

The Dalles Dam Fishway Status Report

Date: 8/31/2014
 Inspection Period: 8/24/2014 to 8/30/2014

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: Comments	21	Temperature: 72.0 F
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 1.3	Error in last week status report. North entrance not out of criteria.	
Entrance weir N1	0	depth (≥ 8')	Average 9.9		
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	0	depth (≥ 7')	Average 10.5	Manually adjusted as needed.	
East entrance differential	0	1.0' - 2.0'	Average 1.5		
Entrance weir E1	0	No criteria	Average 0.4	Manually adjusted as needed.	
Entrance weir E2	0	depth (≥ 8')	Average 11.5		
Entrance weir E3	0	depth (≥ 8')	Average 11.8		
Collection channel velocity	0	1.5 - 4 fps	Average 3.3		
Transportation channel velocity	0	1.5 - 4 fps	Average 2.8		
North channel velocity	0	1.5 - 4 fps	Average 2.3		
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	0	depth (≥ 8')	Average 9.8		
Entrance weir W2	0	depth (≥ 8')	Average 9.9		
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 9.2		
Entrance weir S2	0	depth (≥ 8')	Average 9.3		
JUVENILE PASSAGE					
Sluiceway operation	0	1, 8, 18			
Turbine trashrack drawdown	0	<1.5', wkly	Range 0.0' -0.4'		
Spill volume	0	40% ±1%	Average 39.9	See average tab for daily averages.	
Spill Pattern	0	per FPP			
Turbine Unit Priority	5	per FPP	Continued problems with block MU 13-16 See Current Outages below		
Turbine 1% Efficiency	0	per FPP			

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

Bird observation data collected once daily. Refer to Avian Zone Map.

Cormorants continue to forage in forebay near east fishway exit. Easily hazed by walking on forebay deck.

Operations:

F2 tripped off line 8/28 from 17:15-17:40. Troubleshooting cause.

Entrance weir E3 in manual due to sticking. E1 and E2 set in auto. All maintaining criteria depth. Gatewell drawdown check 8/29. All in criteria.

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

Calibration completed 8/26. Electricians notified for discrepancies.

Current Outages:

Current Outages:

MU21 out 8/25 to 8/28/2014 for annual maintenance

MU14 out 7/21 to 9/11/2014 for overhaul maintenance

T8 (MU15 & MU16) de-rated to single unit full load operation

Maintenance:

North fishway pump motor replacement delivered. Installation prep starting. To be installed prior to Jan 2015 dewatering.

Parts on order for install of equalizing valve on PUD intake bulkhead for next winter dewatering.

East entrance weir E3 sticking in guide. To be addressed this winter. Does not affect criteria operation.

Permanent boom purchase underway for protecting east fishway from upstream oil spills. FPOM approved.

Charter approved for repair of north fishway rock walls. PM to be assigned.

Long term repair plans funding dependent; Upgrade east exit weirs 154-157, awaiting PM assignment to 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 9 and/or 10/11 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.

New weir 158 leafs fabricated. Wheel and seal install next. Completion by Oct 1. Installation mid Dec.

Studies:

EFL Backup. Plans/Specs underway for 10' hole through dam, under roadway and into AWS conduit at junction pool. Construction winter '15/'16.

In light of recent fish unit failures, there are concerns over whether 1400cfs will provide enough attraction. Test to be proposed through FPOM.

PUD 'freedom' second turbine proposal. No new developments.

Spill Attraction - Record fall Chinook runs expected in 2014. Concern for overcrowding in east fish ladder. ERDC model trip completed to determine optimal spill operation to attract more fish to the north fish ladder. Field observations to start Sept1 to monitor possible passage changes.

Spillgate Repair - ERDC model confirmed spill gate 9 repair as most beneficial over spill gates 10 and 11. District determining funding source.

Research/Contractors:

PSMFC PIT tag monitoring continues at count stations.

Columbia River Northern Pikeminnow Management Dam Angling: weekly total 105 pikeminnow for grand total of 1,852 pikeminnow removed.

Nez Perce continuing lamprey collection at east count station traps through end of Aug. No count report provided.

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.

PSMFC sampling at PUD completed for season.

USDA bird hazing completed for season.

Zebra mussel monitoring with plankton samples ongoing. Samples provided to PSU for analysis.

University of Idaho maintaining antennas and continuing downloads.

Removal last set of 3 derelict Vertical Barrier Screens from MU 12 gate well slot completed. Investigating disposal options.

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
24-Aug-14	957	854	103	864	538	326	16	14	2	6	0	0	29
25-Aug-14	947	792	155	489	314	175	10	8	2	2	0	0	34
26-Aug-14	1970	1771	199	391	221	170	27	23	4	4	0	0	31
27-Aug-14	921	734	187	255	175	80	96	37	59	1	0	0	17
28-Aug-14	1801	1518	283	464	271	193	23	23	0	0	0	0	29
29-Aug-14	2205	1913	292	448	274	174	63	31	32	0	0	0	19
30-Aug-14	2994	2584	410	545	328	217	120	100	20	2	0	0	26
total	11795	10166	1629	3456	2121	1335	355	236	119	15	0	0	185

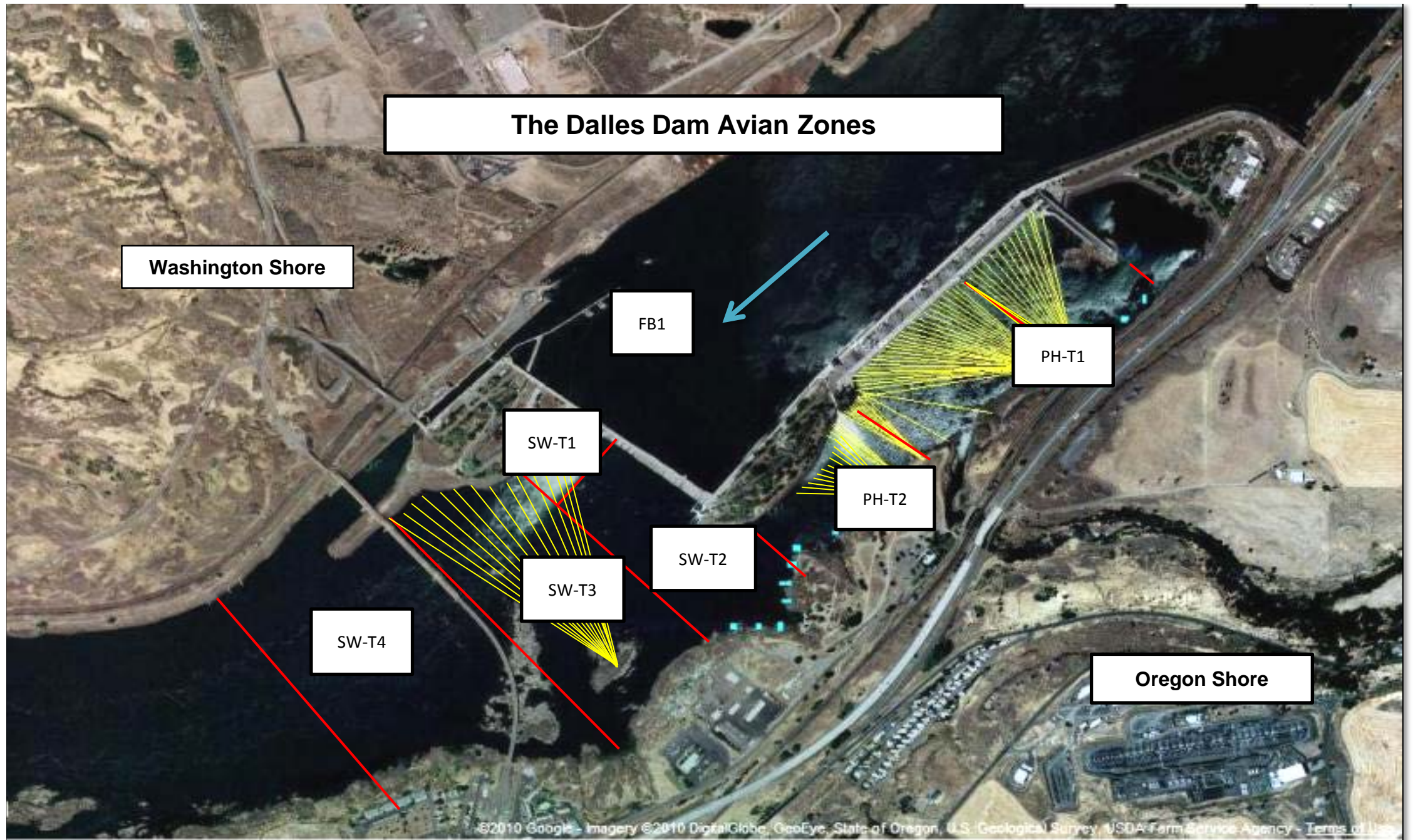
The Dalles North

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
24-Aug-14	274	248	26	662	408	254	0	-2	2	4	0	0	54
25-Aug-14	596	566	30	268	160	108	1	1	0	0	0	0	37
26-Aug-14	804	784	20	165	107	58	6	5	1	2	0	0	19
27-Aug-14	934	866	68	328	188	140	8	7	1	1	0	0	35
28-Aug-14	913	821	92	304	190	114	11	4	7	0	0	0	18
29-Aug-14	1215	1120	95	381	226	155	33	25	8	0	0	0	14
30-Aug-14	2400	2261	139	474	295	179	35	22	13	0	0	0	28
total	7136	6666	470	2582	1574	1008	94	62	32	7	0	0	205

2014 Piscivorous Bird Counts

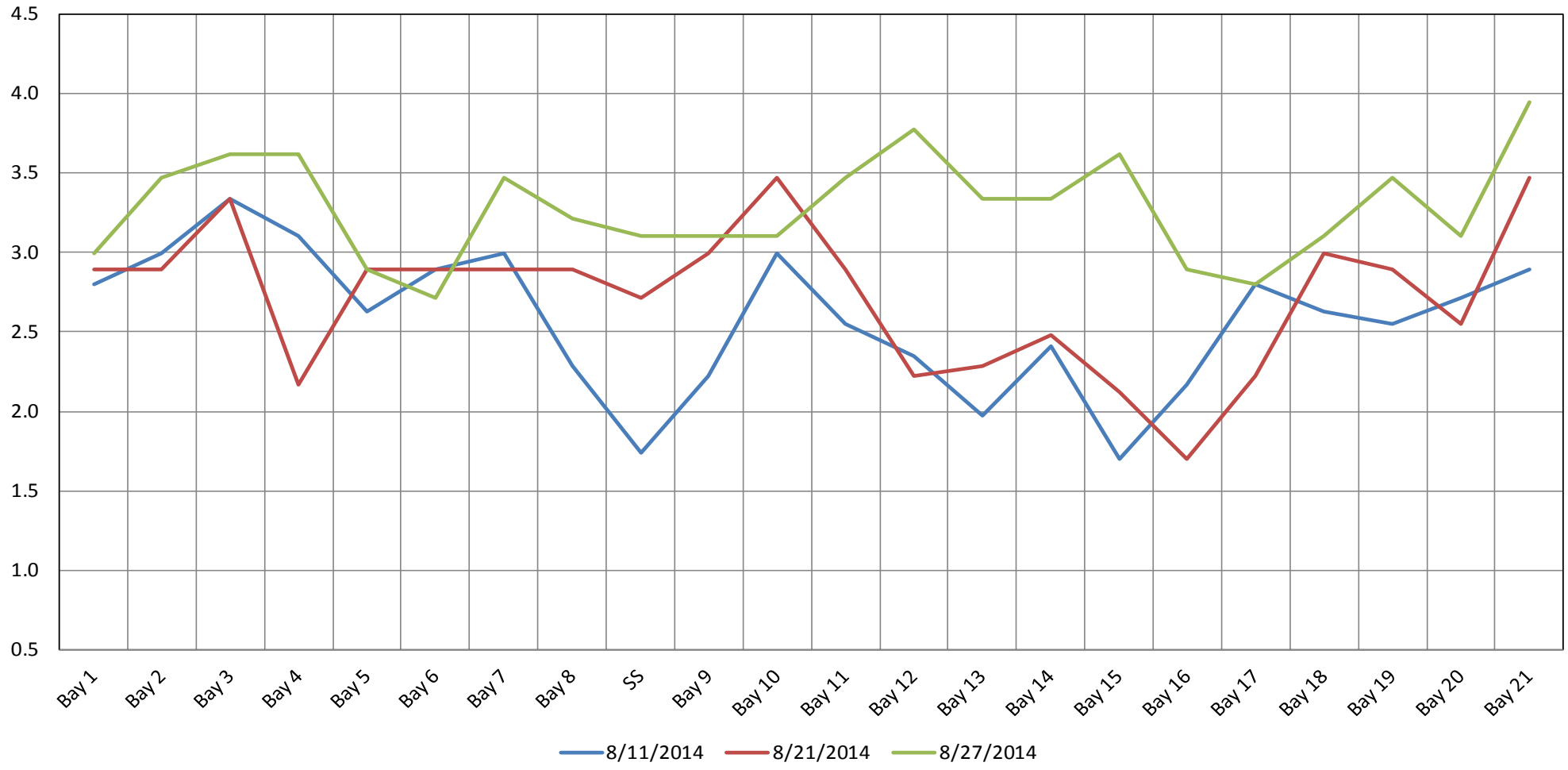
F=foraging, NF=non-foraging

Date	Session	Time (24 hr)	Zone	Gull		Cormorant		Caspian tern		Other		Total birds in	Observer	Notes
				F	NF	F	NF	F	NF	F	NF			
8/24/14	1	9:22	FB	0	0	0	56	0	0	0	0	56	PSK	roosting on north electrical towers
		9:17	PH1	0	0	0	0	0	0	0	0	0		
		9:24	PH2	0	0	0	0	0	0	0	0	0		
		10:55	SW1	0	8	0	0	0	0	0	0	8		resting on spillwall
		9:31	SW2	0	0	1	0	0	0	0	0	1		
		11:05	SW3	1	0	0	0	0	0	0	0	1		
		11:07	SW4	15	7	0	2	0	0	0	0	24		
8/25/14	1	13:35	FB	0	0	8	11	0	0	1	0	20	jwr	others=osprey
		13:14	PH1	0	0	0	1	0	0	0	0	1		
		14:02	PH2	0	0	0	0	0	0	0	0	0		
		13:31	SW1	0	5	0	0	0	0	0	0	5		
		13:38	SW2	1	0	0	0	0	0	0	0	1		
		13:39	SW3	1	0	0	0	0	0	0	0	1		
		13:44	SW4	6	12	0	12	0	0	0	0	30		
8/26/14	1	9:17	FB	0	0	3	118	0	0	0	0	121	jwr	
		8:42	PH1	0	0	0	0	0	0	0	0	0		
		8:50	PH2	0	0	0	0	0	0	0	0	0		
		9:14	SW1	0	0	0	0	0	0	0	0	0		
		8:52	SW2	0	0	0	0	0	0	0	0	0		
		9:12	SW3	0	0	0	0	0	0	0	0	0		
		9:13	SW4	10	0	0	0	0	0	0	0	10		
8/27/14	1	15:58	FB	0	0	0	13	0	0	0	1	14	PSK	one osprey flyby
		13:35	PH1	0	0	0	16	0	0	0	0	16		
		14:42	PH2	0	0	0	0	0	0	0	0	0		
		15:26	SW1	0	0	0	0	0	0	0	0	0		
		14:21	SW2	0	0	2	1	0	0	0	0	3		
		15:39	SW3	0	0	0	0	0	0	0	0	0		
		15:43	SW4	5	6	0	8	0	0	0	0	19		gulls and cormorants resting on rocks
8/28/14	1	9:31	FB	0	0	0	60	0	0	0	0	60	PSK	cormorants roosting on electrical towers
		8:17	PH1	0	0	0	0	0	0	0	0	0		one osprey flyby
		8:28	PH2	0	0	0	0	0	0	0	0	0		
		9:44	SW1	0	0	0	0	0	0	0	0	0		
		8:34	SW2	0	0	0	0	0	0	0	0	0		
		9:57	SW3	0	0	0	0	0	0	0	0	0		
		10:01	SW4	3	9	0	0	0	0	0	0	12		gulls resting on rocks
8/29/14	1	15:01	FB	0	0	0	13	0	0	0	0	13	EHK	
		14:34	PH1	0	0	2	0	0	0	0	0	2		
		14:43	PH2	0	0	0	0	0	0	0	0	0		
		15:00	SW1	0	0	0	0	0	0	0	0	0		
		14:45	SW2	0	0	1	0	0	0	0	0	1		
		15:28	SW3	0	0	0	0	0	0	0	0	0		
		15:30	SW4	0	0	0	19	0	0	0	0	19		
8/30/14	1	9:29	FB	0	0	0	59	0	0	0	0	59	EHK	
		9:00	PH1	0	0	0	0	0	0	0	0	0		
		9:05	PH2	0	0	0	0	0	0	0	0	0		
		9:33	SW1	0	0	0	0	0	0	0	0	0		
		9:06	SW2	0	0	1	0	0	0	0	0	1		
		9:43	SW3	0	0	0	0	0	0	0	0	0		
		9:45	SW4	3	9	0	6	0	0	0	0	18		



Hazing activity primarily in SW-T3 and SW-T4

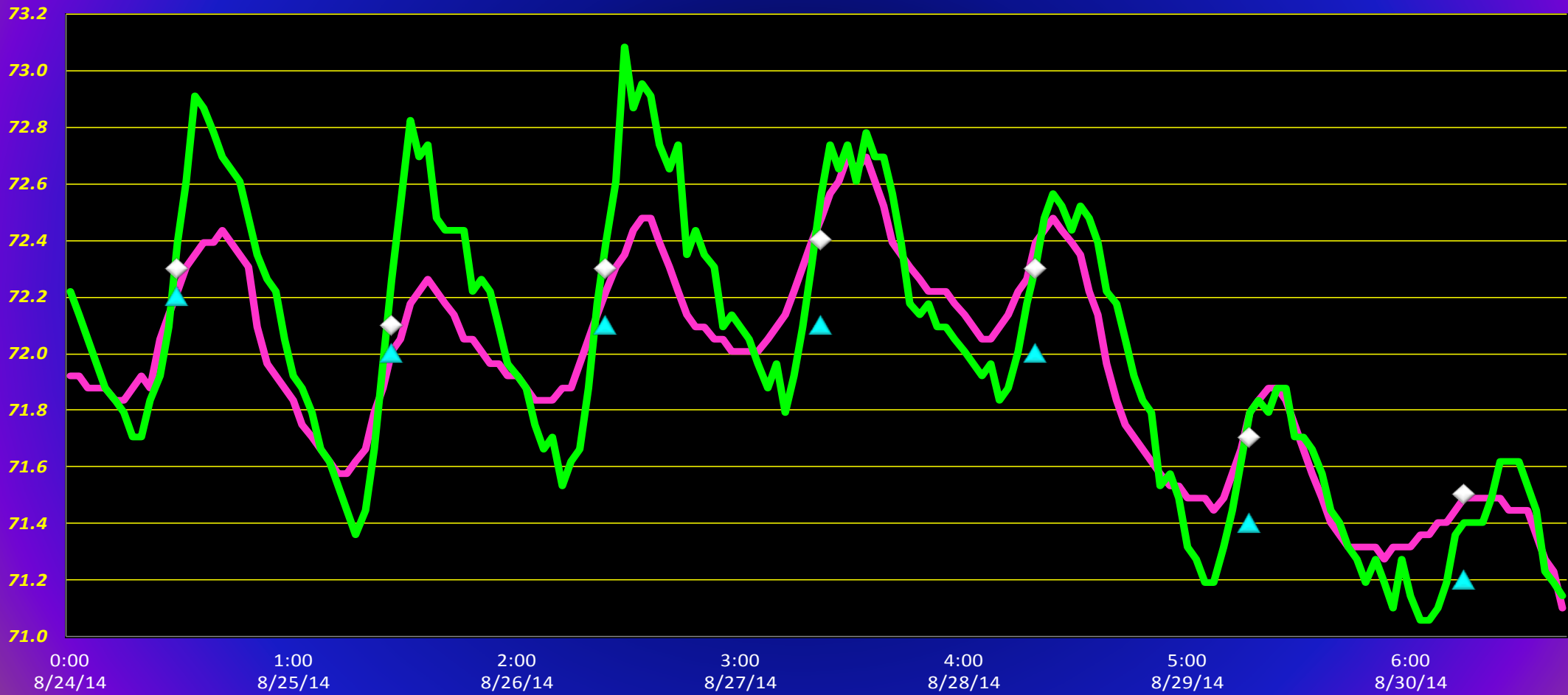
The Dalles Dam Collection Channel Velocities (In Criteria 1.5 - 4.0 fps)



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



	Forebay	Tailwater	Secchi:
USGS Data	72.2	72.3	5.0
	72.0	72.1	5.0
	72.1	72.3	5.0
	72.1	72.4	5.0
	72.0	72.3	5.0
	71.4	71.7	5.0
AVG:	72.0		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%	
	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
8/24/14			1.6	8.9	11.0	11.0		1.5	8.9	8.9		1.7	8.9	9.0	40.1
	1.2	9.9	1.6	0.0	10.9	11.8	9.8	1.6	9.0	9.0		1.6	8.9	9.0	
	1.3	9.8	1.5	0.0	11.1	11.8	9.8	1.6	8.9	9.1		1.6	8.9	9.0	
8/25/14			1.6	0.0	11.2	11.9		1.5	9.0	9.0		1.6	8.9	9.0	39.8
	1.3	9.8	1.6	0.0	11.0	11.9	9.9	1.5	9.2	9.1		1.6	9.1	9.1	
	1.3	9.9	1.5	0.0	10.9	12.8	10.8	1.5	9.5	9.5		1.7	9.5	9.5	
8/26/14			1.6	0.0	11.0	11.4		1.4	9.3	9.3		1.5	9.4	9.4	40.0
	1.2	10.0	1.5	0.0	11.0	11.7	9.7	1.5	9.0	9.0		1.4	9.5	9.5	
	1.3	9.9	1.5	0.0	10.9	11.6	9.6	1.5	9.0	9.1		1.6	9.0	9.0	
8/27/14			1.5	0.0	10.9	12.2		1.6	9.0	9.1		1.6	8.9	8.9	39.9
	1.2	9.8	1.5	0.0	11.0	12.3	10.3	1.5	9.1	9.0		1.4	9.6	9.6	
	1.3	10.0	1.4	0.0	12.1	12.0	11.0	1.4	10.9	11.1		1.4	9.5	9.5	
8/28/14			1.5	0.0	12.0	11.6		1.2	11.1	11.0		1.6	8.6	9.5	39.8
	1.3	9.9	1.5	0.0	11.9	11.6	10.6	1.5	10.4	10.5		1.6	8.6	9.5	
	1.3	9.8	1.4	0.0	12.1	13.0	12.0	1.7	10.6	10.6		1.4	10.0	9.5	
8/29/14			1.5	0.0	12.0	11.6		1.4	10.5	10.5	1.5	9.5	9.6	39.8	
	1.2	9.9	1.5	0.0	11.9	11.7	10.7	1.6	10.6	10.6	1.6	9.0	9.1		
	1.3	9.9	1.4	0.0	12.0	13.0	12.0	1.5	11.1	11.0	1.5	9.6	9.5		
8/30/14			1.5	0.0	11.9	11.0		1.3	10.4	10.8	1.4	9.5	9.5	40.2	
	1.2	9.8	1.5	0.0	12.0	11.3	10.3	1.5	10.1	10.7	1.5	9.5	9.4		
	1.2	10.1	1.6	0.0	11.9	11.2	10.2	1.6	10.1	10.0	1.4	9.6	9.5		
AVG:	1.3	9.9	1.5	0.4	11.5	11.8	10.5	1.5	9.8	9.9	Closed	1.5	9.2	9.3	39.9

Spill % values represent daily average from operations status report

