

The Dalles Dam Fishway Status Report

Date: 03/30/2014
 Inspection Period: 03/23/2014-03/29/2014

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:		21	Temperature:	44.5 F
			Comments		Secchi:	2.4 feet	
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'					
Entrance weir N1	0	depth (≥ 8')					
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'	0.4'				
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 AVGS tab.		
Entrance weir E1	0	No criteria	Average	1.0	Manually adjusted.		
Entrance weir E2	0	depth (≥ 8')	Average	11.5			
Entrance weir E3	0	depth (≥ 8')	Average	11.5			
Collection channel velocity	0	1.5 - 4 fps	Average	2.5			
Transportation channel velocity	0	1.5 - 4 fps	Average	3.4			
North channel velocity	0	1.5 - 4 fps	Average	2.1			
South channel velocity	0	1.5 - 4 fps	Average	3.6			
West entrance differential	2	1.0' - 2.0'	Average	1.4	out at 0.9' and 0.6' for a couple of hours during the night		
Entrance weir W1	0	depth (≥ 8')	Average	9.9			
Entrance weir W2	0	depth (≥ 8')	Average	9.8			
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	10.9			
Entrance weir S2	0	depth (≥ 8')	Average	10.9			
JUVENILE PASSAGE							
Sluiceway operation	0	units 1,17	4 gates open over unit 1 and 17. Unit 18 out for maintenance.				
Turbine trashrack drawdown	0	<1.5', wkly					
Spill volume	off						
Spill Pattern							
Turbine Unit Priority	0	per FPP	West to east block priority starts Apr1				
Turbine 1% Efficiency	0	per FPP					

OTHER ISSUES:

Birds/Sea lions:

Bird observation data collected once daily. Primarily cormorants observed upstream of the bridge.

See avian zones map and distribution details.

Bird observation data collection will change Apr1. RNT website will no longer be used. Data will be directly input into status report map.

Operations:

East fish ladder, north fish ladder, and I/T Sluiceway are in service in accordance with Fish Passage Plan (FPP).

Calibrations completed on 3/27/14. Most values within criteria.

On 2/25/14, MU22 scroll case was dewatered; one sturgeon and six sculpin and were captured and released to tailwater.

On 2/25/14, MU22 draft tube was dewatered; two adult lamprey, one sturgeon, and four sculpin were captured and released to tailwater.

Current Outages:

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

MU22 out of service 3/24/14 to 5/1/14 for overhaul.

Maintenance:

Work to start on new weir to replace 158/159 as staff becomes available. Likely change design from 3 to 2 leafs. Skin plate to be added for lamprey.

Proposed design changes to be brought to Apr10 FPOM for approval.

North fishway pump motor replacement in progress for next winter dewatering.

Work to start rebuilding failed east fishway collection channel dewatering pump in preparation for next winter dewatering.

Long term repair plan items; Upgrade east exit weirs 154-157, stabilize north ladder rocks, remove collection channel unneeded 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. PSMFC also investigating possible sluiceway antenna options. Status unknown.

EFL - Plan includes 10' dia. pipe through dam, under roadway and into AWS conduit west side junction pool. Starting Plans and Specs.

PUD - FERC license modification request submitted for additional north turbine. Investigating two entrance test proposal.

Lamprey - Possible lamprey improvements to new east ladder 159 weir construction. Planning for tribal lamprey collection from count stations.

Research/Contractors:

University of Idaho maintaining antennas. Plans for solar panel installation for east forebay deck antenna for next season.

Removal last set of 3 derelict Vertical Barrier Screens from MU 12 gatewell slot scheduled week of Aug11. Pending CRFM funding.

Research approval letters forwarded for; ODFW forbay pikeminnow survey, PSMFC fish sampling at PUD, USGS total dissolved gas monitoring, Yakama Nation for adult lamprey collection and PSMFC monitoring and maintaining thin walled PIT tag antennas and computer equipment.

Normandeau fish counters computer training, project specific training and fish identification training have been scheduled.

U of I will not be conducting mobile tracking of Pacific Lamprey tagged with JSAT tags by boat in the BRZ. Instead they concentrate their efforts at Bonneville due to problems that they are experiencing there.

WDFW to conduct hook and line removals of predatory northern pikeminnow from the BRZ adjacent to the project.

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

The Dalles Dam Avian Zones

Washington Shore

PH-T1: 0-1 cormorants

SW-T1: no birds

PH-T2: no birds

SW-T3: 0-6 cormorants

SW-T2: no birds

PH-T3: no birds

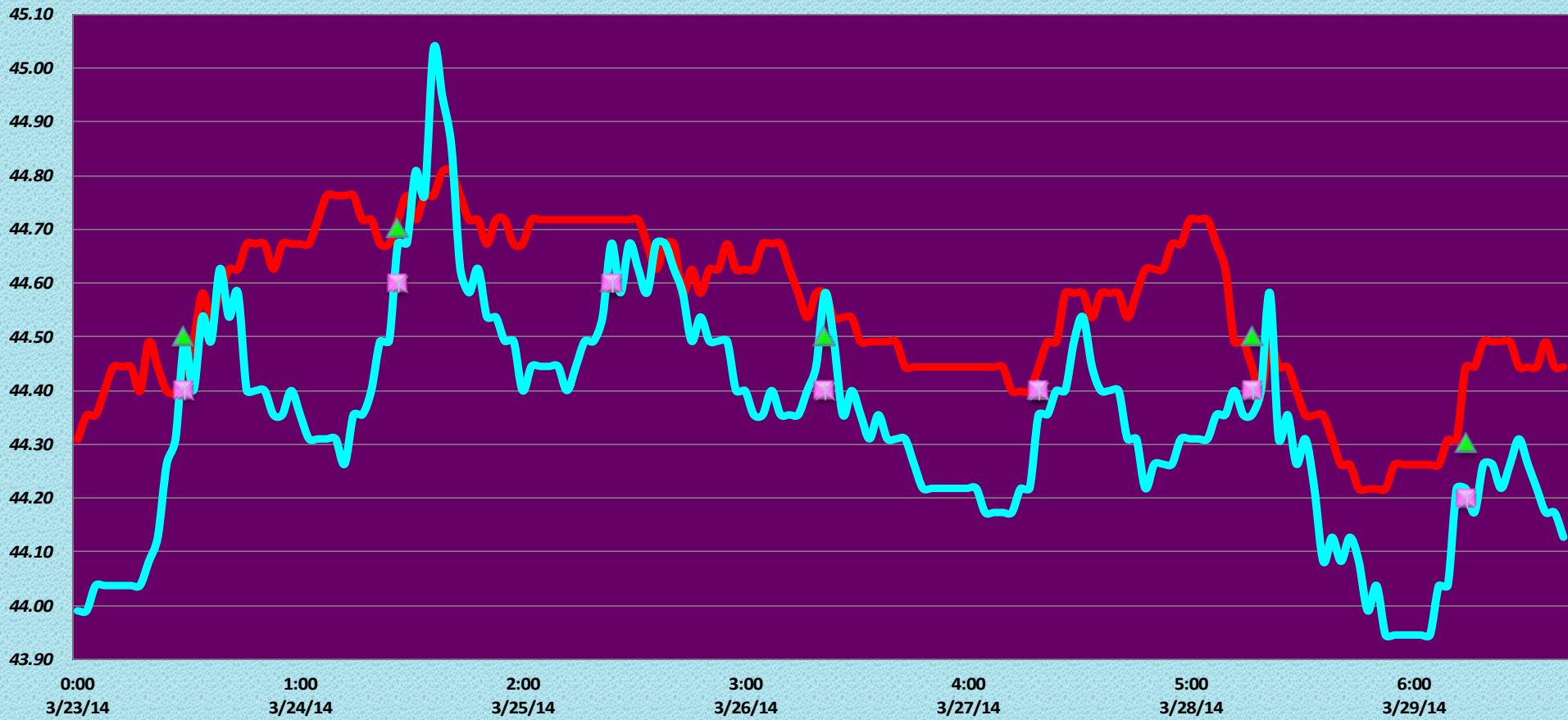
SW-T4: no birds

Oregon Shore



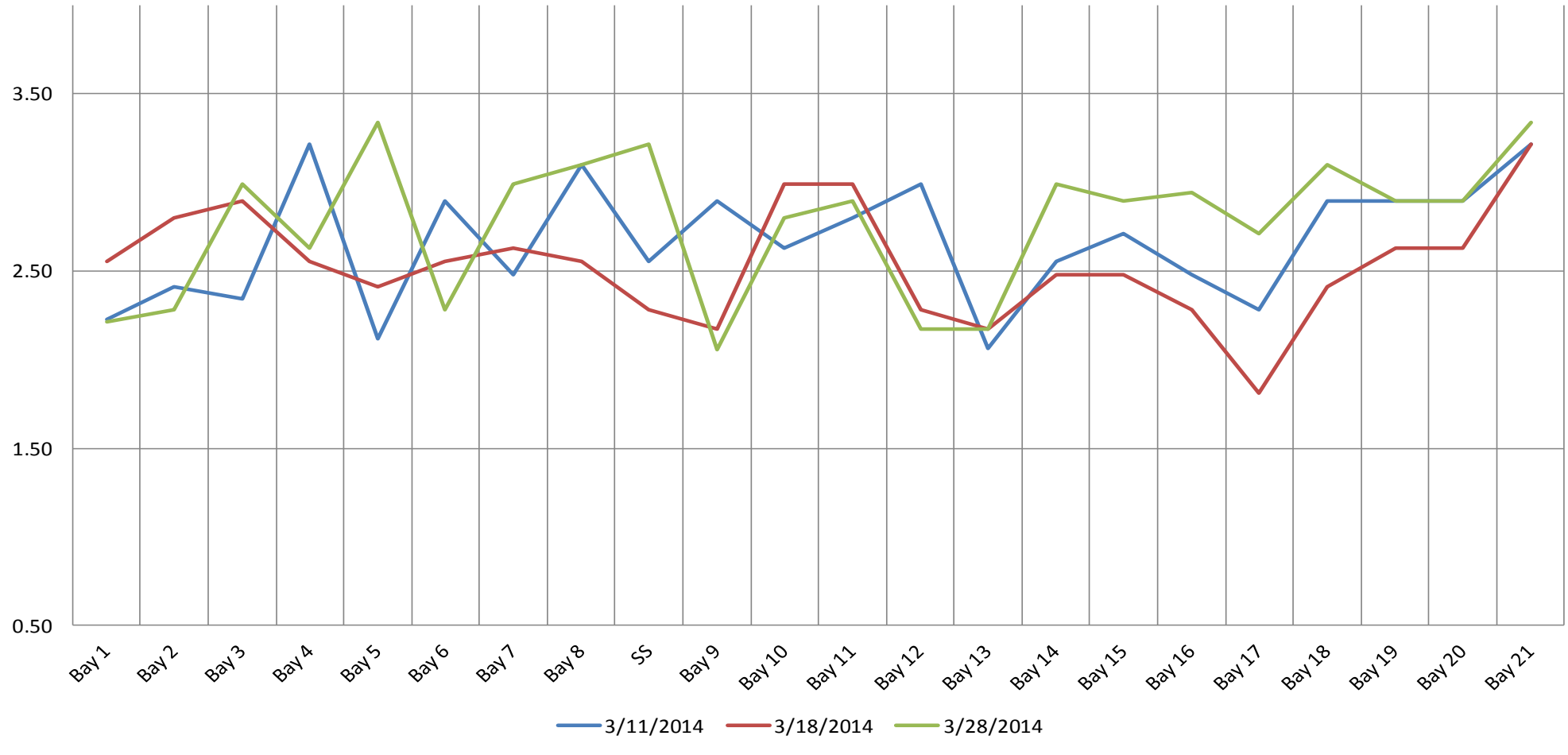
The Dalles Dam Adult Fish Ladder(s) River/Water Temperatures

°F



— East Fish Ladder — North Fish Ladder ▲ USGS Forebay Daily Average ✕ USGS Tailwater Daily Average

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



Temp:		Secchi:
44.5	SUN	2.0
44.7	MON	2.0
44.6	TUES	2.0
44.5	WED	3.0
44.4	THUR	2.0
44.5	FRI	3.0
44.3	SAT	3.0
AVG: 44.5	AVG:	2.4

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	
3/23/14			1.5	1.0	10.0	9.9	12.8	1.6	9.6	9.6	c l o s e d / b u i k h e a d i n s t a l l e	1.4	11.5	11.5	
	1.5	9.4	1.6	0.9	10.0	10.0	14.2	1.6	10.5	10.5		1.4	11.5	11.5	
	1.4	9.5	1.6	1.0	10.5	10.6	13.5	1.4	11.0	11.0		1.5	11.5	11.5	
3/24/14			1.4	1.0	10.5	10.5	12.8	1.3	10.1	10.1		1.4	11.5	11.5	
	1.5	9.4	1.5	0.9	10.6	10.6	12.7	1.4	9.8	9.9		1.5	11.1	11.0	
	1.4	9.7	1.5	1.0	11.5	11.6	12.2	1.4	10.0	10.0		1.5	11.0	10.9	
3/25/14			1.4	1.0	11.4	11.4	10.9	1.2	9.5	9.4		1.3	10.9	11.0	
	1.3	9.6	1.5	1.0	11.2	11.3	11.1	1.5	8.7	8.5		1.6	10.1	10.1	
	1.3	9.6	1.5	1.0	12.0	12.0	11.8	1.4	9.5	9.4		1.6	10.0	10.1	
3/26/14			1.6	0.9	11.9	11.9	12.7	1.6	9.5	9.6		1.7	10.1	10.1	
	1.5	9.6	1.6	0.9	11.9	11.9	12.7	1.6	9.6	9.6		1.6	10.5	10.5	
	1.5	9.6	1.5	1.1	12.1	12.1	12.8	0.9	9.5	9.5		1.7	10.7	10.7	
3/27/14			1.5	1.1	12.1	12.1	13.1	1.6	9.6	9.6	1.6	10.9	10.9		
	1.4	9.8	1.4	1.2	12.2	12.1	13.2	1.5	10.1	10.0	1.4	11.1	11.1		
	1.4	9.7	1.6	0.9	12.0	11.9	13.3	1.6	10.0	9.9	1.5	11.0	11.0		
3/28/14			1.5	1.3	12.0	12.2		1.4	10.0	10.0	1.3	11.2	11.2		
	1.5	9.2	1.4	0.0	12.1	12.1	13.1	1.5	10.0	10.1	1.6	11.0	11.0		
	1.4	9.8	1.5	0.9	11.8	11.0	14.6	1.6	10.0	10.0	1.6	10.9	10.9		
3/29/14			1.5	1.1	12.1	12.0		1.3	10.1	10.1	1.5	10.9	11.0		
	1.4	9.6	1.5	1.1	12.1	12.0	12.8	1.4	10.0	10.1	1.4	11.0	11.0		
	1.4	9.6	1.5	0.9	12.0	12.0	12.7	1.3	9.9	9.9	1.4	11.0	11.0		
AVG:	1.4	9.6	1.5	1.0	11.5	11.5	12.8	1.4	9.9	9.8		1.5	10.9	10.9	#DIV/0!