

The Dalles Dam Fishway Status Report

4/9/2016

Inspection Period: 04/03/2016-04/09/2016

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: 14		Temperature: 49.4 °F
			Comments		Secchi: 4.1 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')	9.4		
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	12.6	
East entrance differential	0	1.0' - 2.0'	Average	1.5	
Entrance weir E1	0	No criteria	Average	6.2	
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	2.2	
Entrance weir W1	0	depth (≥ 8')	Average	11.9	
Entrance weir W2	0	depth (≥ 8')	Average	11.9	
Entrance weir W3	0	No criteria	Average	Closed	
South entrance differential	0	1.0' - 2.0'	Average	1.5	
Entrance weir S1	0	depth (≥ 8')	Average	9.0	
Entrance weir S2	0	depth (≥ 8')	Average	9.0	
JUVENILE PASSAGE					
Sluiceway operation	0	Units 1, 8, 18			
Turbine trashrack drawdown	0	<1.5', wkly	range: 0.1-0.8'		
Spill volume	Spill RTS ~April 10, 2016				
Spill Pattern					
Turbine Unit Priority	14	per FPP	MU 3, 15 & 16 forced out. Affects turbine block priority order.		
Turbine 1% Efficiency	NA	per FPP	Out of fish passage season		

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

Bird observation data collected once daily. Refer to Avian Zone map. Sea lion spotted at west entrance 4/7

Operations:

Calibration inspections completed 4/3 TDE corrected East entrance channel discrepancy
Gatewell drawdown completed 4/6. All differentials within criteria.

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:

New avian line pole installed for failed powerhouse grid. Total powerhouse coverage 27 lines of original 39. Will asses and install more if needed.
Awaiting east exit weir electrical panel FCQ7 panel. May 20 delivery date. To be installed on gallery but not connected until funding available.
North fishway entrance dewatering pump installed, ready for dewater season 2016/2017.
Tailrace crane repair near west entrance delayed to June. No excessive noise observed near west entrance from this work.
South entrance dewater pump rehab planned for this summer.
Long Term repair maintained plans; 154 -157 weir mods, collection channel diffusers decomission, 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.

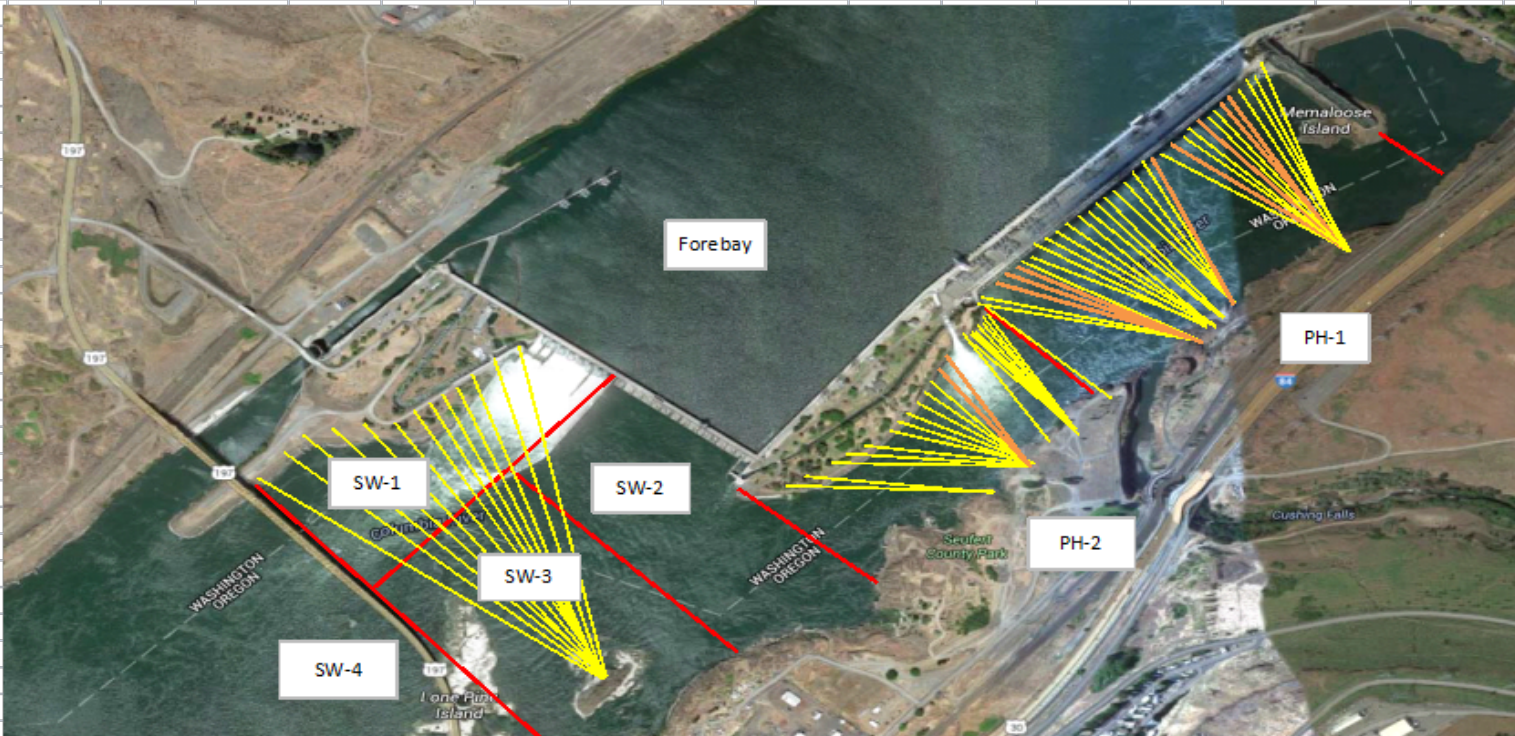
Studies:

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.

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

2016 Piscivorous Bird Counts

F=foraging, NF=non-foraging

Date	observer	Time (24 hr)	Zone	Gull		Cormorant		Caspian tern		Grebe		Pelican		Other		Total birds in zone	Notes	
				F	NF	F	NF	F	NF	F	NF	F	NF	F	NF			
4/3/16	JWR	13:49	FB	0	0	0	0	0	0	0	0	0	0	0	0	0		
		13:12	PH1	0	0	0	5	0	0	0	0	0	0	0	0	0	5	
		13:15	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		13:48	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		13:17	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		13:18	SW3	0	0	0	0	15	0	0	0	0	0	0	0	0	0	15
13:19	SW4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4/4/16	JWR	9:42	FB	0	0	0	0	0	0	0	0	0	0	0	0	0		
		9:07	PH1	0	0	0	5	0	0	0	0	0	0	0	0	0	5	
		9:09	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		9:41	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		9:12	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		9:13	SW3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
9:14	SW4	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4/5/16	EHK	14:30	FB	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
		13:18	PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		13:27	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		13:58	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		13:39	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		13:41	SW3	0	0	0	9	0	0	0	0	0	0	0	0	0	0	9
13:42	SW4	0	0	0	6	0	0	0	0	0	0	0	0	0	0	6		
4/6/16	JWR	8:02	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		7:29	PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		7:33	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		8:01	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		7:35	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		7:36	SW3	0	0	0	10	0	0	0	0	0	0	0	0	0	0	10
7:37	SW4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4/7/16	EHK	15:01	FB	0	0	0	2	0	0	0	0	0	0	0	0	0	2	
		14:31	PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		14:36	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		15:03	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		14:42	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		14:43	SW3	0	0	0	16	0	0	0	0	0	0	0	0	0	1	17
15:04	SW4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4/8/16	EHK	9:35	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		8:52	PH1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
		9:02	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		9:36	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		9:03	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		9:04	SW3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
9:05	SW4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4/9/16	GJF	15:07	FB	0	0	1	0	0	0	0	0	0	0	1	0	0	2	
		14:45	PH1	0	0	2	1	0	0	0	0	0	0	0	0	0	3	
		14:50	PH2	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
		15:30	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		15:02	SW2	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
		15:03	SW3	0	0	0	19	0	0	0	0	0	0	0	0	0	0	19
15:04	SW4	0	0	0	8	0	0	0	0	0	0	0	0	0	0	8		

Key: BAEA = Bald Eagle; GBH = Great Blue Heron; COME = Common Merganser

The Dalles East

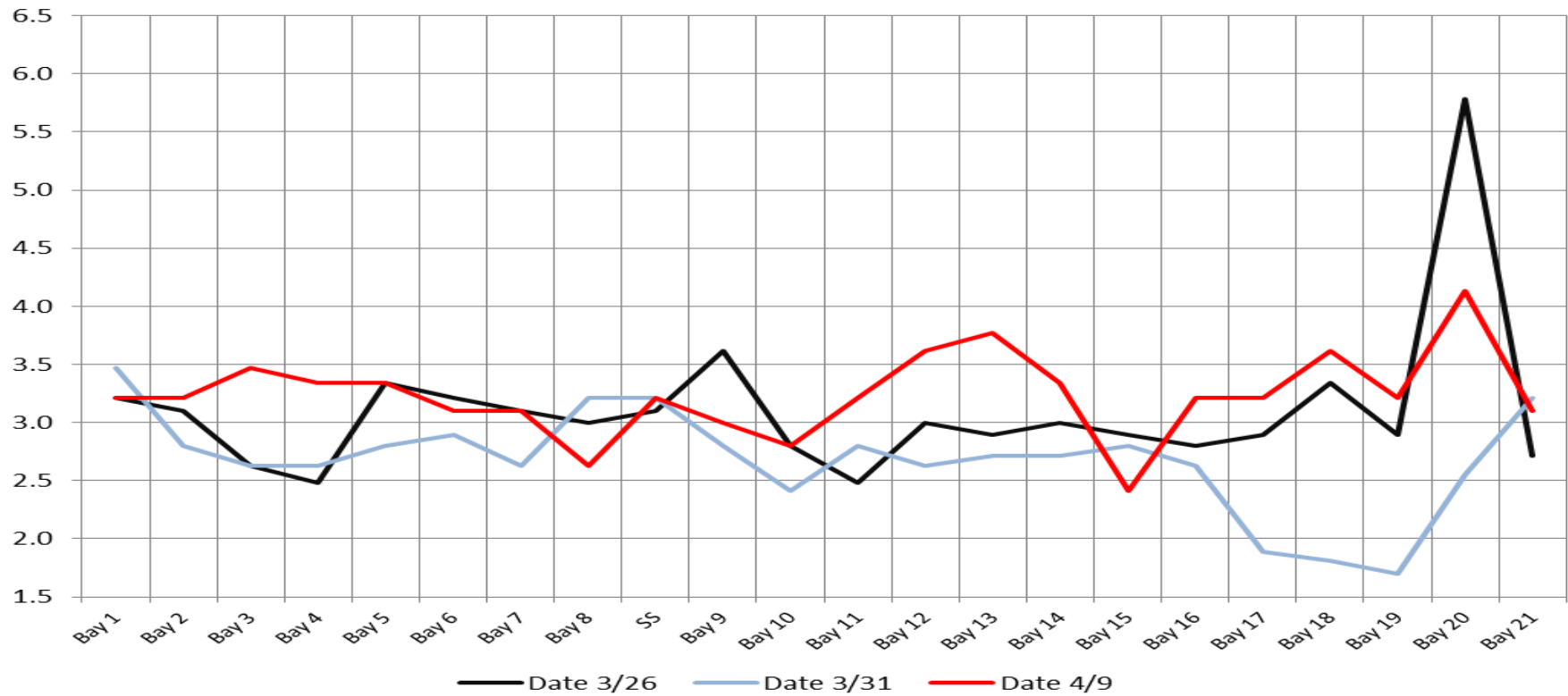
Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
4/3	44	44	0	15	5	10	0	0	0	0	0	0	0
4/4	40	40	0	11	5	6	0	0	0	0	0	0	0
4/5	43	43	0	16	2	14	0	0	0	0	0	0	0
4/6	66	66	0	8	6	2	0	0	0	0	0	0	0
4/7	98	98	0	9	2	7	0	0	0	0	0	0	0
4/8	83	82	1	9	5	4	0	0	0	0	0	0	0
4/9	132	132	0	18	4	14	0	0	0	0	0	0	0
total	506	505	1	86	29	57	0	0	0	0	0	0	0

The Dalles North

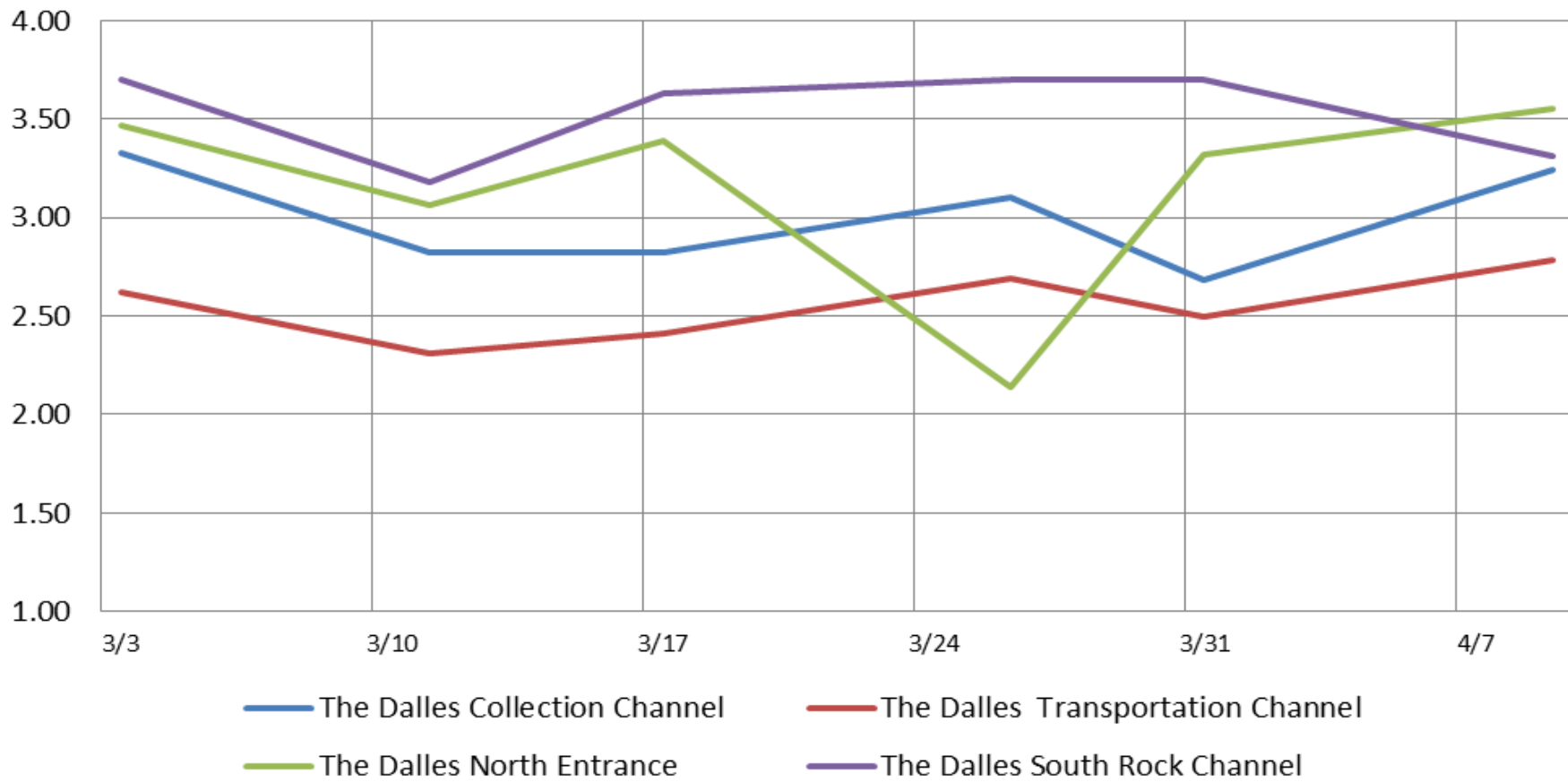
Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
4/3	8	7	1	0	0	0	0	0	0	0	0	0	0
4/4	5	5	0	4	0	4	0	0	0	0	0	0	0
4/5	11	11	0	1	0	1	0	0	0	0	0	0	0
4/6	0	0	0	-1	1	-2	0	0	0	0	0	0	0
4/7	5	5	0	6	2	4	0	0	0	0	0	0	0
4/8	8	8	0	4	2	2	0	0	0	0	0	0	0
4/9	5	5	0	1	0	1	0	0	0	0	0	0	0
total	42	41	1	15	5	10	0	0	0	0	0	0	0
% North	7.7	7.5	50.0	14.9	14.7	14.9	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>

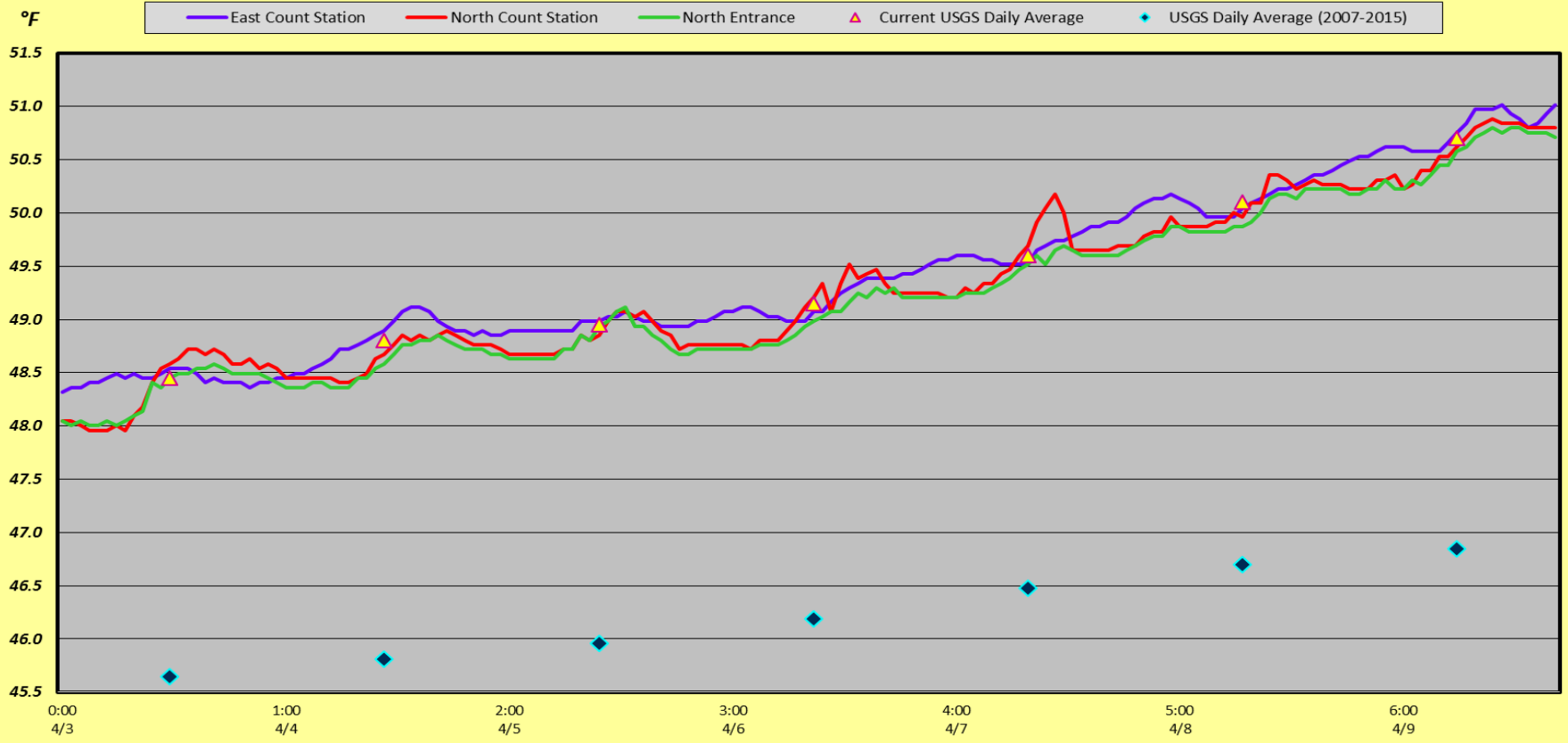
The Dalles Dam Collection Channel Velocites (In criteria 1.5 - 4.0 fps)



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



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



Secchi:		USGS: Temperatures
4.0	Sun	48.45
4.0	Mon	48.80
4.5	Tue	48.95
4.0	Wed	49.15
4.0	Thurs	49.60
4.0	Fri	50.10
4.0	Sat	50.70
4.1	AVG	49.39

<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	
4/3			1.4	9.6	13.5	13.5	10.3	1.4	10.8	10.8		1.5	8.5	8.5	on seal
	1.3	9.5	1.4	9.6	13.5	13.5	10.5	15.0	10.7	10.7		1.5	8.3	8.4	
	1.4	9.4	1.4	9.1	13.7	13.7	10.9	1.6	10.8	10.8		1.5	8.4	8.4	
4/4			1.8	9.0	13.6	13.5	10.5	1.4	11.0	11.0		1.5	8.3	8.3	on seal
	1.2	9.4	1.4	4.0	13.6	13.6	11.2	1.5	11.6	11.6		1.5	8.9	8.9	
	1.5	9.4	1.5	4.0	13.6	13.6	11.4	1.5	11.5	11.5		1.5	8.8	8.8	
4/5			1.4	4.1	13.6	13.6	12.1	1.6	11.5	11.5		1.6	8.7	8.7	14.6
	1.3	9.5	1.5	4.0	13.5	13.5	12.4	1.4	11.5	11.4		1.6	8.8	8.8	
	1.3	9.4	1.5	4.0	13.6	13.6	12.3	1.6	11.4	11.4		1.6	8.8	8.7	
4/6			1.7	3.9	13.5	13.5	13.1	1.6	11.9	11.9		1.6	8.8	8.8	on seal
	1.5	9.4	1.5	5.4	13.4	13.4	13.0	1.5	12.5	12.5		1.5	8.9	8.9	
	1.5	9.4	1.6	5.4	13.4	13.4	12.8	1.4	12.6	12.6		1.5	8.8	8.8	
4/7			1.8	5.5	13.6	13.6	13.5	1.6	12.6	12.6		1.5	8.9	8.9	30.5
	1.5	9.4	1.5	6.5	13.5	13.5	14.1	1.6	12.5	12.5		1.6	9.5	9.5	
	1.4	9.5	1.4	6.5	13.6	13.5	13.6	1.6	12.5	12.5		1.3	9.6	9.6	
4/8			1.4	6.5	13.6	13.6	14.7	1.7	12.5	12.5	1.4	9.5	9.5	31.0	
	1.4	9.5	1.5	6.5	13.6	13.6	14.7	1.6	12.6	12.6	1.4	9.6	9.6		
	1.5	9.4	1.4	6.5	13.4	13.4	14.5	1.7	11.3	11.3	1.5	9.4	9.4		
4/9			1.3	6.4	13.4	13.4	13.0	1.5	12.4	12.4	1.3	9.5	9.5	30.7	
	1.5	8.5	1.3	6.5	13.4	13.4	12.8	1.4	12.5	12.5	1.3	9.5	9.5		
	1.5	9.4	1.3	6.5	13.5	13.5	12.6	1.4	12.4	12.5	1.4	9.4	9.4		
AVG:	1.4	9.4	1.5	6.2	13.5	13.5	12.6	2.2	11.9	11.9	1.5	9.0	9.0	26.7	

Fishways are inspected twice daily plus one SCADA inspection.



New avian line pole for west powerhouse. 18 of 26 lines recovered from failure