

# The Dalles Dam Fishway Status Report

Date: 4/13/2014  
 Inspection Period: 4/06/2014 to 4/12/2014

## THE DALLES DAM



**US Army Corps  
 of Engineers**  
 Portland District

The Dalles Project-Fisheries  
 P.O. Box 564  
 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:		21	Temperature:	F
			Comments		Secchi:	3.9 feet	
<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'					
Entrance weir N1	0	depth (≥ 8')					
Entrance weir N2		Closed					
PUD Intake differential	0	≤ 0.5'	Trash racks raked everyday until spill started on April 10				
<b>EAST FISHWAY</b>							
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'					
Weir crest depth	0	1.0' ± 0.1'					
Junction pool weir JP6	0	depth (≥ 7')	Manually adjusted as needed.				
East entrance differential	0	1.0' - 2.0'	Average	1.5	Daily differentials & weir depths, see <b>AVGS</b> tab.		
Entrance weir E1	0	No criteria	Average	2.3	Manually adjusted.		
Entrance weir E2	0	depth (≥ 8')	Average	12.9			
Entrance weir E3	0	depth (≥ 8')	Average	12.9			
Collection channel velocity	0	1.5 - 4 fps	Average	2.7			
Transportation channel velocity	0	1.5 - 4 fps	Average	3.3			
North channel velocity	0	1.5 - 4 fps	Average	2.2			
South channel velocity	0	1.5 - 4 fps	Average	3.9			
West entrance differential	0	1.0' - 2.0'	Average	1.4			
Entrance weir W1	0	depth (≥ 8')	Average	9.5			
Entrance weir W2	0	depth (≥ 8')	Average	9.5			
Entrance weir W3	closed	No criteria	Average	closed			
South entrance differential	0	1.0' - 2.0'	Average	1.5			
Entrance weir S1	0	depth (≥ 8')	Average	10.3			
Entrance weir S2	0	depth (≥ 8')	Average	10.2			
<b>JUVENILE PASSAGE</b>							
Sluiceway operation	3	1, 8, 18	Gate 1-1 inadvertently left closed. Corrected.				
Turbine trashrack drawdown	0	<1.5', wkly					
Spill volume	0	40%	Spill for juvenile passage started Apr 10.				
Spill Pattern	0						
Turbine Unit Priority	0	per FPP	West to east block priority started Apr 1.				
Turbine 1% Efficiency	0	per FPP					

**OTHER ISSUES:**

**Birds/Sea lions:**

Bird observation data collected once daily. There are very few birds around the project. See avian zones map and distribution details.  
Bird observation data collection changed Apr1. RNT website will no longer be used. Data with range input into avian zone map tab.

**Operations:**

Entrance weir and channel/tailwater calibration checked Apr 7. All within criteria limits.

**Current Outages:**

Turbine MU5 out of service 4/7/14 to 4/10/14 for Annual  
Transformer TO4 out of service 4/7/14 to 4/8/14 for Tap Changer Inspection and test

**Maintenance:**

Work to start on replacement weir 158/159. Design changes; 3 to 2 leafs, d/s skin plate, plastic wheels. Changes approved through FPOM Apr10.  
North fishway pump motor replacement in progress for next winter dewatering.  
Work to start rebuilding failed east fishway collection channel dewatering pump, pending staff availability.  
*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 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, update fish unit reliability assessment, planning upgrade fish unit breakers, Fish unit transformer replacement.  
All spillway items on Critical Infrastructure list and Unfunded Requirement list

**Studies:**

**PIT** - PSMFC monitoring antennas at count stations. 100% efficiency on last report.  
**EFL** - Plan 10' dia. pipe through dam, under roadway and into AWS conduit at junction pool. Starting Plans and Specs. Construction winter 2015.  
**PUD** - FERC license modification request submitted for additional north turbine. Provided comments through PM. Coordinating test digs under east ladder with fish managers, due to work within 50' Fish Passage Plan boundary limit.  
**Lamprey** - Skin plate for lamprey improvement to new east ladder 159 weir construction. Planning for tribal lamprey collection from count stations.

**Research/Contractors:**

PSMFC weekly samples continue at PUD. Some debris concern on intake addressed through frequent raking.  
Normandeau fish counting started 4/1.  
See PSMFC PUD weekly report for details. <http://www.fpc.org/documents/weekrprt/wr2014/WR14-01.pdf>  
University of Idaho maintaining antennas.  
Removal last set of 3 derelict Vertical Barrier Screens from MU 12 gatewell slot scheduled week of Aug11. Coordination in progress.  
WDFW to conduct hook and line removals of predatory northern pikeminnow from the BRZ adjacent to the project.  
Research approval letters forwarded for; ODFW forebay pikeminnow survey, USGS total dissolved gas monitoring, Yakama Nation for adult lamprey collection and PSMFC monitoring and maintaining thin walled PIT tag antennas.

Approved by;  
Ron D. Twiner  
Operation Project Manager  
The Dalles Dam

DART The Dalles Adult Ladders Daily Usage with Spill Percent

Date	Chinook				Jack Chinook				Steelhead				Steelhead Wild				Sockeye			
	Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder	
	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#
4/6	79.2	38.0	20.8	10.0	100.0	2.0	0.0	0.0	70.4	19.0	29.6	8.0	66.7	8.0	33.3	4.0		0.0		0.0
4/7	97.7	43.0	2.3	1.0		0.0		0.0	90.0	18.0	10.0	2.0	88.9	8.0	11.1	1.0		0.0		0.0
4/8	97.6	80.0	2.4	2.0		0.0		0.0	72.7	16.0	27.3	6.0	60.0	6.0	40.0	4.0		0.0		0.0
4/9	100.0	29.0	0.0	0.0		0.0		0.0	93.3	14.0	6.7	1.0	85.7	6.0	14.3	1.0		0.0		0.0
4/10	100.0	46.0	0.0	0.0		0.0		0.0	100.0	24.0	0.0	0.0	100.0	8.0	0.0	0.0		0.0		0.0
4/11	100.0	106.0	0.0	0.0	100.0	1.0	0.0	0.0	97.6	40.0	2.4	1.0	96.3	26.0	3.7	1.0		0.0		0.0
4/12	100.0	48.0	0.0	0.0	100.0	1.0	0.0	0.0	100.0	34.0	0.0	0.0	100.0	23.0	0.0	0.0		0.0		0.0
Date	Chinook				Jack Chinook				Steelhead				Steelhead Wild				Sockeye			
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	
	96.8		3.2		100.0		0.0		90.2		9.8		11.5		0.0		0.0		0.0	

NOTES:

if either the Right Ladder or Left Ladder species count is: negative or null for the day.

side of the river when facing downstream.

of U.S. Army Corps of Engineers





# The Dalles Dam Avian Zones

Washington Shore

PH-T1: 0-1 cormorant

SW-T1: 0-1 gulls

SW-T2: no birds

PH-T2: no birds

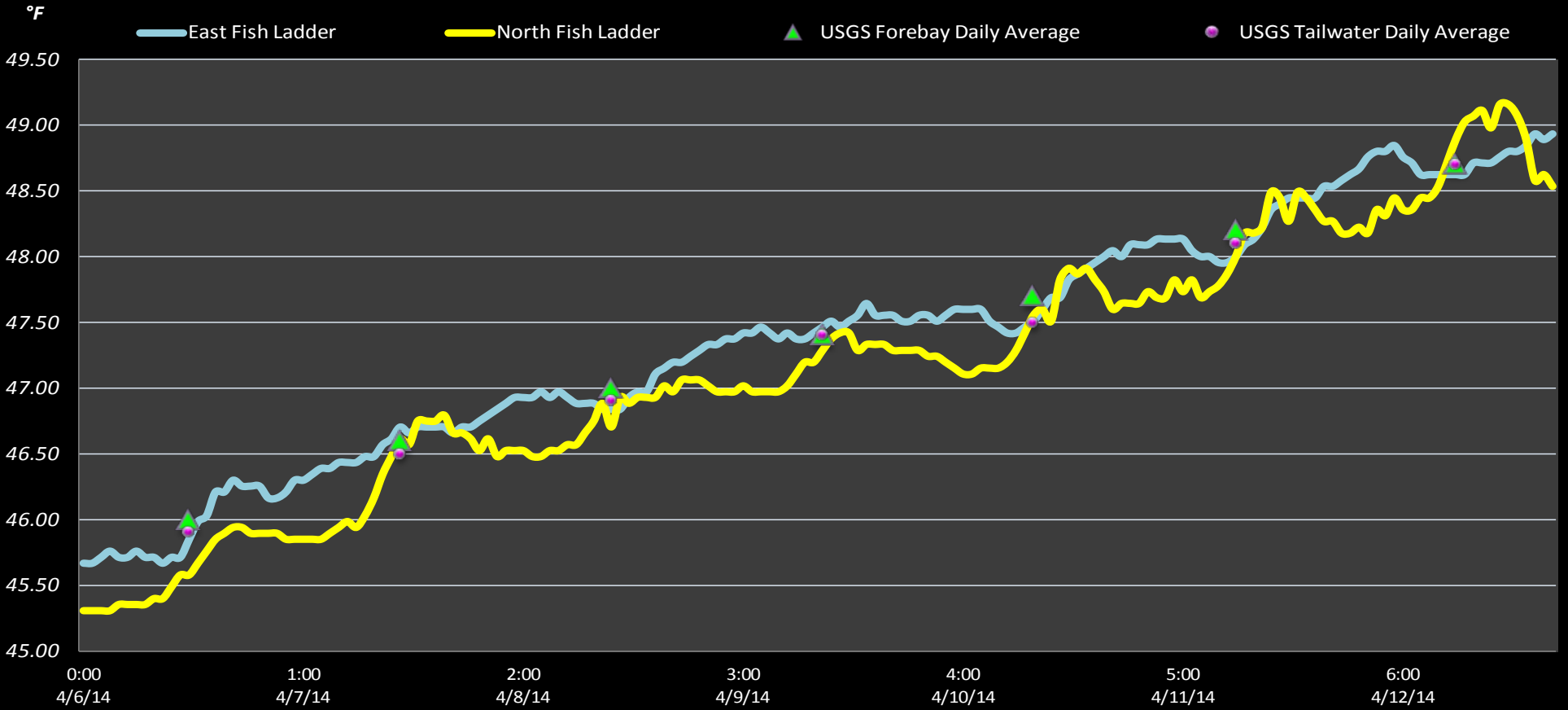
SW-T3: 0-1 cormorant

SW-T4: 0-2 gulls

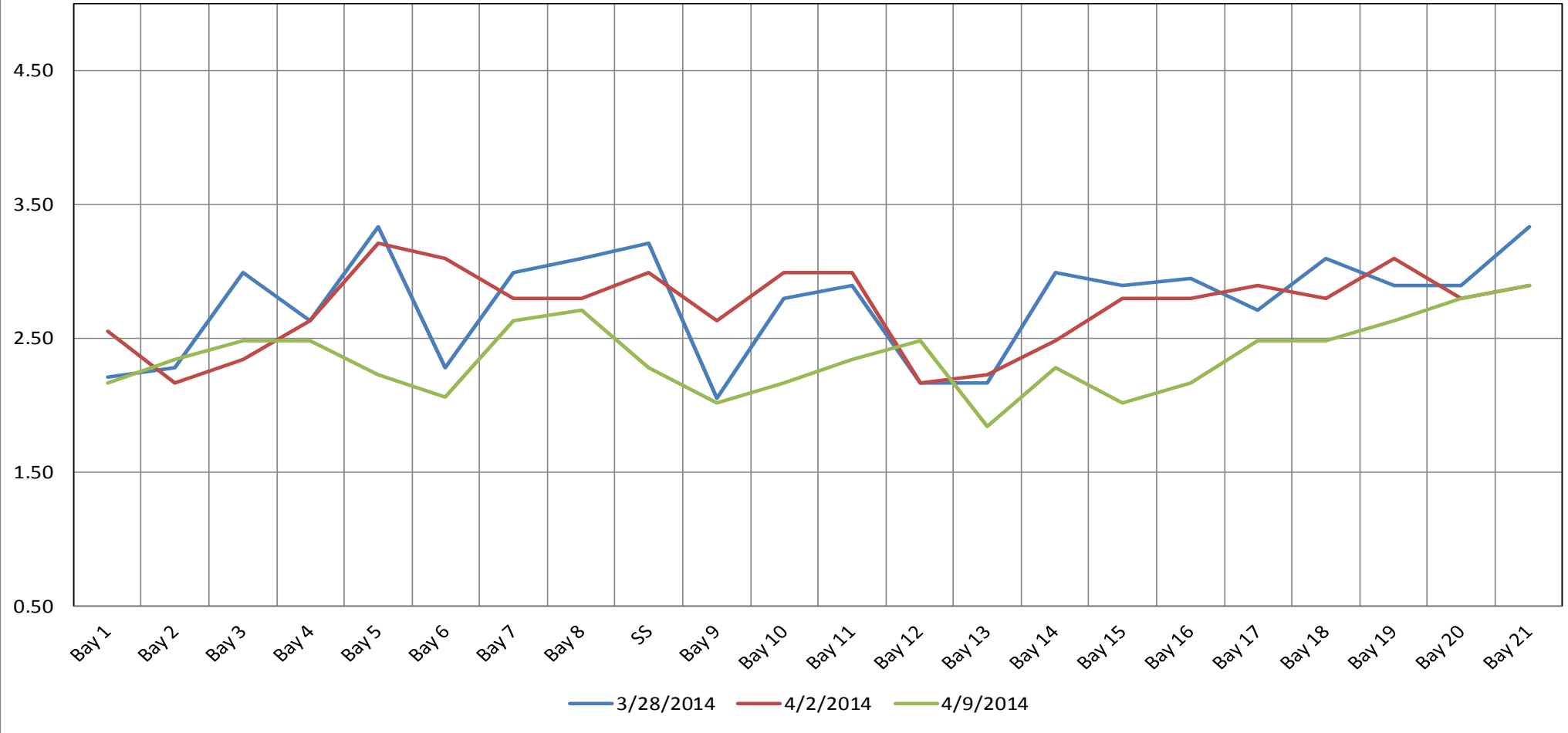
Oregon Shore



# The Dalles Dam River/Water Temperatures



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



Temp:			Secchi:	
46.0		SUN	4.0	
46.6		MON	4.0	
47.0		TUES	4.0	
47.4		WED	4.0	
47.7		THUR	4.0	
48.2		FRI	3.5	
48.7		SAT	3.5	
AVG:	47.4	AVG:	3.9	

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

= out of criteria

Date:	North Fish Ladder		East Fish 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
4/6/14			1.3	1.0	12.9	12.9		1.5	10.1	10.1	C l o s e d	1.6	10.5	10.5	O n s e a l
	1.3	10.0	1.4	1.1	12.9	12.8	13.1	1.5	9.9	9.9		1.6	10.4	10.5	
	1.3	9.9	1.3	1.0	12.9	12.9	14.4	1.7	10.0	10.1		1.7	10.4	10.5	
4/7/14			1.5	1.3	13.2	13.0		1.3	9.7	9.6		1.4	10.6	10.5	
	1.4	9.8	1.5	1.4	13.0	12.9	11.7	1.4	9.6	9.5		1.5	10.5	10.4	
	1.4	8.0	1.3	1.1	13.0	13.0	11.5	1.4	9.0	9.0		1.6	10.5	10.4	
4/8/14			1.4	2.1	13.1	13.1		1.5	9.5	9.6		1.6	10.1	10.0	
	1.3	9.8	1.6	0.4	13.0	13.0	11.2	1.1	9.6	9.5		1.3	10.8	10.7	
	1.3	9.8	1.4	2.0	13.0	13.0	12.0	1.4	9.4	9.5		1.6	9.9	10.0	
4/9/14			1.7	2.0	12.9	13.0		1.5	9.4	9.4		1.5	10.0	10.1	
	1.4	9.8	1.6	2.0	13.0	13.1	12.0	1.4	9.6	9.6		1.5	10.0	10.1	
	1.4	9.8	1.4	3.0	13.0	13.1	12.1	1.4	9.6	9.7		1.6	10.0	9.9	
4/10/14			1.4	3.1	13.0	13.1	12.7	1.5	9.4	9.4	1.4	10.0	9.9		
	1.3	10.1	1.6	2.9	13.0	13.0	12.5	1.5	9.4	9.4	1.4	10.0	10.0	40.6	
	1.3	10.0	1.4	3.2	13.1	13.0	12.6	1.4	9.5	9.5	1.4	10.0	10.0	40.2	
4/11/14			1.6	3.5	13.0	13.1		1.5	9.7	9.6	1.3	10.1	10.1		
	1.4	9.9	1.4	3.5	13.0	12.9	14.2	1.5	9.5	9.4	1.4	9.9	9.9	40.1	
	1.4	10.0	1.6	2.9	13.1	13.1	12.3	1.5	9.5	9.5	1.4	10.1	10.0	39.9	
4/12/14			1.9	2.4	12.1	12.1		1.5	9.5	9.6	1.3	10.8	10.1		
	1.4	9.9	1.9	2.5	11.9	12.0	12.0	1.5	9.6	9.6	1.4	10.8	10.1	39.9	
	1.4	10.0	1.5	6.2	12.4	11.9	11.5	1.4	9.0	9.0	1.4	10.3	10.4	40.7	
<b>AVG:</b>	<b>1.4</b>	<b>9.8</b>	<b>1.5</b>	<b>2.3</b>	<b>12.9</b>	<b>12.9</b>	<b>12.4</b>	<b>1.4</b>	<b>9.5</b>	<b>9.5</b>		<b>1.5</b>	<b>10.3</b>	<b>10.2</b>	<b>40.2</b>





This turkey is safe within project fence this hunting season. No hazing required.

