

# The Dalles Dam Fishway Status Report

5/1/2016

Inspection Period: 4/24 - 4/30/2016

## THE DALLES DAM



US Army Corps  
of Engineers  
Portland District

The Dalles Project-Fisheries  
P.O. Box 564  
The Dalles, OR 97058-9998  
Phone: 541-506-3800

*Fishways are inspected twice daily plus one SCADA inspection*

The Dalles Dam	Inspections Out of Criteria	Criteria Limit	Total Number of Inspections: 21		Temperature: 53.5 °F	
			Comments		Secchi: 3.5 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'	1.4			
Entrance weir N1	0	depth (≥ 8')	9.9			
Entrance weir N2	0	Closed				
PUD Intake differential	0	≤ 0.5'				
<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'	Picket leads raked as needed.			
Weir crest depth	0	1.0' ± 0.1'				
Junction pool weir JP6	0	depth (≥ 7')	14.9			
East entrance differential	0	1.0' - 2.0'	1.6			
Entrance weir E1	0	No criteria	8.3			
Entrance weir E2	0	depth (≥ 8')	13.5			
Entrance weir E3	0	depth (≥ 8')	13.5			
Collection channel velocity	0	1.5 - 4 fps	3.2			
Transportation channel velocity	0	1.5 - 4 fps	2.1			
North channel velocity	0	1.5 - 4 fps	2.0			
South channel velocity	0	1.5 - 4 fps	2.5			
West entrance differential	0	1.0' - 2.0'	1.5			
Entrance weir W1	0	depth (≥ 8')	13.3			
Entrance weir W2	0	depth (≥ 8')	13.3			
Entrance weir W3	0	No criteria	Closed			
South entrance differential	0	1.0' - 2.0'	1.5			
Entrance weir S1	0	depth (≥ 8')	8.5			
Entrance weir S2	0	depth (≥ 8')	8.5			
<b>JUVENILE PASSAGE</b>						
Sluiceway operation	0	Units 1, 8, 18				
Turbine trashrack drawdown	0	<1.5', wkly	range: 0-1.1'			
Spill volume	0	Spill at 40%				
Spill Pattern	0					
Turbine Unit Priority	10	per FPP	MU 3, 15 & 16 forced out. Affects turbine block priority order.			
Turbine 1% Efficiency	0	per FPP	Out of fish passage season			

**OTHER ISSUES:****Birds/Sea lions:**

Bird observation data collected once daily. Refer to Avian Zone map. USDA hazers still not on site (2 weeks late) due to late approvals.  
Bird numbers are steadily increasing with many inside spillway avian lines. Corps employees cannot haze birds.  
Sealions observed frequently near a fish ladder entrances. USDA will haze sea lions whenever they start work.

**Operations:**

Gateway drawdown completed. All differentials within criteria.  
Calibration done 5/1, east channel minor discrepancy TDE notified  
Spill for juvenile salmon continues. Some reduction from 40% due to gas cap.

**Current Outages:**

T8 (MU15 & MU16) forced out due to transformer failure. Return unknown.  
MU3 forced out through 6/9/2016 due to loss of governor sump oil level

**Maintenance:**

South entrance dewater pump rehab postponed to next season due to budget constraints.  
Awaiting east exit weir electrical panel FCQ7 panel. May 20 delivery date. To be installed on gallery and connected as funding allows.  
Tailrace crane repair near west entrance delayed to June. No excessive noise observed near west entrance from this work.  
*Long Term repair maintained plans*; 154 -157 weir mods, collection channel diffusers decommission, repair failed diffusers - all on hold due to funding  
*Fish related /non-fish funded items*; spillway evaluation, spillway crane rehab, spillgate 9 trunnion pin replace, sluiceway chaingate rehab (near complete)  
fish unit breaker replace (in planning), Fish unit rehab (in planning) and transformer replace (in planning).  
All spillway items on Critical Infrastructure list and Unfunded Requirement list.

**Studies:**

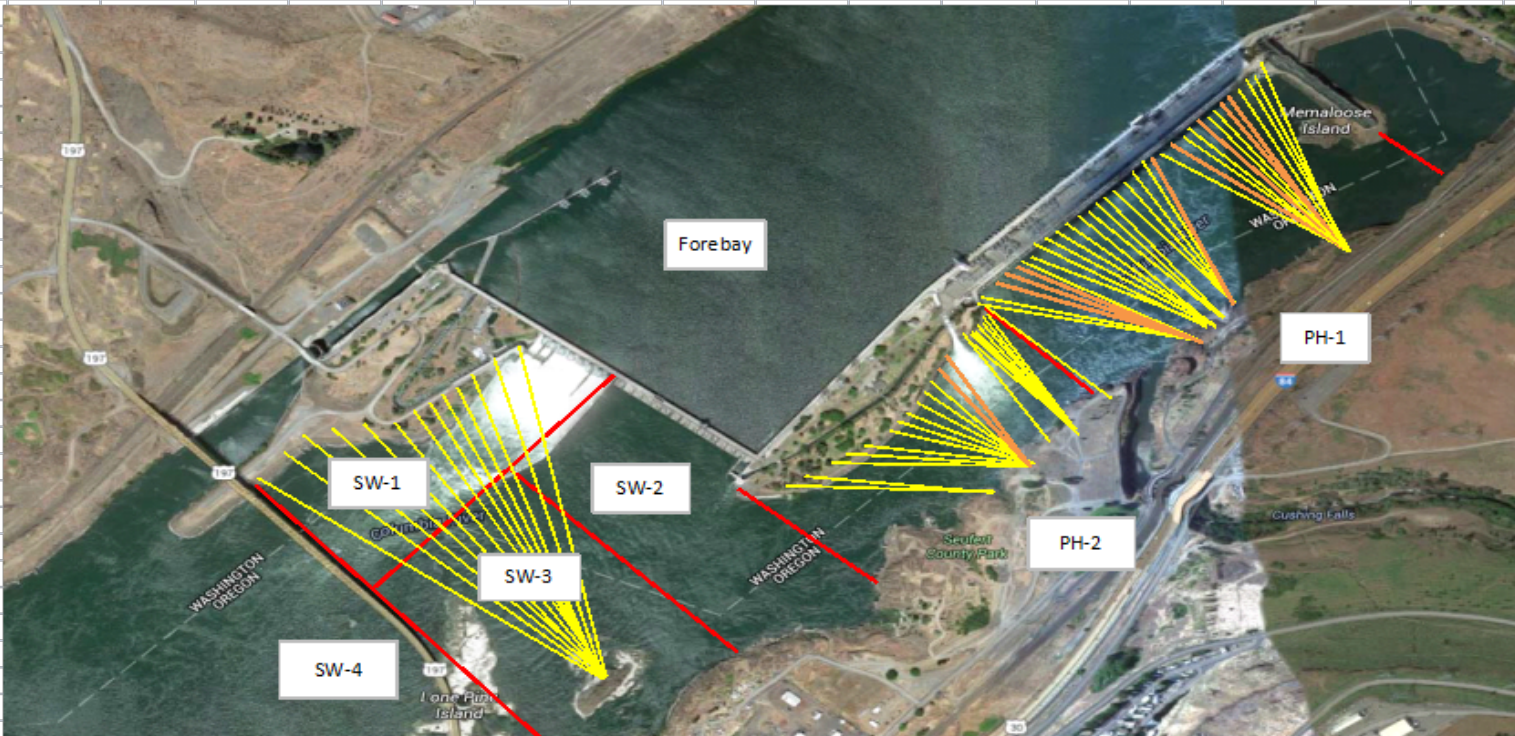
North fishladder rehab construction 2017/18. FPOM review as needed.  
East fishladder emergency backup construction delayed. Planning for work this winter if awarded.  
Crane rail replacement on tailrace and intake 2016/17. To be completed within in water work period.  
Transformer replacement planning underway. Plans to eliminate fish unit TA transformers. Install start 2017. Planning meetings continue.  
No new developments for north lighting video counting improvements.  
In process of updating N Wasco Co PUD Memo of Agreement. Near complete.  
Fish unit rehab project plan started. Will increase reliability of fish units and potential redundancy.

**Research/Contractors:**

Normandeau fish counters season resumed Apr1. No issues.  
USDA avian hazer start delayed. Awaiting contract approvals.

Approved by: Ron Twiner

Operation Project Manager The Dalles Dam



Yellow lines= present avian lines

red lines= Barriers between observation zones

Orange lines= Missing or down avian lines



## The Dalles East

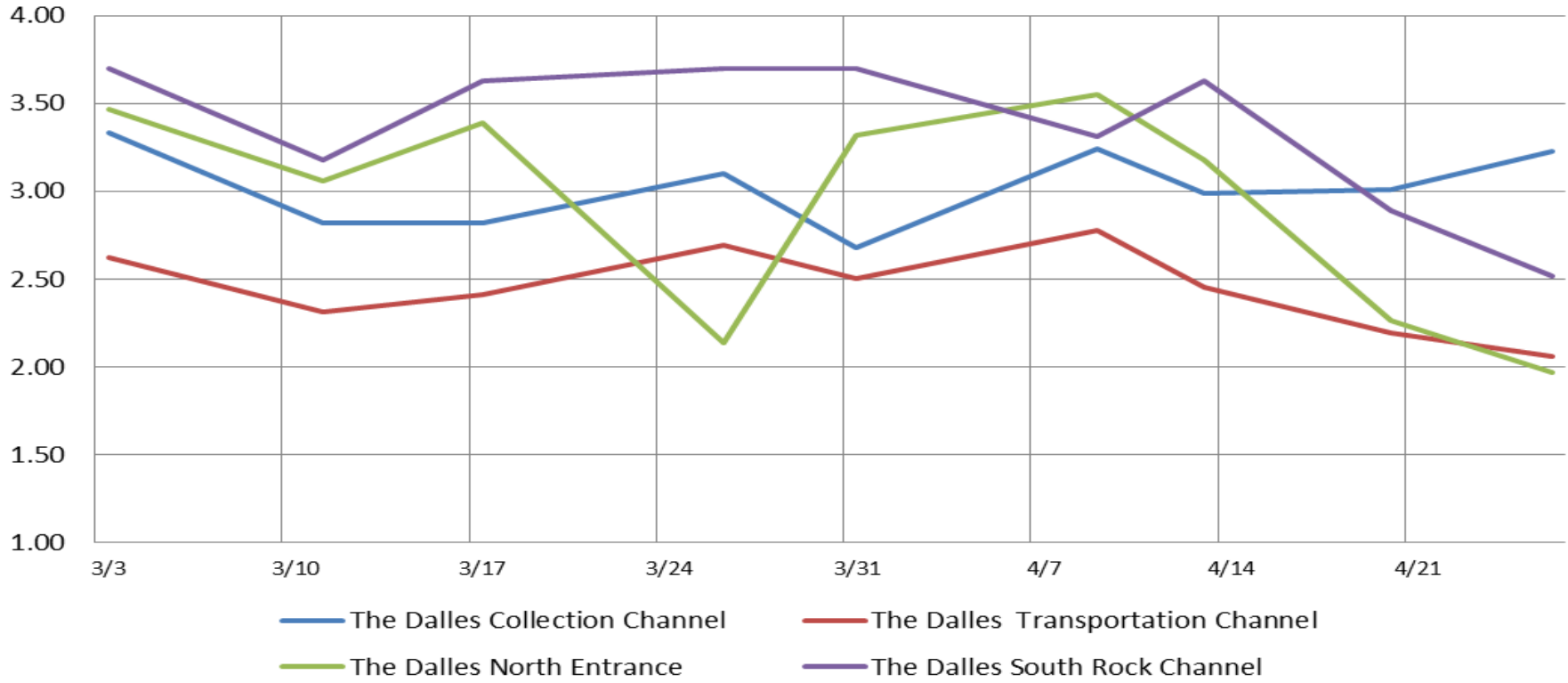
Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
4/24	1492	1481	11	5	4	1	0	0	0	0	0	0	0
4/25	830	817	13	1	1	0	0	0	0	0	0	0	0
4/26	733	728	5	3	2	1	0	0	0	0	0	0	0
4/27	1153	1128	25	5	4	1	0	0	0	0	0	0	0
4/28	498	490	8	1	0	1	0	0	0	0	0	0	0
4/29	990	973	17	0	0	0	0	0	0	0	0	0	0
4/30	1166	1130	36	2	2	0	0	0	0	0	0	0	0
<b>total</b>	<b>6862</b>	<b>6747</b>	<b>115</b>	<b>17</b>	<b>13</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

## The Dalles North

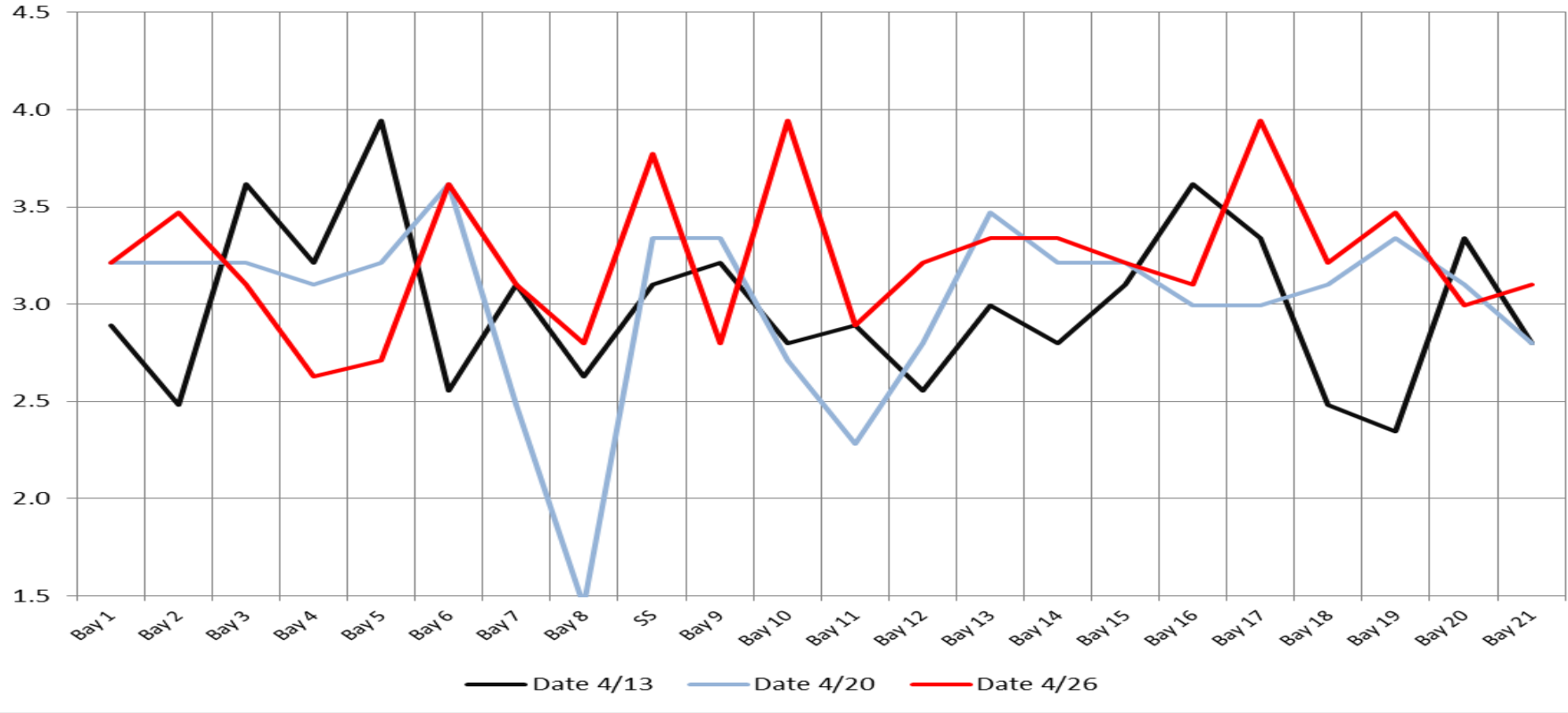
Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
4/24	90	90	0	0	0	0	0	0	0	0	0	0	0
4/25	37	37	0	0	0	0	0	0	0	0	0	0	0
4/26	32	32	0	0	0	0	0	0	0	0	0	0	0
4/27	22	22	0	0	0	0	0	0	0	0	0	0	0
4/28	7	7	0	0	0	0	0	0	0	0	0	0	0
4/29	48	48	0	0	0	0	0	0	0	0	0	0	0
4/30	363	362	1	0	0	0	0	0	0	0	0	0	0
<b>total</b>	<b>599</b>	<b>598</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>% North</b>	<b>8.0</b>	<b>8.1</b>	<b>0.9</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

<http://www.nwp.usace.army.mil/Missions/Environment/Fish/Counts.aspx>

**The Dalles Dam Averages Velocities (In criteria 1.5 - 4.0 fps)**



The Dalles Dam Collection Channel Velocites (In criteria 1.5 - 4.0 fps)



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

— East Count Station — North Count Station — Current USGS Hourly ▲ USGS Daily Average (2007-2015)





Secchi:		USGS: Temperatures
3.0	Sun	53.50
4.0	Mon	53.20
3.5	Tue	53.20
3.5	Wed	53.45
3.5	Thurs	53.55
3.5	Fri	53.70
3.5	Sat	53.80
3.5	AVG	53.49

<http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201604.lcol.html>

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

= Out of criteria

North Ladder			East Ladder											% Spill
North Entrance			East Entrance				West Entrance				South Entrance			
Date:	Differential	N1 Depth	Differential	E1 Depth	E2 Depth	E3 Depth	JP 6	Differential	W1 Depth	W2 Depth	W3 Depth	Differential	S1 Depth	S2 Depth
4/24			1.5	8.6	13.5	13.5	16.7	1.8	13.0	13.0		1.7	8.4	8.4
	1.4	10.0	1.5	8.6	13.4	13.4	16.2	1.7	13.1	13.1		1.5	8.6	8.6
	1.4	9.9	1.7	8.4	13.4	13.4	15.8	1.6	12.0	12.1		1.5	8.5	8.5
4/25			1.7	8.7	13.6	13.6	15.7	1.6	13.1	13.1		1.5	8.6	8.6
	1.4	9.8	1.4	8.6	13.6	13.6	16.1	1.7	13.0	13.0		1.6	8.4	8.5
	1.5	9.8	1.4	8.5	13.4	13.4	16.1	1.6	13.6	13.6		1.5	8.5	8.6
4/26			1.5	8.5	13.5	13.5	15.5	1.6	13.4	13.4		1.6	8.5	8.5
	1.4	9.9	1.5	8.5	13.5	13.5	15.3	1.5	13.5	13.5		1.6	8.4	8.4
	1.3	10.0	1.5	8.5	13.5	13.5	14.4	1.4	13.4	13.4		1.4	8.5	8.5
4/27			1.6	8.7	13.7	13.7	13.7	1.4	13.6	13.6		1.4	8.6	8.6
	1.5	9.8	1.4	7.5	13.5	13.5	14.2	1.4	13.5	13.5		1.5	8.5	8.5
	1.5	9.9	1.4	7.5	13.6	13.6	14.1	1.4	13.5	13.4		1.5	8.5	8.5
4/28			1.6	7.6	13.6	13.6	14.3	1.4	13.6	13.6		1.4	8.5	8.5
	1.4	9.9	1.5	7.5	13.5	13.5	14.3	1.5	13.4	13.4		1.5	8.4	8.4
	1.4	9.8	1.6	7.6	13.6	13.6	15.4	1.6	13.4	13.4		1.5	8.6	8.6
4/29			1.7	7.6	13.5	13.5	13.6	1.4	13.6	13.6	1.3	8.5	8.5	
	1.4	9.8	1.6	8.1	13.6	13.6	14.7	1.5	13.4	13.4	1.5	8.4	8.4	
	1.4	9.9	1.8	8.0	13.4	13.5	14.8	1.5	13.4	13.4	1.4	8.6	8.6	
4/30			1.7	9.0	13.5	13.5	14.7	1.4	13.5	13.5	1.4	8.6	8.6	
	1.4	9.9	1.6	8.9	13.5	13.5	14.7	1.5	13.5	13.5	1.5	8.4	8.4	
	1.5	9.8	1.5	9.1	13.5	13.5	13.4	1.4	12.8	12.8	1.3	8.3	8.3	
<b>AVG:</b>	<b>1.4</b>	<b>9.9</b>	<b>1.6</b>	<b>8.3</b>	<b>13.5</b>	<b>13.5</b>	<b>14.9</b>	<b>1.5</b>	<b>13.3</b>	<b>13.3</b>	<b>1.5</b>	<b>8.5</b>	<b>8.5</b>	39.1

*Fishways are inspected twice daily plus one SCADA inspection.*



Sport fishing upstream east exit for spring chinook.  
Trying to keep outside 200' limit. OSP notified.