily. Refer to Avian Zone Map. Piscivorous birds targeting emerging juvenile shad. Sea lion observed taking fish near east entrance 10/23.

Operations:

Entrance weir E3 in manual due to sticking. E1 and E2 set in auto. All maintaining criteria depth.

Entrance weir W1 in manual also due to sticking. Maintaining depth criteria.

The east ladder, west ladder, and ice/trash sluiceway are in service and in accordance with the Fish Passage Plan.

Current Outages:

T8 (MU15 & MU16) de-rated to single unit full load ops through 9/14/2017.

MU15 OOS 9/29 to 10/30/2014 for annual.

Powerhouse line #6, MU-17-22 out of service from 0823 - 1618 on 10/20/14 for scheduled BPA maintenance work.

Maintenance:

Dive plan for spillwall repair in review by Dive Safety Office. Construction start 12/10/2014.

Four collection channel dewatering pumps require removal and rehab. Parts for completion of two on hand. Remaining four to be inspected this winter.

Weirs E3 and W1 sticking in guide. Repair during winter fishway outage with wheel replacement and guide repair. Does not affect criteria operation.

Permanent east fishway exit boom purchased. Delivery changed to Dec. Install before March. Further assessment for oil spill protection continues.

Charter approved for repair of north fishway rock walls. PM assigned. Awaiting start.

Exit weir fabrication for 158 weir complete. Staged at exit for winter install. Possible in house fabrication of new exit weirs for 154-157.

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.

Fish related but non-fish funded items; spillway evaluation, spillway crane rehab, spillgate 9 wire rope replacement, HDC 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:

EFL Backup. Plans/Specs 60% review underway. Construction winter '15/'16. Includes 10' pipe from forebay to AWS. Test for passage vs 1400cfs denied.

PUD 'freedom' second turbine proposal underway. Field test proposal for summer 2015 being reviewed. FPOM agenda item for November.

Spill test for more fish passage to north fishladder completed. Results showed benefit. East ladder overflow passage rates observed for overcrowding behavior changes. Conclusion; no overflow passage ratio changes with increasing ladder passage.

Disrict working on justification for spillgate 9 repair.

Research/Contractors:

PSMFC PIT tag monitoring continues at count stations. Investigating potential interference from north count station recommended video upgrades.

Normandeau fish counters at north and east count stations 16 hours/day 4/1-10/30. Investigating visibility improvements for video at north count station.

Dreissenid sampling via monthly plankton tows ongoing until water temperatures go below 50°F. Samples sent to PSU for analysis.

University of Idaho maintaining antennas and continuing downloads. Installed two additional antennas upstream and down stream of navlock for winter steelhead monitoring.

Approved by: Ron Twiner

Operation Project Manager The Dalles Dam

The Dalles East

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
19-Oct-14	1078	848	230	485	257	228	312	289	23	0	0	0	1
20-Oct-14	1017	799	218	698	392	306	326	301	25	0	0	0	0
21-Oct-14	670	497	173	484	284	200	134	124	10	0	0	0	0
22-Oct-14	827	577	250	505	281	224	189	178	11	0	0	0	1
23-Oct-14	694	528	166	367	227	140	540	520	20	0	0	0	1
24-Oct-14	642	469	173	1023	508	515	1633	1555	78	0	0	0	1
25-Oct-14	477	358	119	691	379	312	495	457	38	0	0	0	0
total	5405	4076	1329	4253	2328	1925	3629	3424	205	0	0	0	4

The Dalles North

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
19-Oct-14	176	140	36	80	42	38	88	86	2	0	0	0	0
20-Oct-14	117	83	34	149	94	55	65	60	5	0	0	0	0
21-Oct-14	60	41	19	68	38	30	57	53	4	0	0	0	0
22-Oct-14	77	61	16	68	38	30	37	35	2	0	0	0	0
23-Oct-14	98	73	25	107	60	47	224	222	2	0	0	0	0
24-Oct-14	87	68	19	226	118	108	458	445	13	0	0	0	0
25-Oct-14	54	37	17	147	77	70	178	172	6	0	0	0	0
total	669	503	166	845	467	378	1107	1073	34	0	0	0	0



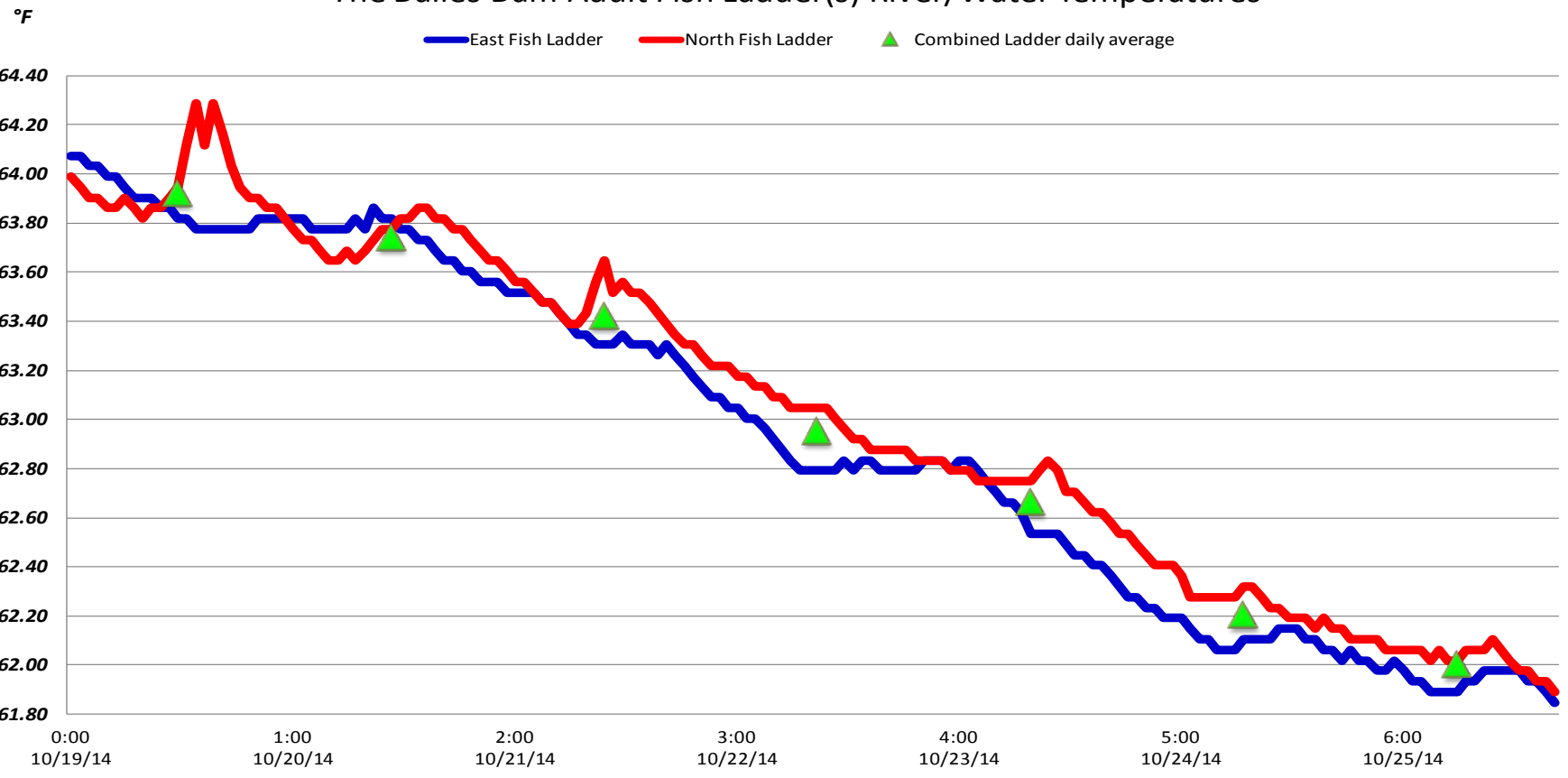
Avian lines in yellow, zones in red.

2014 Piscivorous Bird Counts

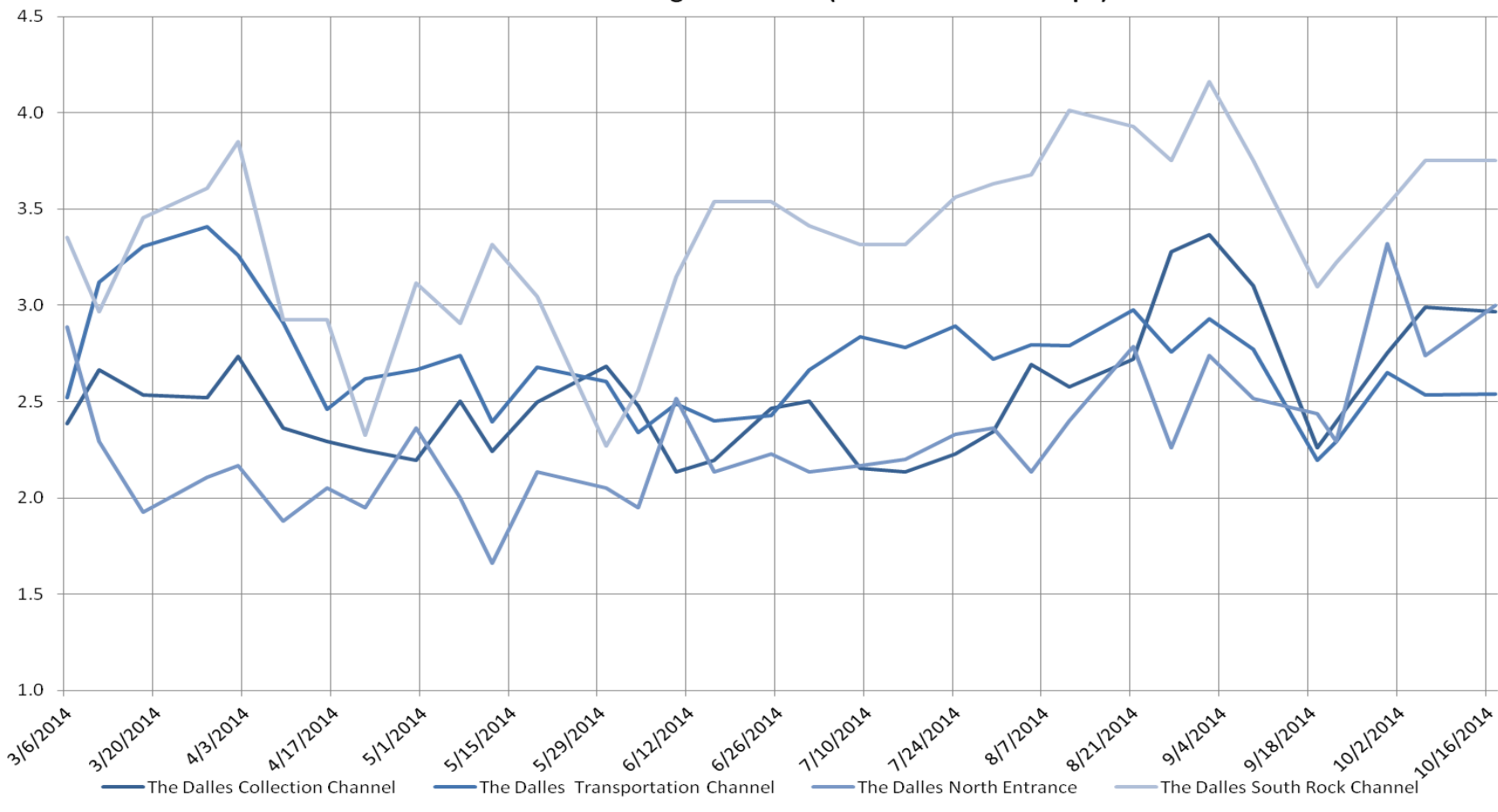
F=foraging, NF=non-foraging

Date	Session	Time (24 hr)	Zone	Gull		Cormorant		Caspian tern		Other		Total birds in zone	Observer	Notes
				F	NF	F	NF	F	NF	F	NF			
10/19/14	1	10:49	FB	0	0	0	10	0	0	0	0	10	PSK	other = grebes other = grebes
		9:48	PH1	0	0	1	3	0	0	0	0	4		
		9:58	PH2	0	0	0	0	0	0	0	0	0		
		11:03	SW1	0	4	1	0	0	0	0	0	5		
		10:03	SW2	2	0	3	4	0	0	0	0	9		
		11:09	SW3	0	3	0	25	0	0	0	0	28		
		11:16	SW4	0	20	0	9	0	0	0	0	29		
10/20/14	1	14:05	FB	0	0	0	8	0	0	0	15	0	jwr	other = grebes other = COME
		13:16	PH1	0	0	1	19	0	0	0	3	23		
		13:22	PH2	0	0	0	0	0	0	0	0	0		
		14:03	SW1	0	0	0	0	0	0	0	0	0		
		13:51	SW2	0	0	0	0	0	0	0	0	0		
		13:54	SW3	0	14	0	22	0	0	0	0	36		
		13:58	SW4	0	17	0	6	0	0	0	0	23		
10/21/14	1	10:53	FB	0	0	0	4	0	0	0	22	26	PSK	other = 22 grebes NF
		9:32	PH1	0	0	0	10	0	0	0	0	10		
		9:47	PH2	1	0	0	0	0	0	0	0	1		
		11:05	SW1	1	0	0	0	0	0	0	0	1		
		9:49	SW2	0	2	1	0	0	0	0	0	3		
		11:18	SW3	0	15	0	36	0	0	0	0	51		
		11:21	SW4	0	43	0	3	0	0	0	0	46		
10/22/14	1	14:33	FB	0	1	0	0	0	0	0	37	38	PSK	other = 37 grebes NF other = 14 mergansers NF other = 1 great blue heron
		13:21	PH1	0	1	0	18	0	0	0	14	33		
		13:38	PH2	2	0	2	0	0	0	0	0	4		
		14:47	SW1	0	0	1	0	0	0	0	0	1		
		13:27	SW2	0	1	1	0	0	0	0	0	2		
		14:58	SW3	0	17	0	21	0	0	0	1	39		
		15:02	SW4	0	50	0	6	0	0	0	0	56		
10/23/14	1	10:17	FB	0	0	0	5	0	0	0	40	45	jwr	other = grebes other = COME
		9:56	PH1	0	0	0	11	0	0	0	30	41		
		9:18	PH2	1	0	1	0	0	0	0	0	2		
		10:15	SW1	0	5	0	0	0	0	0	0	5		
		9:25	SW2	0	0	2	0	0	0	0	0	2		
		10:09	SW3	0	0	0	26	0	0	0	0	26		
		10:12	SW4	0	33	2	7	0	0	0	0	42		
10/24/14	1	14:58	FB	0	0	0	7	0	0	0	31	38	EHK	grebes mergansers gbh gbh
		14:18	PH1	0	1	0	23	0	0	0	9	33		
		14:28	PH2	3	0	0	0	0	0	0	0	3		
		15:09	SW1	0	0	0	0	0	0	0	0	0		
		14:32	SW2	3	0	0	5	0	0	0	0	8		
		14:33	SW3	0	10	0	8	0	0	0	1	19		
		15:21	SW4	0	42	0	18	0	0	0	1	61		
10/25/14	1	10:04	FB	0	0	0	6	0	0	0	0	6	EHK	
		9:41	PH1	0	0	9	0	0	0	0	0	9		
		9:45	PH2	7	0	0	0	0	0	0	0	7		
		10:03	SW1	0	7	0	0	0	0	0	0	7		
		9:48	SW2	2	0	1	0	0	0	0	0	3		
		10:22	SW3	0	0	0	32	0	0	0	0	32		
		10:24	SW4	0	28	0	11	0	0	0	0	39		

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



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



Temperatures

63.9
63.7
63.4
62.9
62.6
62.1
61.9
AVG: 62.9

Secchi:

5.0
5.0
5.0
5.0
5.0
5.0
5.0
AVG: 5.0

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

= out of criteria

Date:	North Ladder		East Ladder											Spill KCFS	
	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	
10/19/14			1.6	4.0	12.4	10.4		1.5	8.8	10.0	Closed	1.5	9.0	9.0	On Seal
	1.1	9.4	1.7	3.9	12.5	10.3	8.8	1.6	8.7	9.9		1.5	8.9	8.9	
	1.1	9.4	1.6	4.0	12.6	10.4	8.9	1.5	8.7	10.1		1.5	9.0	9.0	
10/20/14			1.4	3.9	12.4	11.0		1.6	9.1	10.0		1.5	9.0	9.0	
	1.2	9.3	1.5	4.1	12.6	10.8	9.3	1.6	9.0	10.1		1.5	9.0	9.0	
	1.4	9.4	1.5	4.2	12.7	10.3	8.8	1.5	8.4	10.0		1.5	9.0	8.9	
10/21/14			1.5	4.0	12.5	10.6		1.6	8.7	9.9		1.6	8.9	8.9	
	1.1	9.2	1.6	4.0	12.5	10.4	8.9	1.5	8.6	10.0		1.6	8.8	8.9	
	1.1	9.0	1.6	4.1	12.2	10.1	8.6	1.6	8.2	9.9		1.4	9.0	8.9	
10/22/14			1.7	4.1	12.6	10.2		1.5	8.5	10.1		1.3	9.2	9.1	
	1.2	8.9	1.6	4.0	12.5	10.1	8.6	1.6	8.2	10.0		1.4	9.0	9.1	
	1.2	9.0	1.6	4.0	12.7	10.2	8.7	1.5	8.3	10.1		1.5	9.0	8.9	
10/23/14			1.9	5.1	11.5	9.0		1.5	7.5	10.0		1.2	9.1	9.0	
	1.1	8.7	1.6	6.9	11.9	9.4	7.9	1.5	9.0	9.0		1.6	8.4	8.4	
	1.5	8.0	1.6	7.5	11.7	9.2	7.7	1.5	9.1	9.0		1.4	8.5	8.6	
10/24/14			1.9	7.5	10.8	8.3		1.4	9.1	9.1	1.1	8.6	8.6		
	1.3	7.9	1.5	8.5	10.8	8.8	6.8	1.6	8.5	8.5	1.6	8.0	8.0		
	1.2	7.8	1.6	8.4	10.8	8.7	6.7	1.6	8.5	8.5	1.4	8.1	8.1		
10/25/14			1.4	8.6	11.4	9.3		1.5	8.8	8.7	1.5	8.3	8.2		
	1.4	8.3	1.3	8.4	12.0	9.9	9.9	1.7	8.8	8.7	1.7	8.1	8.1		
	1.4	8.5	1.4	8.6	12.4	10.3	8.3	1.6	9.0	8.9	1.7	8.2	8.0		
AVG:	1.2	8.8	1.6	5.6	12.1	9.9	8.4	1.5	8.6	9.5	Closed	1.5	8.7	8.7	



U of I new aerial antenna downstream of the navlock to monitor winter steelhead.