

# The Dalles Dam Fishway Status Report

Date: 7/5/2014  
 Inspection Period: 6/29/2014 to 7/5/2014

## THE DALLES DAM



**US Army Corps  
 of Engineers**  
 Portland District

The Dalles Project-Fisheries  
 P.O. Box 564  
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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: 64.3 F
<b>NORTH FISHWAY</b>					
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'			
<b>EAST FISHWAY</b>					
Exit differential	0	≤ 0.5'			
Removable weirs 154-157	1	Per forebay	Auto adjusts 1' increments.		OOC at forebay 158.2
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')	Average 12.9		Manually adjusted as needed.
East entrance differential	0	1.0' - 2.0'	Average 1.6		
Entrance weir E1	0	depth (≥ 8')	Average 6.5		Set in auto
Entrance weir E2	0	depth (≥ 8')	Average 12.5		Set in auto
Entrance weir E3	0	No criteria	Average 12.0		Manually adjusted as needed.
Collection channel velocity	0	1.5 - 4 fps	Average 2.5		
Transportation channel velocity	0	1.5 - 4 fps	Average 2.7		
North channel velocity	0	1.5 - 4 fps	Average 2.1		
South channel velocity	0	1.5 - 4 fps	Average 3.4		
West entrance differential	0	1.0' - 2.0'	Average 1.5		
Entrance weir W1	0	depth (≥ 8')	Average 9.9		
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 9.7		
Entrance weir S2	0	depth (≥ 8')	Average 9.7		
<b>JUVENILE PASSAGE</b>					
Sluiceway operation	0	1, 8, 18			
Turbine trashrack drawdown	0	<1.5', wkly	Range		
Spill volume	2	40%+-1%	Average 41.1		See average tab for daily averages
Spill Pattern	0	per FPP			
Turbine Unit Priority	0	per FPP			
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 in zones SW-T3 and SW-T4 above and below the bridge. Approximately 50% of gulls return 10 minutes after hazing.

Cormorants are roosting on the Washington shore forebay electrical towers.

### Operations:

Calibration for entrance weirs, channels and tailwater completed 7/01 and all were within criteria.

Gatewell drawdown not completed this due to equipment failure. A new measuring device is ordered.

Entrance weir E3 sticks in guides resulting in slack cables. Therefore it is set in manual and adjusted as needed. It has maintained criteria depth.

Entrance weir E1 and E2 are set in auto.

### Current Outages:

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

MU20 5/19/2014 to 7/17/2014 out of service for overhaul.

### Maintenance:

New weir 159 leafs fabricated. Next step sandblast/paint and install wheels. Completion by Oct1. Installation mid Dec.

North fishway pump motor replacement ordered. Delivery expected prior to Oct1. 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. FPOM approved.

Planning for install equalizing valve on PUD intake bulkhead for next winter dewatering.

East entrance weir E3 sticking problem to be addressed this winter.

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

*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.** 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. No new developments.

### Research/Contractors:

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

Columbia River Northern Pikeminnow Management Dam Angling: 22.25 hours fishing for 102 pikeminnow.

Umatilla, Yakama, and Nez Perce tribes started lamprey collection 6/12. As of 6/29, CTUIR has collected 350, YN 88. Allocations are 374 per tribe.

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: 8 Chinook subyearling smolts.

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

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.

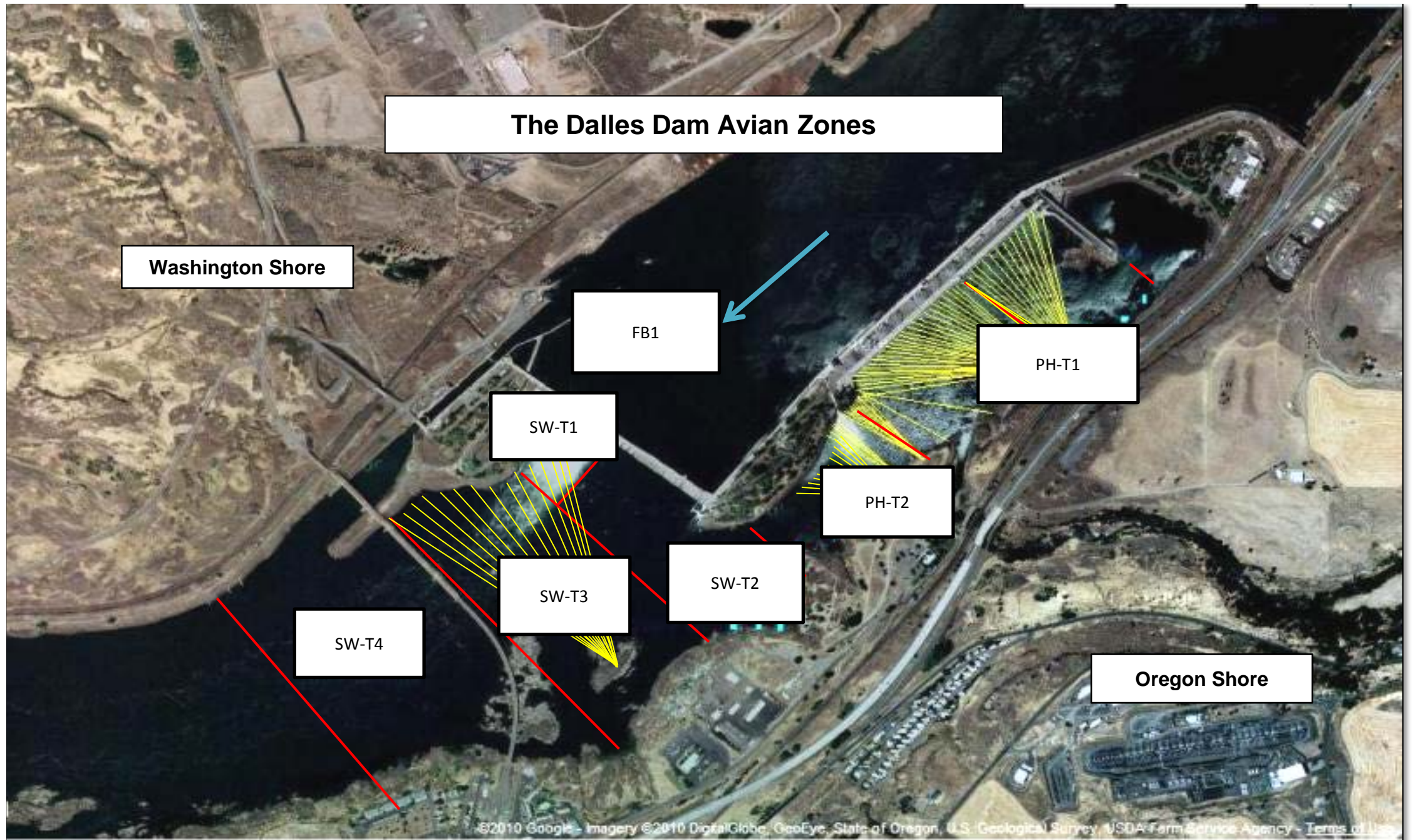
Approved by;

Ron D. Twiner

Operation Project Manager The Dalles Dam

**DART The Dalles Adult Ladders Daily Usage with Spill Percent and Outflow**

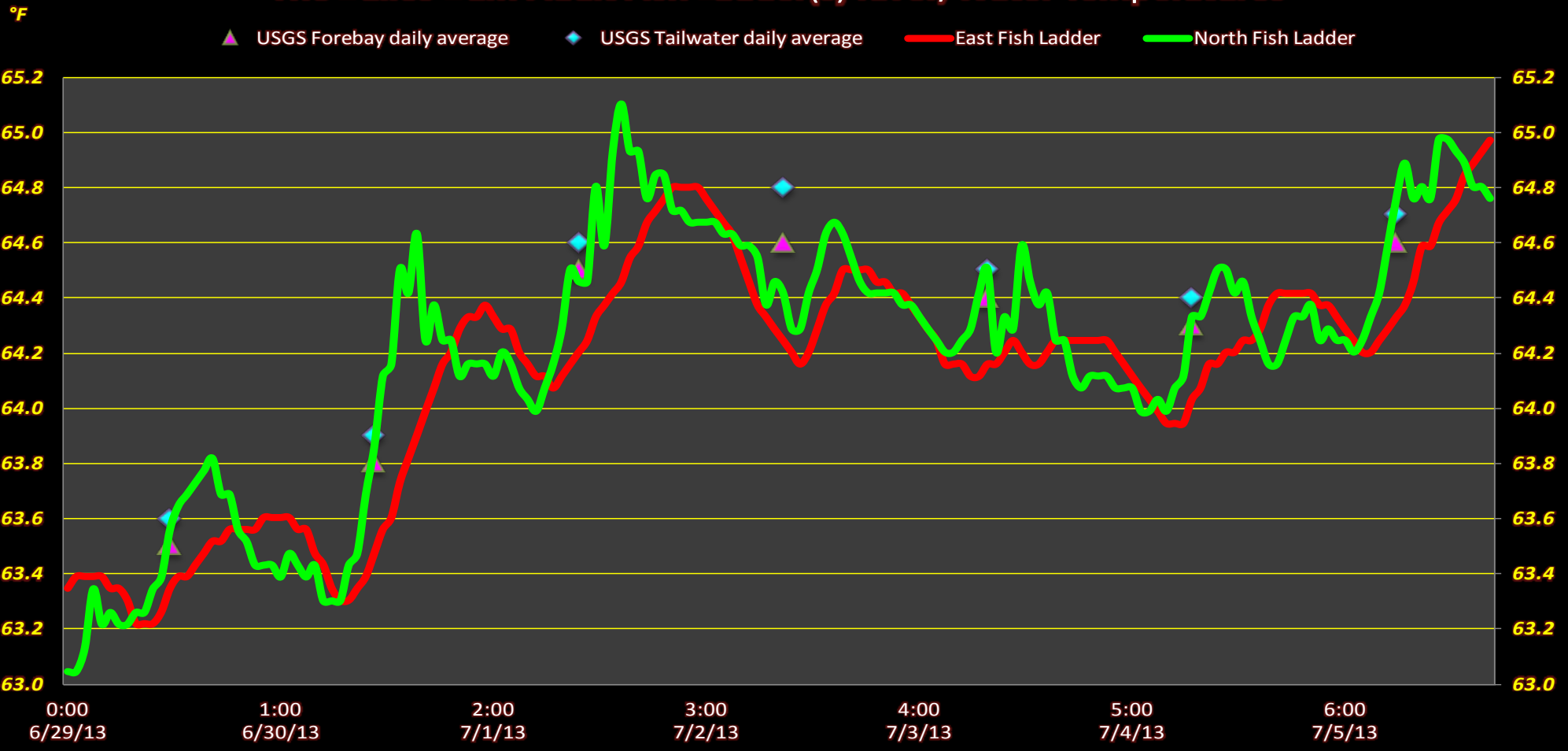
	Chinook				Jack Chinook				Steelhead				Steelhead Wild				Sockeye				Coho				Jack Coho				Lamprey				Spill	Outflow
	Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Pct	(kcfs)				
	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	[Right]					
6/29/14	95.5	1864	4.5	88	98.4	372	1.6	6	99.2	384	0.8	3	99.6	224	0.4	1	98.7	19248	1.3	254		0		0		0		0	81.1	77	18.9	18	44.7	265.5
6/30/14	98.1	1625	1.9	31	100	392	0	0	99.4	339	0.6	2	100	190	0	0	99.6	18954	0.4	82		0		0		0		0	55.6	30	44.4	24	40.3	285.2
7/1/14	88.6	1364	11.4	175	94	156	6	10	92.8	271	7.2	21	88.4	145	11.6	19	96.7	17198	3.3	578		0		0		0		0	82.8	53	17.2	11	40.0	265.8
7/2/14	93.2	1631	6.8	119	97.8	355	2.2	8	97.8	523	2.2	12	97.3	290	2.7	8	97.6	23107	2.4	574		0		0		0		0	82.2	88	17.8	19	40.1	262.8
7/3/14	92.6	2130	7.4	170	94.5	241	5.5	14	91.1	494	8.9	48	92.5	284	7.5	23	95.3	23693	4.7	1158		0		0		0		0	81.4	79	18.6	18	42.9	256.6
7/4/14	93.5	2704	6.5	187	98.5	673	1.5	10	95.3	622	4.7	31	94.4	287	5.6	17	94.4	23311	5.6	1388		0		0		0		0	60.7	37	39.3	24	40.0	255.6
7/5/14	92.2	2434	7.8	206	97.1	364	2.9	11	94.9	870	5.1	47	94.8	529	5.2	29	95.2	26194	4.8	1322		0		0		0		0	79.3	73	20.7	19	39.7	245.7
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	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		
	93.4	6.6	97.7	2.3	95.5	4.5	95.3	4.7	96.6	3.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	76.7	23.3				



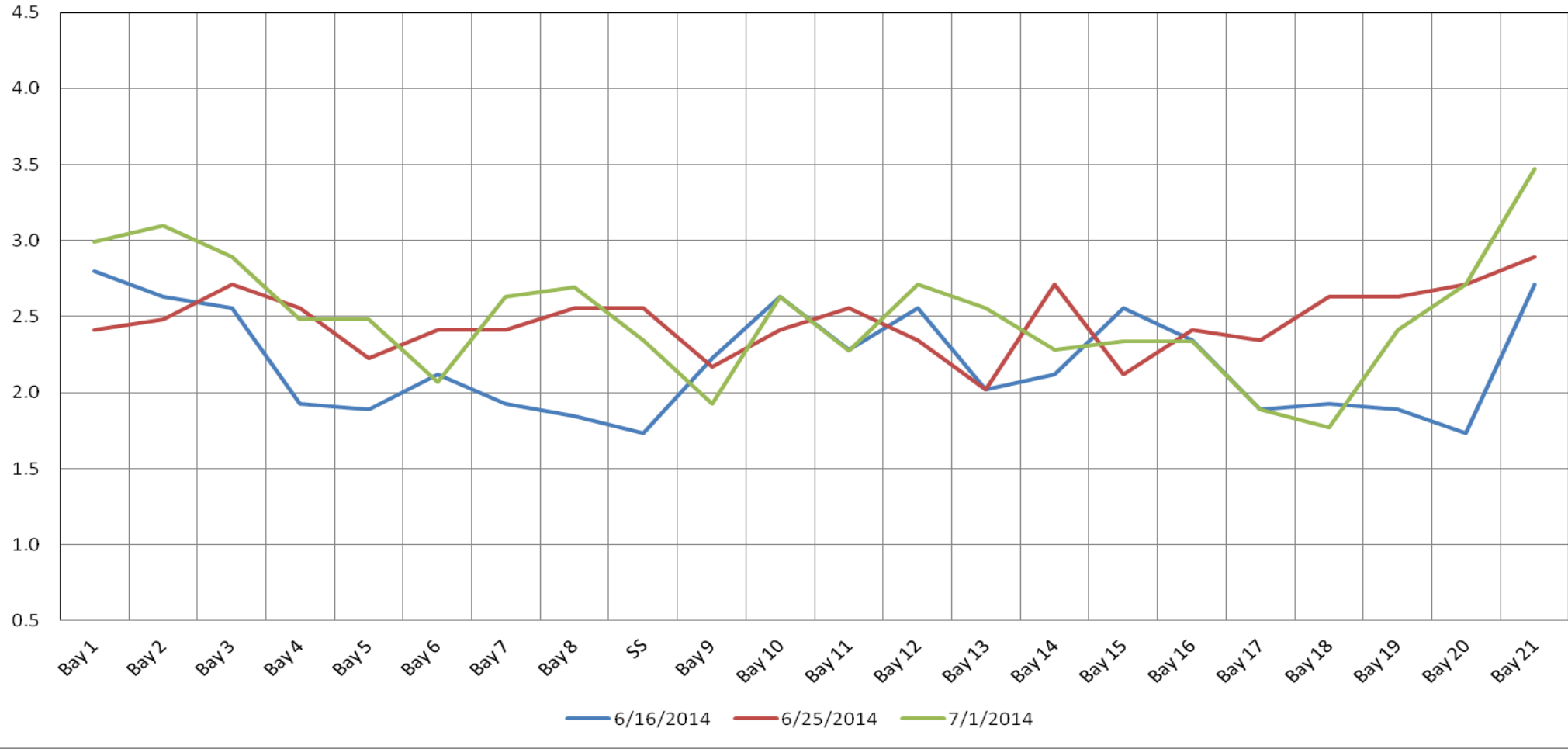
Hazing activity primarily in SW-T3 and SW-T4



# 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	63.5	63.6	4.0
	63.8	63.9	4.5
	64.5	64.6	4.5
	64.6	64.8	4.5
DATA	64.4	64.5	4.5
	64.3	64.4	3.5
	64.6	64.7	3.0
AVG:	64.3		AVG 4.1

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	
6/29/14			1.7	6.5	12.6	11.2		1.2	10.6	10.7	Closed	1.3	10.2	10.1	44.7
	1.3	10.0	1.7	6.6	12.5	11.5	12.0	1.5	10.1	10.1		1.3	10.2	10.1	
	1.3	10.0	1.5	6.6	12.5	13.3	13.8	1.5	10.1	10.0		1.5	10.0	10.0	
6/30/14			1.7	6.5	12.6	12.5		1.5	10.0	10.1		1.4	10.0	10.2	40.3
	1.3	10.0	1.5	6.8	12.6	12.9	13.4	1.5	10.0	10.1		1.4	10.0	10.0	
	1.4	10.0	1.5	6.4	12.6	12.9	13.4	1.5	10.1	10.0		1.6	9.4	9.5	
7/1/14			1.6	6.5	12.4	11.8		1.6	9.9	10.0		1.5	9.6	9.6	40.0
	1.3	10.0	1.5	6.6	12.5	11.9	12.4	1.5	10.0	10.0		1.5	9.4	9.4	
	1.4	9.8	1.5	6.6	12.5	12.4	13.0	1.5	10.0	10.0		1.5	9.5	9.7	
7/2/14			1.7	6.5	12.5	11.6		1.5	9.9	9.9		1.5	9.5	9.6	40.1
	1.3	10.0	1.6	9.0	12.5	13.4	13.9	1.5	10.1	10.1		1.8	8.8	8.8	
	1.4	9.9	1.6	5.0	12.5	13.0	13.1	1.6	10.0	10.1		1.5	10.0	10.0	
7/3/14			1.7	5.1	12.4	11.3		1.4	10.0	10.1		1.4	10.2	10.2	43.0
	1.3	9.9	1.6	6.9	12.4	11.4	11.9	1.5	9.6	9.6		1.5	9.6	9.6	
	1.3	10.1	1.5	6.5	12.6	12.9	13.4	1.6	9.8	9.8		1.4	9.8	9.8	
7/4/14			1.6	6.5	12.6	10.9		1.4	9.8	9.8	1.5	9.8	9.8	40.0	
	1.3	9.9	1.6	6.6	12.5	11.0	11.5	1.5	9.6	9.6	1.5	9.6	9.6		
	1.4	9.9	1.5	6.6	12.5	11.6	13.2	1.5	9.8	9.8	1.5	9.7	9.7		
7/5/14			1.6	6.4	12.5	9.9		1.4	9.7	9.7	1.6	9.5	9.5	40.0	
	1.3	10.0	1.6	6.5	12.5	12.1	11.7	1.5	9.6	9.6	1.5	9.7	9.7		
	1.4	9.9	1.4	6.6	12.6	12.6	13.2	1.6	9.7	9.6	1.5	9.7	9.7		
AVG:	1.3	10.0	1.6	6.5	12.5	12.0	12.9	1.5	9.9	9.9	Closed	1.5	9.7	9.7	41.1

Spill % values represent daily average from operations status report