

The Dalles Dam Fishway Status Report

4/16/2016

Inspection Period: 04/10/2016-04/16/2016

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: 52.6 °F
			Comments		Secchi: 4.0 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'	1.4		
Entrance weir N1	0	depth (≥ 8')	9.8		
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'	Picket leads raked as needed.		
Weir crest depth	0	1.0' ± 0.1'			
Junction pool weir JP6	0	depth (≥ 7')	Average	12.9	
East entrance differential	0	1.0' - 2.0'	Average	1.5	
Entrance weir E1	0	No criteria	Average	6.7	
Entrance weir E2	0	depth (≥ 8')	Average	13.5	
Entrance weir E3	0	depth (≥ 8')	Average	13.5	
Collection channel velocity	0	1.5 - 4 fps	Average	3.3	
Transportation channel velocity	0	1.5 - 4 fps	Average	2.6	
North channel velocity	0	1.5 - 4 fps	Average	3.5	
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	12.5	
Entrance weir W2	0	depth (≥ 8')	Average	12.5	
Entrance weir W3	0	No criteria	Average	Closed	
South entrance differential	0	1.0' - 2.0'	Average	1.4	
Entrance weir S1	0	depth (≥ 8')	Average	8.7	
Entrance weir S2	0	depth (≥ 8')	Average	8.7	
JUVENILE PASSAGE					
Sluiceway operation	0	Units 1, 8, 18			
Turbine trashrack drawdown	0	<1.5', wkly	range: 0.1-0.8'		
Spill volume	1	Spill at 40%	44.5% spill for the day of 4/12		
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. Hazers schedule to start 4/16. Hazing 14hrs/day by boat and/or shore. Sealion CO14 has been observed nearly everyday near a fish ladder entrance mostly at the west entrance but also at the south.

Operations:

Gatewell drawdown completed 4/16. All differentials within criteria.

Wind conditions did not allow for Calibration. Calibration to be performed 4/19

Spill for juvenile salmon started on April 10.

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 planned for this summer.

Awaiting east exit weir electrical panel FCQ7 panel. May 20 delivery date. To be installed on gallery but not connected until funding available.

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 study for rock wall ongoing. Construction 2017/18. FPOM review as needed.

East fishladder emergency backup construction delayed. No new development.

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.

Fish Field Unit working with project electrical shop for upgrades to north lighting to resume video counting from last season.

In process of updating N Wasco Co PUD Memo of Agreement. Meeting with PUD staff 4/12 to review.

Fish unit rehab project plan started. Will increase reliability of fish units and potential redundancy.

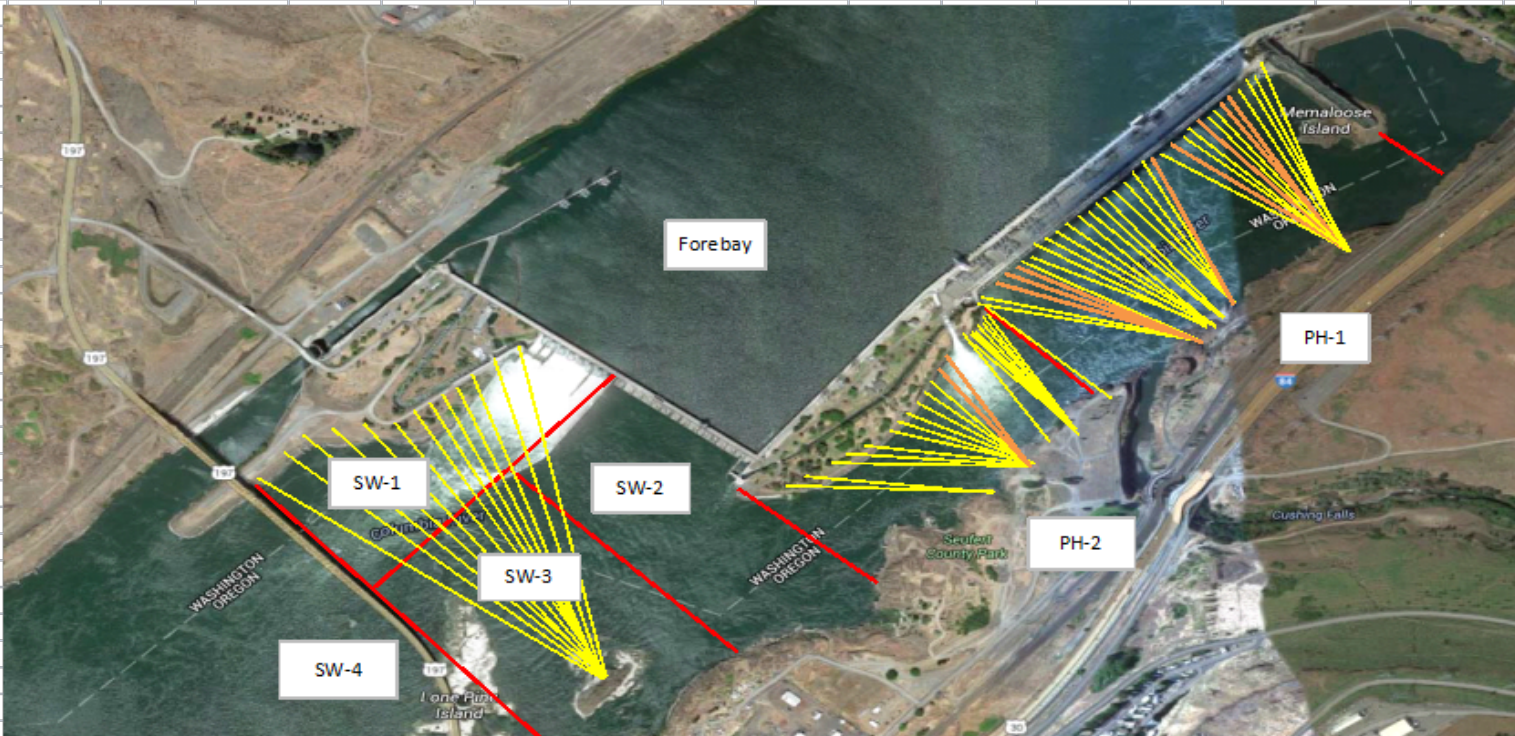
Research/Contractors:

Normandeau fish counters season resumed Apr1. No issues.

USDA avian hazer were not able to start Apr16 because there was no signed contract in place.

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

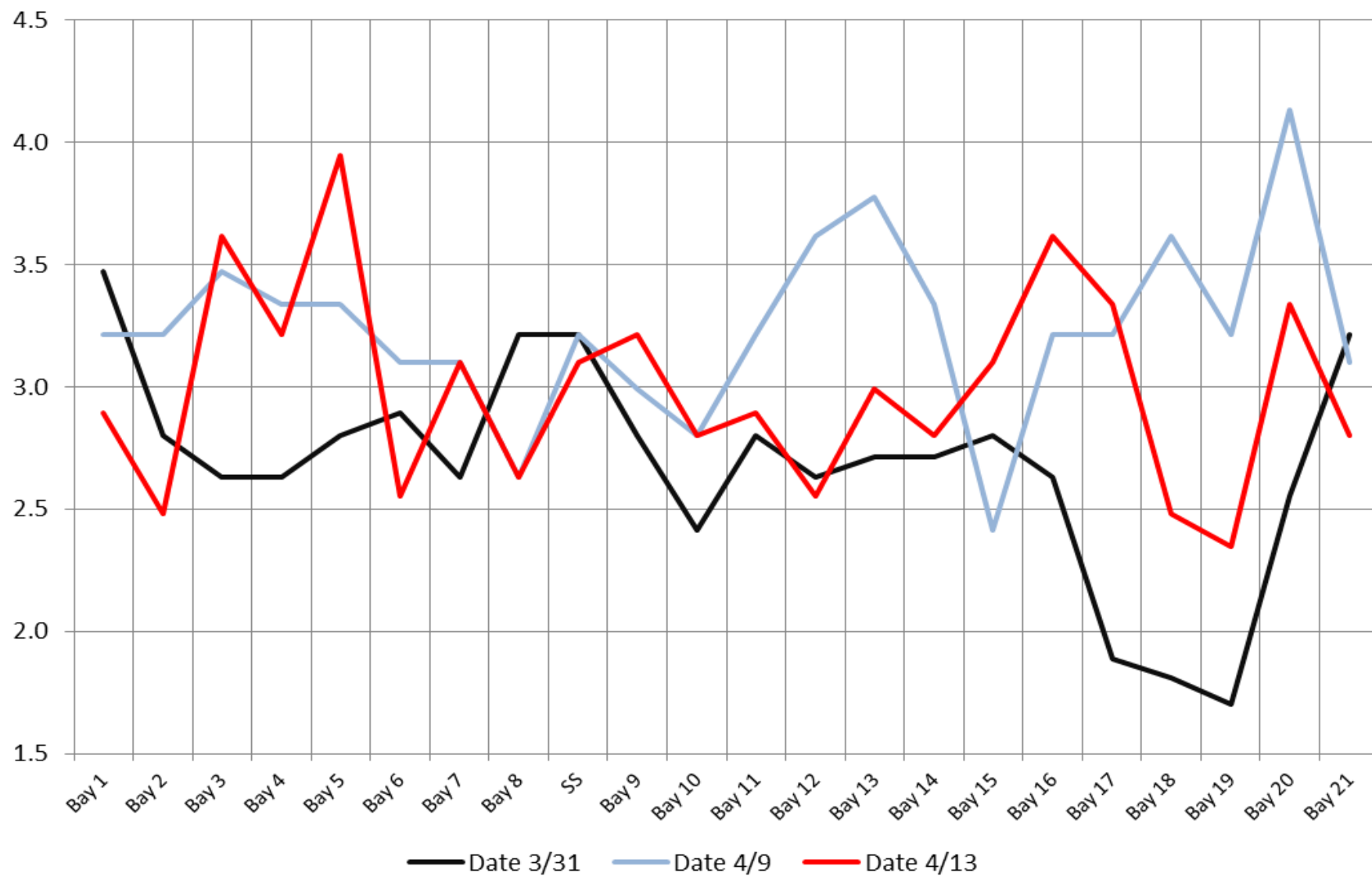
Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
4/10	213	205	8	17	5	12	0	0	0	0	0	0	0
4/11	165	161	4	14	6	8	0	0	0	0	0	0	0
4/12	222	212	10	10	5	5	0	0	0	0	0	0	0
4/13	199	199	0	18	13	5	0	0	0	0	0	0	0
4/14	143	139	4	8	1	7	0	0	0	0	0	0	0
4/15	143	142	1	6	1	5	0	0	0	0	0	0	0
4/16	167	161	6	7	2	5	0	0	0	0	0	0	0
total	1252	1219	33	80	33	47	0	0	0	0	0	0	0

The Dalles North

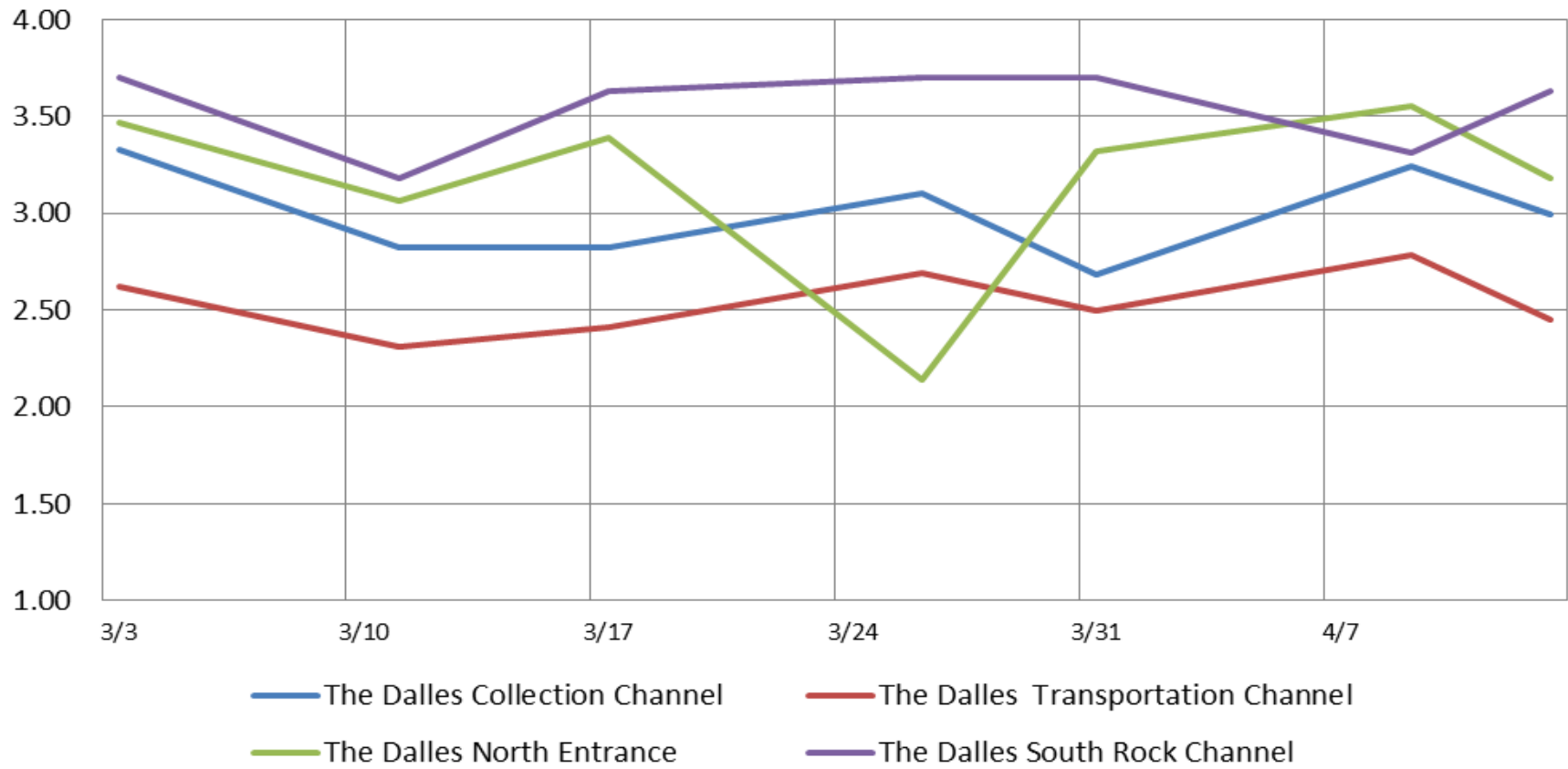
Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
4/10	6	6	0	0	0	0	0	0	0	0	0	0	0
4/11	13	13	0	0	0	0	0	0	0	0	0	0	0
4/12	1	1	0	0	0	0	0	0	0	0	0	0	0
4/13	8	8	0	0	0	0	0	0	0	0	0	0	0
4/14	2	2	0	0	0	0	0	0	0	0	0	0	0
4/15	4	4	0	0	0	0	0	0	0	0	0	0	0
4/16	6	6	0	0	0	0	0	0	0	0	0	0	0
total	40	40	0	0	0	0	0	0	0	0	0	0	0
% North	3.1	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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

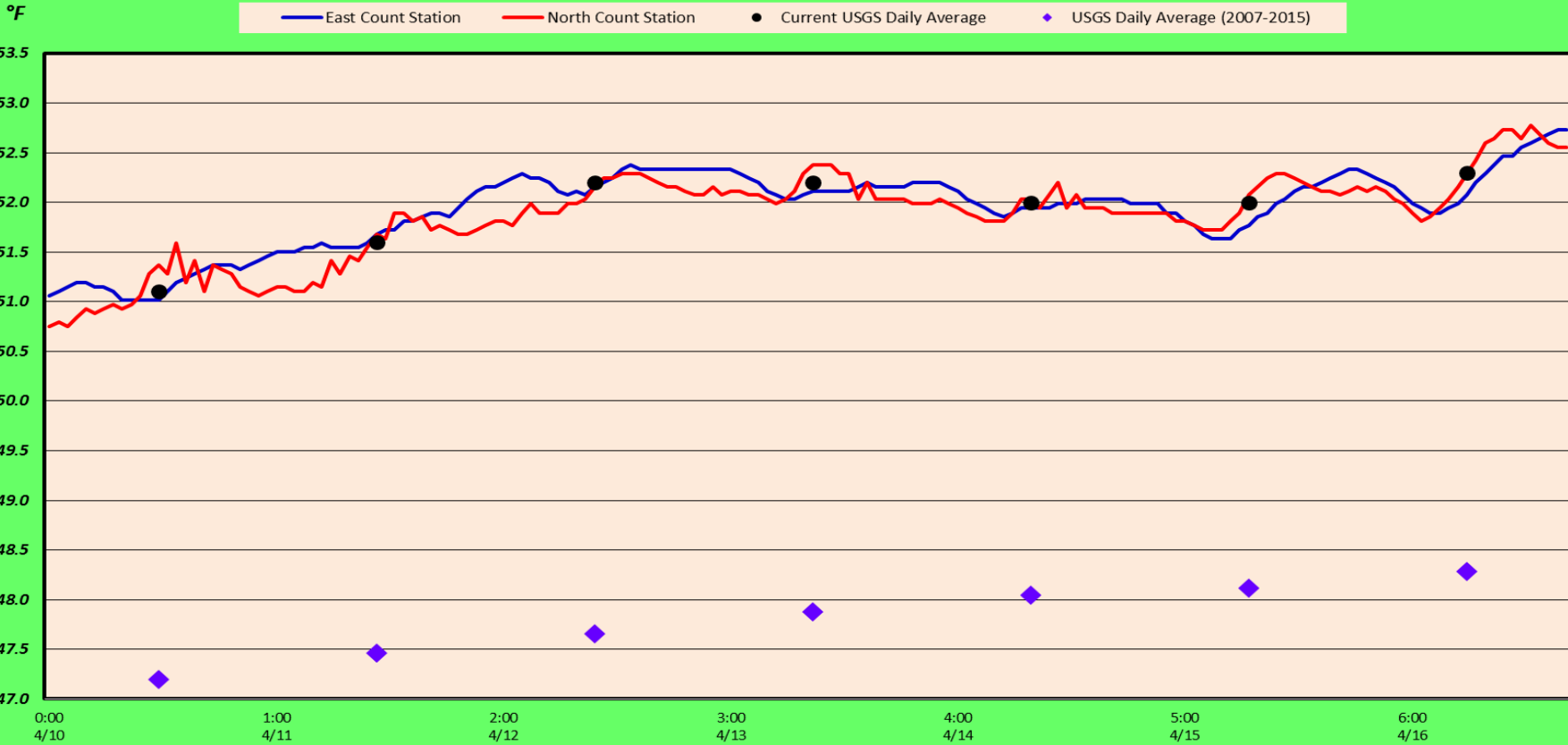
The Dalles Dam Collection Channel Velocites (In criteria 1.5 - 4.0 fps)

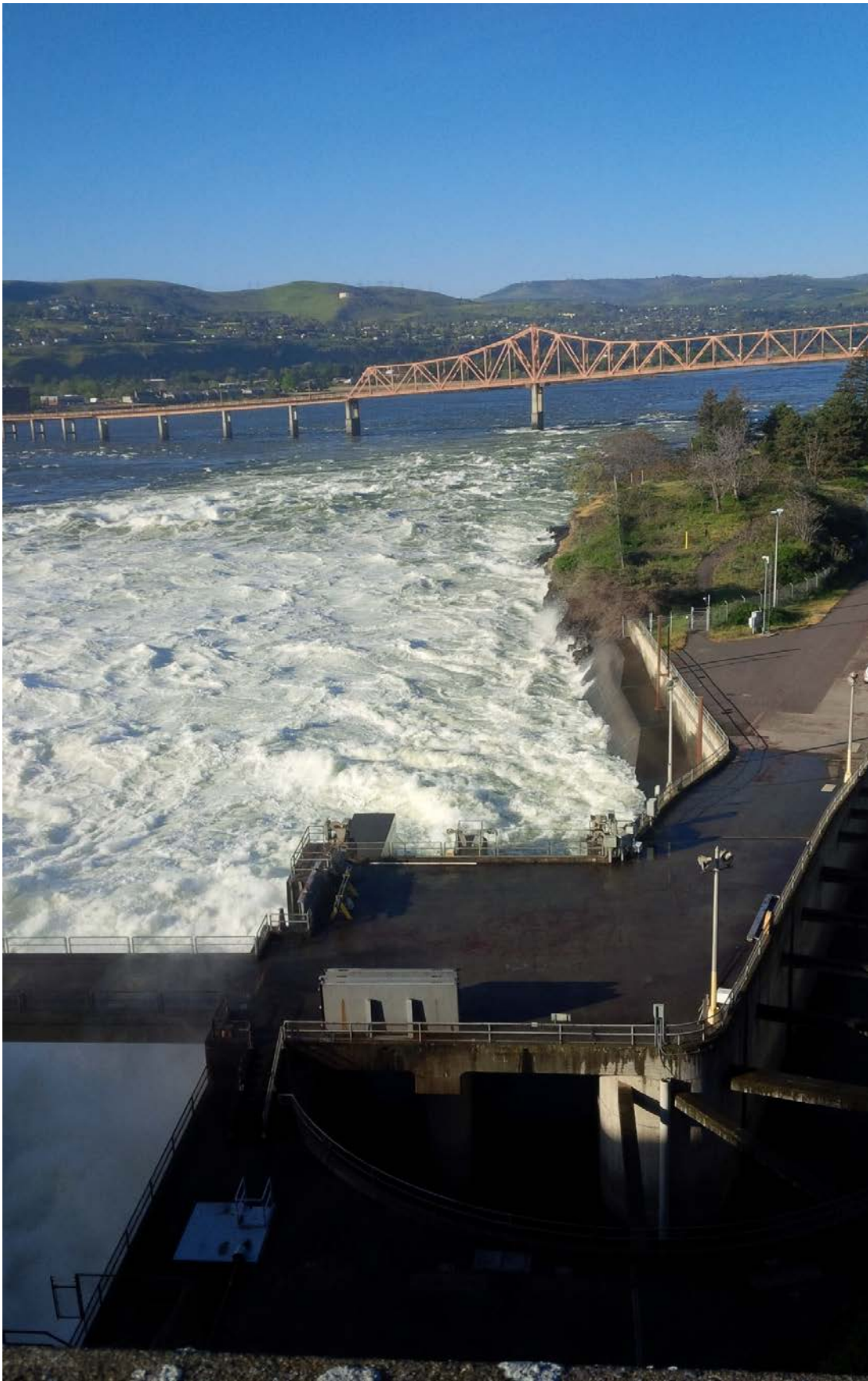


The Dalles Dam Averages Velocities (In criteria 1.5 - 4.0 fps)



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





130 KCFS spill

Secchi:		USGS: Temperatures
4.5	Sun	51.10
5.0	Mon	51.60
4.5	Tue	52.20
4.5	Wed	52.20
3.5	Thurs	52.00
3.0	Fri	52.00
3.0	Sat	52.30
4.0	AVG	52.60

<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

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	
4/10			1.4	6.5	13.5	13.5	11.9	1.4	12.5	12.5		1.2	10.1	9.6	39.7
	1.4	9.6	1.3	5.6	13.6	13.5	12.2	1.4	12.5	12.4		1.2	9.6	9.5	
	1.5	9.2	1.3	6.5	13.6	13.6	12.3	1.4	12.4	12.5		1.2	9.6	9.5	
4/11			1.3	6.5	13.5	13.5	11.2	1.3	12.6	12.6		1.3	9.4	9.4	40.2
	1.4	9.8	1.5	6.9	13.6	13.6	11.7	1.5	11.8	11.8		1.5	8.3	8.3	
	1.4	9.9	1.4	7.0	13.6	13.5	11.5	1.4	11.8	11.9		1.5	8.3	8.3	
4/12			1.5	7.0	13.5	13.5	11.9	1.5	11.8	11.8		1.3	8.3	8.3	44.5
	1.4	9.9	1.5	4.0	13.5	13.5	11.3	1.5	11.0	11.0		1.5	8.3	8.3	
	1.5	9.9	1.4	5.9	13.5	13.5	11.3	1.4	12.1	12.0		1.4	8.4	8.4	
4/13			1.5	6.3	13.7	13.7	11.8	1.5	12.1	12.1		1.5	8.4	8.4	39.8
	1.4	9.8	1.5	6.0	13.5	13.5	12.1	1.5	11.9	11.9		1.5	8.4	8.4	
	1.4	9.8	1.5	6.0	13.6	13.5	12.3	1.6	11.9	11.9		1.5	8.3	8.4	
4/14			1.8	5.8	13.4	13.4	12.9	1.6	11.9	11.9		1.6	8.2	8.2	40.0
	1.4	9.9	1.5	7.5	13.4	13.3	13.2	1.4	13.1	13.1		1.5	8.3	8.3	
	1.4	9.8	1.4	7.5	13.6	13.6	13.4	1.4	12.9	12.9		1.5	8.3	8.2	
4/15			1.6	7.5	13.5	13.5	15.6	1.7	13.1	13.1	1.7	8.3	8.3	40.0	
	1.4	9.9	1.6	7.5	13.4	13.4	15.4	1.5	13.0	13.0	1.5	8.8	8.8		
	1.4	9.9	1.8	7.9	13.4	13.4	15.2	1.6	13.5	13.5	1.5	8.8	8.7		
4/16			1.6	8.0	13.5	13.6		1.6	13.4	13.4	1.4	8.9	8.9	39.9	
	1.3	9.8	1.6	7.9	13.4	13.5	16.1	1.7	13.5	13.5	1.5	8.7	8.7		
	1.4	9.9	1.7	7.1	13.5	13.6	15.6	1.5	13.6	13.6	1.4	8.8	8.8		
AVG:	1.4	9.8	1.5	6.7	13.5	13.5	12.9	1.5	12.5	12.5		1.4	8.7	8.7	40.6

Fishways are inspected twice daily plus one SCADA inspection.