

The Dalles Dam Fishway Status Report

Date: 7/28/2014
 Inspection Period: 7/20/2014 to 7/26/2014

THE DALLES DAM



**US Army Corps
 of Engineers**
 Portland District

The Dalles Project-Fisheries
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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: 69.2 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		
Entrance weir N1	0	depth (≥ 8')	Average 10.0		
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'	Picket leads raked on 7/20/14, 7/21/14, 7/23/14. Window cleaned 7/20/2014.		
Weir crest depth	0	1.0' ± 0.1'			
Junction pool weir JP6	0	depth (≥ 7')	Average 10.4	Manually adjusted as needed.	
East entrance differential	0	1.0' - 2.0'	Average 1.5		
Entrance weir E1	0	No criteria	Average 7.1		
Entrance weir E2	0	depth (≥ 8')	Average 14.0		
Entrance weir E3	0	depth (≥ 8')	Average 10.2		
Collection channel velocity	0	1.5 - 4 fps	Average 2.2		
Transportation channel velocity	0	1.5 - 4 fps	Average 2.9		
North channel velocity	0	1.5 - 4 fps	Average 2.3		
South channel velocity	0	1.5 - 4 fps	Average 3.6		
West entrance differential	0	1.0' - 2.0'	Average 1.5		
Entrance weir W1	0	depth (≥ 8')	Average 8.5		
Entrance weir W2	0	depth (≥ 8')	Average 8.5		
Entrance weir W3	0	No criteria	Closed		
South entrance differential	0	1.0' - 2.0'	Average 1.6		
Entrance weir S1	0	depth (≥ 8')	Average 9.1		
Entrance weir S2	0	depth (≥ 8')	Average 9.1		
JUVENILE PASSAGE					
Sluiceway operation	0	1, 8, 18			
Turbine trashrack drawdown	0	<1.5', wkly	Range 0.0' - 0.6'		
Spill volume	0	40% ±1%	Average 39.9	See average tab for daily averages.	
Spill Pattern	0	per FPP			
Turbine Unit Priority	10	per FPP	Main Units 13 and 14 OOS for maintenance. 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.

Gulls observed primarily downstream spillway.

Cormorants are roosting on the Washington shore forebay electrical towers.

Operations:

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

Gatewell drawdown 7/25/2014. All in criteria <1.5' differential between forebay and gatewells .

Calibration of entrance weirs, channel and tailwater staff gauges 7/26/2014; all in criteria $\pm 0.3'$.

Current Outages:

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

MU14 OOS 0600 7/21/2014 to 1700 8/28/2014 for five year overhaul.

MU13 OOS 7/21/2014 0004 to 1700 7/31/2014 for Annual.

Maintenance:

New weir 159 leafs fabricated. Wheel and seal install next. Completion by Oct1. Installation mid Dec.

North fishway pump motor replacement delivered. Install prior to Jan 2015.

Collection channel pump #1 removal 8/4 for repair of motor. Removal in conjunction with east fishway grating inspection when fish units off.

Purchasing oil boom for install at east exit. Vendor consultation site visit 7/31.

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.

Bathymetry survey planned for east powerhouse forebay and tailwater Aug 4 and 5 to determine rock debris accumulation. FPOM approved.

Long term repair plans funding dependent; Upgrade east exit weirs 154-157, charter submitted 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 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.

Studies:

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

Test pits excavation between fishladder and fishlock parking area in Nov. ADCP flow velocity survey in Aug. Both FPOM approved.

PUD - PUD 'freedom' second turbine proposal for north fishway in FERC review process. Corps comments provided. No new developments.

Flow Split - Record fall Chinook runs expected in 2014. Concern for overcrowding in east fish ladder. ERDC model trip planned for Aug 25-28 to determine potential spill operation to attract more fish to the north fish ladder. Field observations planned to monitor possible passage changes.

Research/Contractors:

PSMFC PIT tag monitoring continues at count stations. No issues.

Columbia River Northern Pikeminnow Management Dam Angling: 8 hours fishing for 32 pikeminnow.

Umatilla and Yakama Nation tribes achieved adult lamprey collection allocations of 374 per tribe. Nez Perce tribe started 7/23 and will continue every Wednesday through end of August.

ODFW Northern Pikeminnow Management Program evaluation electrofishing: No sampling at The Dalles this week.

Normandeau fish counters at north and east count stations 16 hours a day 1 April through 30 October. Investigating possible visibility improvements for north count station. Modification proposals to FPOM for approval.

PSMFC PUD weekly sampling: no salmonids.

USDA hazer's launching pyrotechnics from downstream navlock peninsula. Also on call for sea lion hazing and pigeon removal as needed. Ends 7/31.

University of Idaho maintaining antennas and continuing downloads.

Removal last set of 3 derelict Vertical Barrier Screens from MU 12 gate well slot scheduled week of Aug11. Funding allocated.

Approved by;

Ron D. Twiner

Operation Project Manager The Dalles Dam

Ladder Counts

U.S. Army Corps of Engineers

7/20/2014 - 7/26/2014

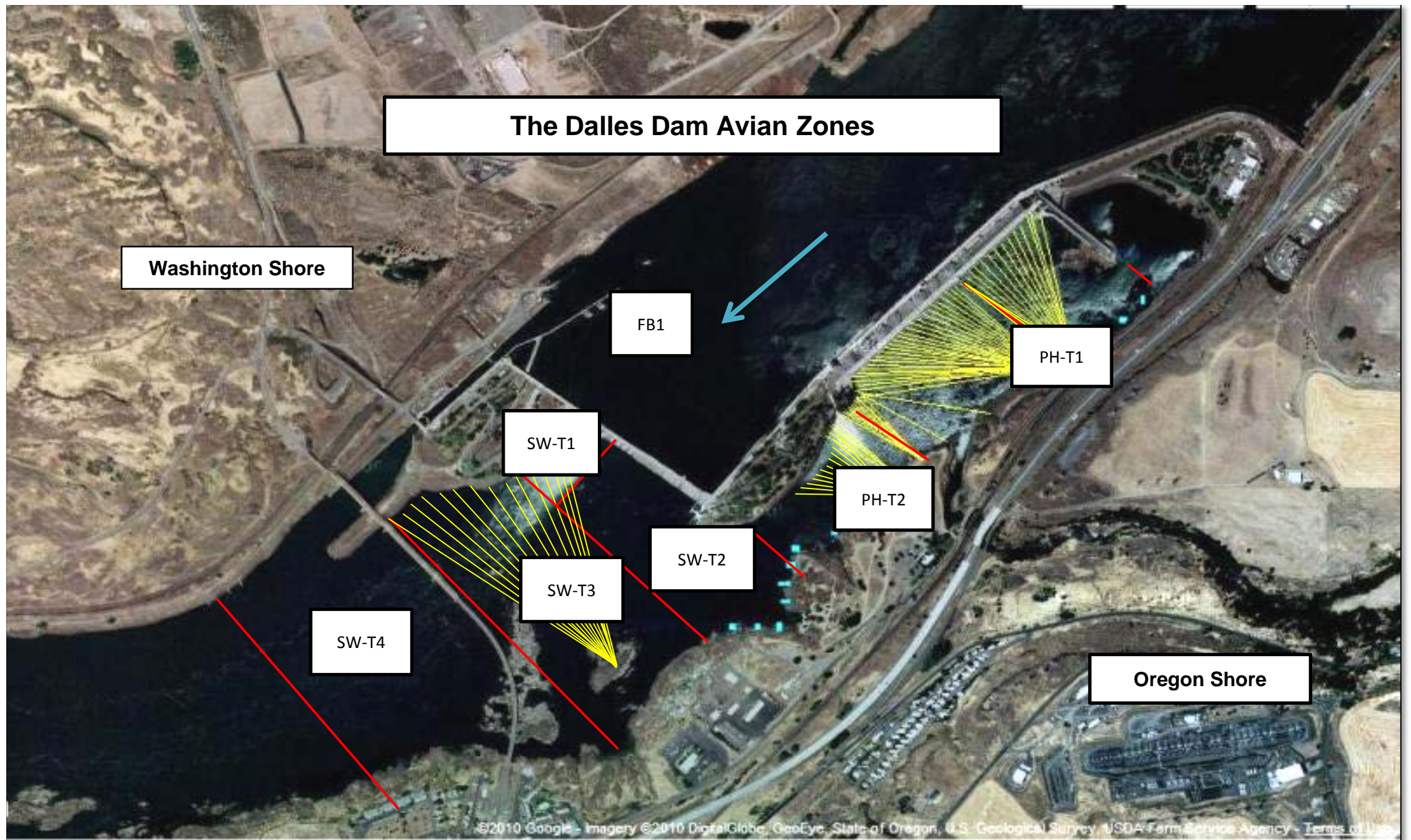
Portland District

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
20-Jul-14	1106	862	244	1490	684	806	0	0	0	1656	0	0
21-Jul-14	798	556	242	1391	600	791	0	0	0	1276	0	0
22-Jul-14	543	403	140	1199	545	654	0	0	0	1123	0	0
23-Jul-14	510	360	150	1315	600	715	0	0	0	938	0	0
24-Jul-14	348	271	77	1070	446	624	0	0	0	452	0	0
25-Jul-14	400	310	90	1416	620	796	0	0	0	642	0	0
26-Jul-14	527	390	137	1764	749	1015	0	0	0	557	0	0
total	4232	3152	1080	9645	4244	5401	0	0	0	6644	0	0

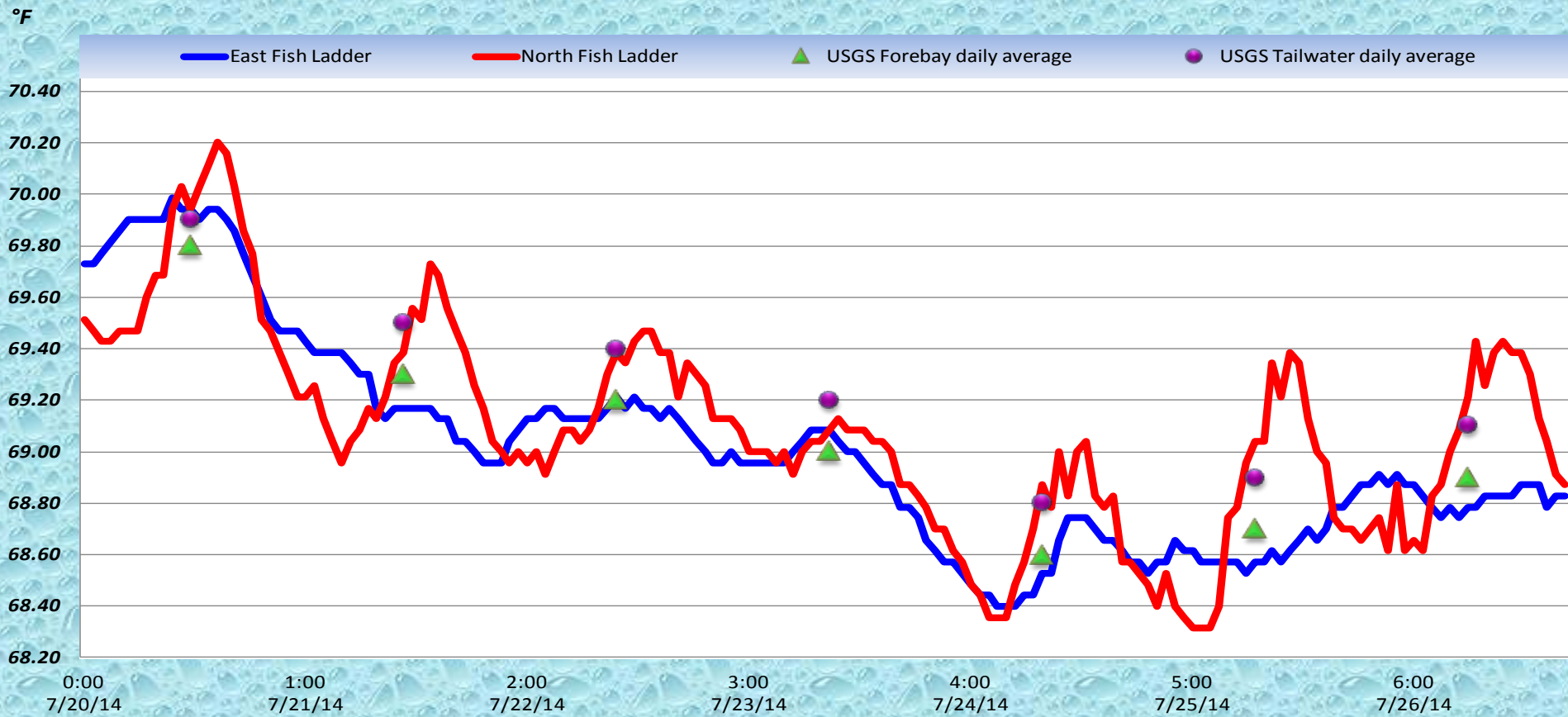
The Dalles North

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink
20-Jul-14	381	335	46	611	252	359	0	0	0	1014	0	0
21-Jul-14	240	205	35	483	205	278	0	0	0	912	0	0
22-Jul-14	193	167	26	471	175	296	0	0	0	583	0	0
23-Jul-14	220	200	20	521	214	307	0	0	0	635	0	0
24-Jul-14	144	120	24	361	167	194	0	0	0	557	0	0
25-Jul-14	68	58	10	258	98	160	0	0	0	155	0	0
26-Jul-14	152	121	31	653	235	418	0	0	0	263	0	0
total	1398	1206	192	3358	1346	2012	0	0	0	4119	0	0

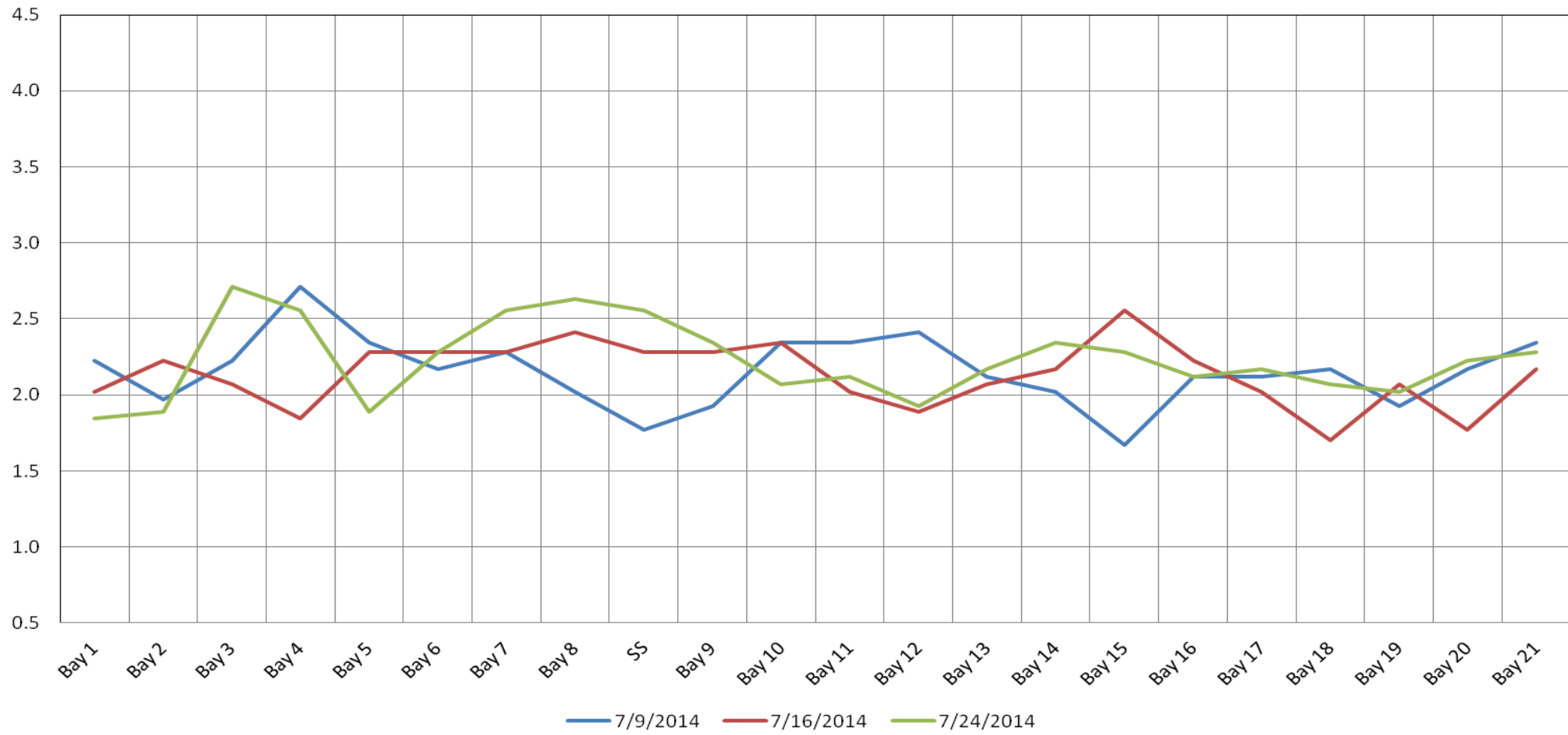


Hazing activity primarily in SW-T3 and SW-T4

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



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



	Forebay	Tailwater	Secchi:
USGS Data	69.8	69.9	4.0
	69.3	69.5	4.0
	69.2	69.4	5.0
	69.0	69.2	4.0
	68.6	68.8	5.0
	68.7	68.9	5.0
AVG:	69.2		4.6

**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
7/20/14			1.3	7.5	14.1	10.1		1.3	9.0	9.1		1.5	9.1	9.1	40.0
	1.3	10.0	1.4	7.6	14.1	11.6	10.7	1.3	8.9	9.0		1.5	9.0	9.0	
	1.3	10.0	1.5	7.5	14.0	10.9	11.0	1.4	9.1	8.9		1.5	9.2	9.2	
7/21/14			1.4	7.5	14.0	9.8		1.4	9.0	9.0		1.6	9.0	8.9	39.9
	1.2	10.2	1.4	7.0	14.1	9.7	9.8	1.5	8.5	8.5		1.5	9.5	9.4	
	1.3	10.0	1.5	6.9	14.0	10.6	10.7	1.5	8.5	8.5		1.5	9.5	9.4	
7/22/14			1.4	7.0	14.0	9.6		1.4	8.6	8.6		1.4	9.6	9.6	40.0
	1.3	10.0	1.6	7.1	14.1	10.3	10.4	1.5	8.4	8.4		1.6	9.0	9.0	
	1.2	10.1	1.5	6.1	14.1	9.9	10.0	1.5	8.3	8.3		1.5	9.5	9.5	
7/23/14			1.5	7.2	14.1	10.8		1.6	8.3	8.3		1.6	9.0	9.0	40.0
	1.3	10.0	1.6	7.1	14.0	10.9	11.0	1.6	8.4	8.4		1.5	9.2	9.2	
	1.3	9.9	1.6	7.0	14.0	10.3	10.4	1.6	8.3	8.3		1.6	9.1	9.0	
7/24/14			1.6	6.9	13.9	9.5		1.5	8.2	8.3		1.6	9.0	8.9	39.7
	1.2	10.0	1.6	7.0	14.0	9.2	9.3	1.6	8.2	8.4		1.6	9.1	9.0	
	1.3	9.9	1.6	7.1	14.1	9.9	10.0	1.6	8.3	8.3		1.5	9.1	9.2	
7/25/14			1.5	7.0	14.1	8.9		1.5	8.4	8.3	1.6	9.0	8.9	39.9	
	1.3	9.9	1.6	7.1	14.2	9.6	9.7	1.5	8.4	8.3	1.5	9.1	9.0		
	1.4	10.0	1.6	7.1	14.1	11.2	11.3	1.7	8.2	8.3	1.6	9.0	8.9		
7/26/14			1.4	7.0	14.0	10.1		1.6	8.4	8.3	1.6	9.0	9.1	40.1	
	1.2	9.9	1.5	7.1	13.9	10.0	10.0	1.6	8.4	8.3	1.6	9.0	9.1		
	1.3	9.9	1.5	6.9	13.9	10.9	11.0	1.7	8.3	8.4	1.7	9.0	8.9		
AVG:	1.3	10.0	1.5	7.1	14.0	10.2	10.4	1.5	8.5	8.5	Closed	1.6	9.1	9.1	39.9

Spill % values represent daily average from operations status report



Progress on new 159 weir construction. Remaining work; Seal install, wheel install and paint.

