

The Dalles Dam Fishway Status Report

Date: 8/10/2014
 Inspection Period: 8/3 to 8/9

THE DALLES DAM



**US Army Corps
 of Engineers**
 Portland District

The Dalles Project-Fisheries
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 The Dalles, OR 97058-9998
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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: 70.7 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 1.2		
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'	Window cleaned 7/31/2014.		
Weir crest depth	0	1.0' ± 0.1'			
Junction pool weir JP6	0	depth (≥ 7')	Average 9.4	Manually adjusted as needed.	
East entrance differential	0	1.0' - 2.0'	Average 1.5		
Entrance weir E1	0	No criteria	Average 5.6		
Entrance weir E2	0	depth (≥ 8')	Average 13.5		
Entrance weir E3	0	depth (≥ 8')	Average 9.3		
Collection channel velocity	0	1.5 - 4 fps	Average 2.7		
Transportation channel velocity	0	1.5 - 4 fps	Average 2.8		
North channel velocity	0	1.5 - 4 fps	Average 2.1		
South channel velocity	0	1.5 - 4 fps	Average 3.7		
West entrance differential	0	1.0' - 2.0'	Average 1.5		
Entrance weir W1	0	depth (≥ 8')	Average 9.3		
Entrance weir W2	0	depth (≥ 8')	Average 9.3		
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 9.3		
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' - 0.3'		
Spill volume	0	40% ±1%	Average 39.9	See average tab for daily averages.	
Spill Pattern	1	per FPP	Marginal OOC, Control Immediately corrected		
Turbine Unit Priority	6	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 of spillway. Cormorants continue to forage in forebay near east fishway exit. Easily hazed by walking on forebay deck.

Operations:

Entrance weir E3 in manual due to sticking. E1 and E2 set in auto. All maintaining criteria depth.
Gateway drawdown check 8/3. All in criteria.
Calibration check 8/10. All within 0.3 limit.

Current Outages:

T8 (MU15 & MU16) de-rated to single unit full load ops.
MU14 out 7/21 to 8/28/2014 for five year overhaul maintenance.
MU13 out 7/21 to 7/31/2014 for annual maintenance.

Maintenance:

North fishway pump motor replacement delivered. Installation starting. To be installed prior to Jan 2015 dewatering.
Collection channel pump #1 removed 8/4 for motor failure repair. Refer to Pic tab. Repair underway.
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 to be purchased for protecting east fishway from upstream oil spills. Specs determined. Purchase underway.
Midseason ROV inspection fishway grating completed 8/4. East fishway fish units off 0630-1130. North fishway PUD will be off ~2 hrs PM. All were OK.
Bathymetry survey conducted at east end of Powerhouse tailrace 8/4 for possible debris issues near bulkhead guides.
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 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 159 leafs fabricated. Wheel and seal install next. Completion by Oct1. 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.
Test pits excavation between fishladder and fishlock parking area in Nov. ADCP flow velocity survey also in Nov.
PUD - PUD 'freedom' second turbine proposal for north fishway in FERC review process. Corps comments provided.
Spill Attraction - 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.
Spillgate Repair - District determining funding source for repair of spillgate 9 or spillgate 10/11. Will run both at ERDC model trip to help in decision. Spill pattern would use these bays for river flow over 445 kcfs. Fish passage benefit of these bays is to be determined.

Research/Contractors:

PSMFC PIT tag monitoring continues at count stations. No issues.
Columbia River Northern Pikeminnow Management Dam Angling: 14.5 hours fishing for 81 pikeminnow.
Umatilla and Yakama Nation tribes achieved adult lamprey collection allocations of 374 per tribe. Nez Perce will continue through end of Aug.
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: finished for the season.
USDA completed hazing contract 31 July. Gull presence minimal. Post season meeting to evaluate success and potential improvements.
Started zebra mussel monitoring with plankton samples for this season. 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 scheduled week of Aug11. Funding allocated.

Approved by: Ron Twiner

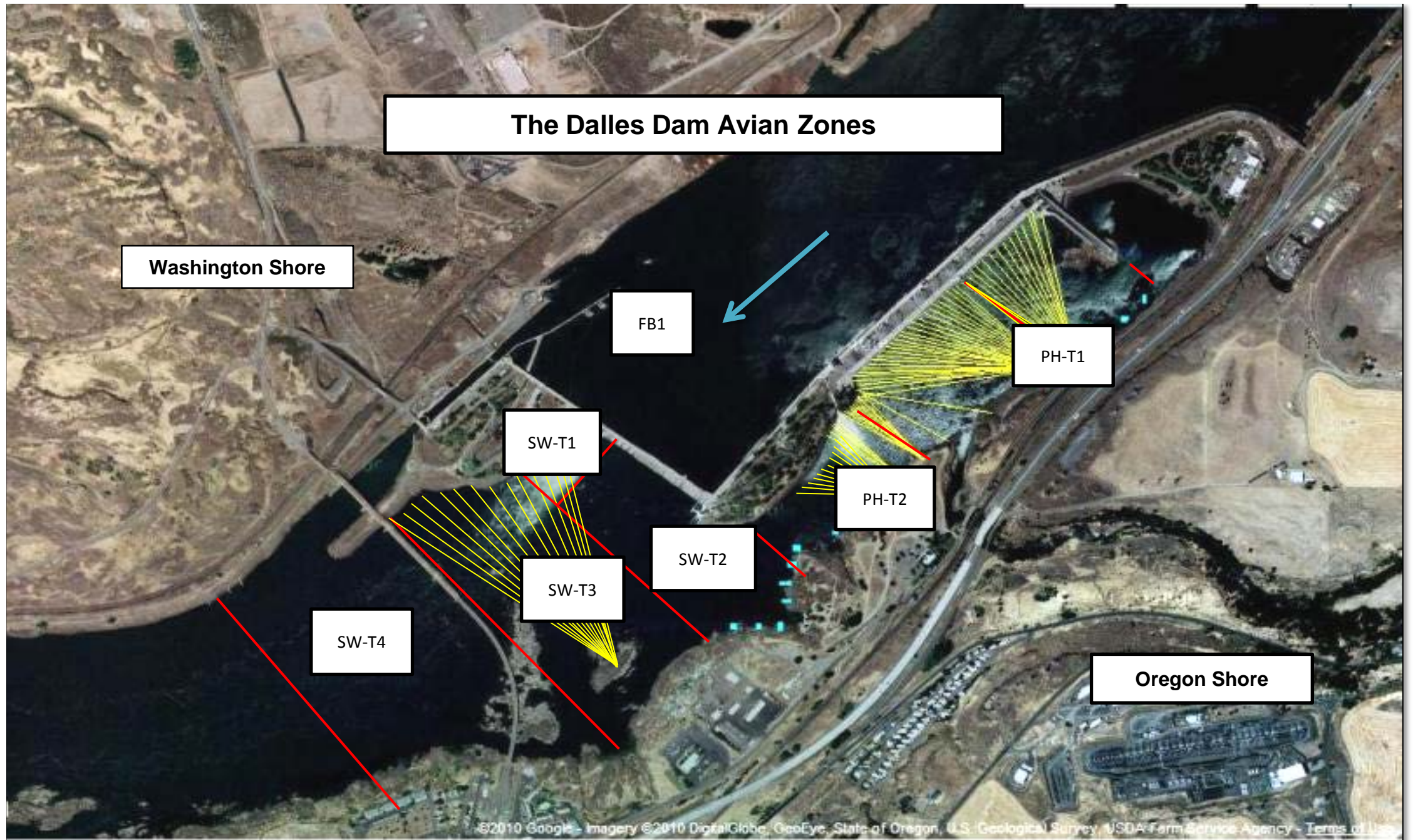
Operation Project Manager The Dalles Dam

The Dalles East

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Lamprey
8/3	361	252	109	1007	475	532	0	0	0	67	50
8/4	437	244	193	944	444	500	0	0	0	74	96
8/5	437	265	172	1052	487	565	0	0	0	43	145
8/6	275	187	88	857	415	442	0	0	0	40	38
8/7	373	259	114	1326	636	690	0	0	0	82	74
8/8	474	278	196	1281	647	634	0	0	0	55	67
8/9	398	265	133	1224	551	673	1	1	0	34	41
totals	2755	1750	1005	7691	3655	4036	1	1	0	395	511

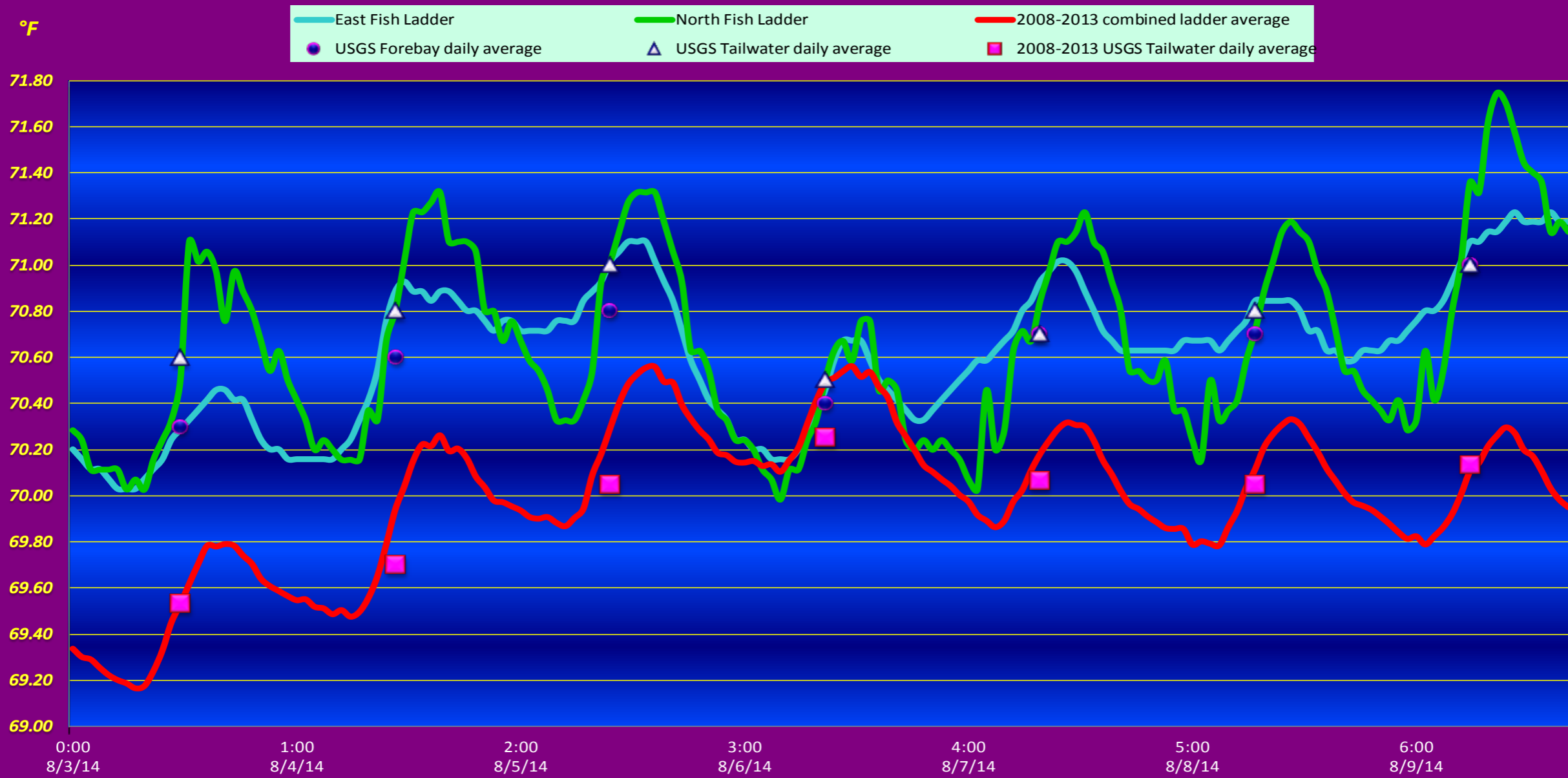
The Dalles North

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Lamprey
8/3	168	88	80	542	268	274	0	0	0	97	46
8/4	276	216	60	568	251	317	0	0	0	55	44
8/5	39	31	8	309	160	149	0	0	0	38	19
8/6	119	94	25	462	187	275	0	0	0	42	13
8/7	56	48	8	495	227	268	0	0	0	13	46
8/8	107	85	22	398	176	222	0	0	0	20	34
8/9	104	84	20	590	324	266	0	0	0	20	84
totals	869	646	223	3364	1593	1771	0	0	0	285	286

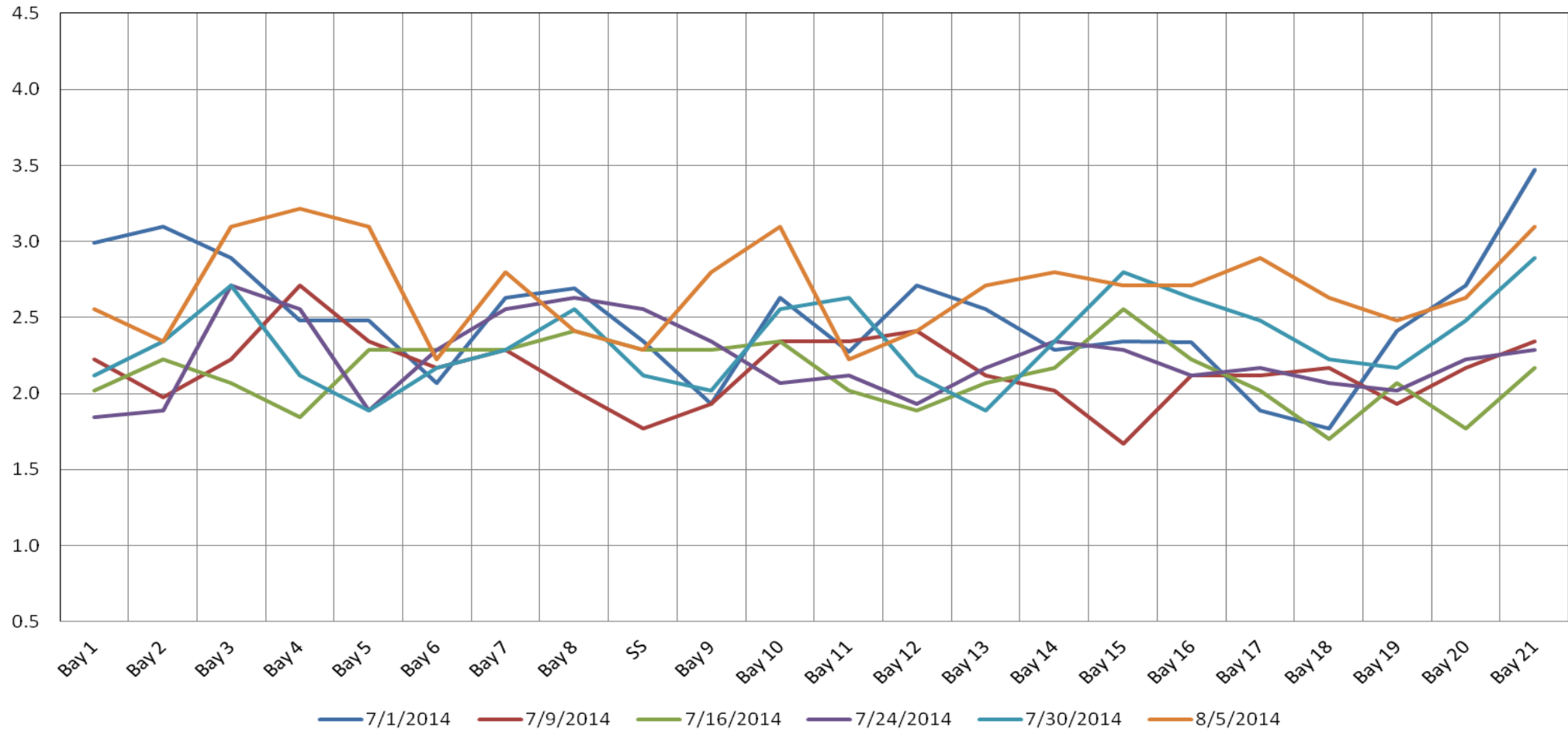


Hazing activity primarily in SW-T3 and SW-T4

The Dalles Dam Adult Fish Ladder(s) River Water Temperature



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



	Forebay	Tailwater	Secchi:
USGS Data	70.3	70.6	4.0
	70.6	70.8	4.0
	70.8	71.0	5.0
	70.4	70.5	5.0
	70.7	70.7	5.0
	70.7	70.8	5.0
AVG:	70.7		AVG: 4.7

**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				
8/3/14			1.4	7.0	13.5	9.4	9.4	1.5	9.0	8.9	Closed	1.6	9.0	9.0	40.0				
	1.1	10.0	1.3	7.0	13.6	9.6	9.6	1.4	9.1	9.1		1.6	8.9	8.9					
	1.2	10.0	1.3	7.0	13.6	9.6	9.6	1.6	9.0	9.1		1.6	9.0	9.0					
8/4/14	No SCADA		Or AM inspection, Fish units off 0600-1128 due to diffuser grating inspection via ROV					and Bathymetry mapping				39.9							
	1.2	10.1											1.6	9.1	9.0				
	1.2	9.9	1.4	6.6	13.5	9.7	10.2	1.4	9.8	9.8			1.6	9.1	9.0				
8/5/14			1.4	6.4	13.4	8.4	8.8	1.5	9.7	9.8		Closed	1.6	8.9	9.0	39.9			
	1.2	10.0	1.5	6.0	13.5	8.4	8.9	1.6	9.0	9.0			1.5	9.5	9.5				
	1.2	10.0	1.5	6.1	13.6	8.8	9.0	1.6	9.0	9.0			1.4	9.6	9.6				
5/6/14			1.5	6.0	13.4	8.2	8.3	1.5	9.0	8.9			Closed	1.6	9.5	9.5	40.0		
	1.2	9.9	1.5	5.5	13.5	8.0	8.2	1.6	8.9	9.1				1.6	8.9	8.9			
	1.3	10.0	1.5	5.5	13.4	9.3	9.4	1.7	8.9	8.9				1.7	9.1	9.1			
8/7/14			1.5	5.4	13.5	8.7	8.8	1.6	9.0	9.0				Closed	1.7	9.0	9.0	39.8	
	1.2	9.9	1.4	5.0	13.5	8.7	8.8	1.4	9.4	9.5					1.6	9.3	9.3		
	1.2	10.1	1.7	5.1	13.6	9.6	9.7	1.7	8.9	8.9					1.5	9.5	9.5		
8/8/14			1.5	5.0	13.5	8.4	8.5	1.5	9.0	9.1	Closed				1.5	9.5	9.5	40.0	
	1.3	9.9	1.5	5.1	13.5	10.5	10.6	1.6	9.6	9.6					1.7	9.1	9.1		
	1.2	10.0	1.6	5.1	13.5	9.3	9.4	1.5	9.5	9.4					1.5	10.1	10.1		
8/9/14			1.5	5.1	13.7	10.0	10.1	1.6	9.5	9.5					Closed	1.6	9.1	9.1	40.0
	1.2	10.1	1.5	5.1	13.5	10.0	10.1	1.5	10.0	10.0						1.6	9.4	9.4	
	1.3	10.0	1.4	2.7	13.5	11.7	10.7	1.6	9.5	9.6						1.6	9.5	9.5	
AVG:	1.2	10.0	1.5	5.6	13.5	9.3	9.4	1.5	9.3	9.3		Closed				1.6	9.3	9.3	39.9

Spill % values represent daily average from operations status report



Removal of failed collection channel dewatering pump. One of 10 total pumps.



ROV inspection of fishway grating Aug 4.