

# The Dalles Dam Fishway Status Report

4/3/2016

Inspection Period: 03/27/2016-04/02/2016

## 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: 7		Temperature: 47.0 °F
			Comments		Secchi: 4.2 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')	9.5		
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')	Average	11.5	
East entrance differential	0	1.0' - 2.0'	Average	1.5	
Entrance weir E1	0	No criteria	Average	11.0	
Entrance weir E2	0	depth (≥ 8')	Average	13.0	
Entrance weir E3	0	depth (≥ 8')	Average	13.0	
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	11.0	
Entrance weir W2	0	depth (≥ 8')	Average	11.0	
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	8.9	
Entrance weir S2	0	depth (≥ 8')	Average	8.9	
<b>JUVENILE PASSAGE</b>					
Sluiceway operation	0	Units 1, 8, 18			
Turbine trashrack drawdown	0	<1.5', wkly	range: 0.1-0.8'		
Spill volume	Spill RTS ~April 2016				
Spill Pattern					
Turbine Unit Priority	4	per FPP	MU 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.

**Operations:**

Calibration inspections completed. Minor discrepancies addressed by TDE

Gatewell drawdown completed 4/1. All differentials within criteria.

ROV inspection of units 5, 11 and 20 trashracks completed 3/31. No debris found.

**Current Outages:**

T8 (MU15 & MU16) forced out through 3/10/2016 due to high levels of methane production

MU3 forced out through 4/1/2016 due to loss of governor sump oil level

**Maintenance:**

New avian line pole installed for west powerhouse grid. 2 of 15 lines attached. Delayed due to induced shock hazard. Grounding required.

Awaiting east exit weir electrical panel FCQ7 panel. Stalled in contracting. Delivery date unknown.

North fishway entrance dewatering pump installed, ready for dewater season 2016/2017.

Tailrace crane repair near west entrance delayed to mid April. No excessive noise observed near west entrance from this work.

One temperature HOBO lost to river, replacement being procured

*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. Awaiting planning meetings.

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. Work to start 2017. Periodic 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.

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

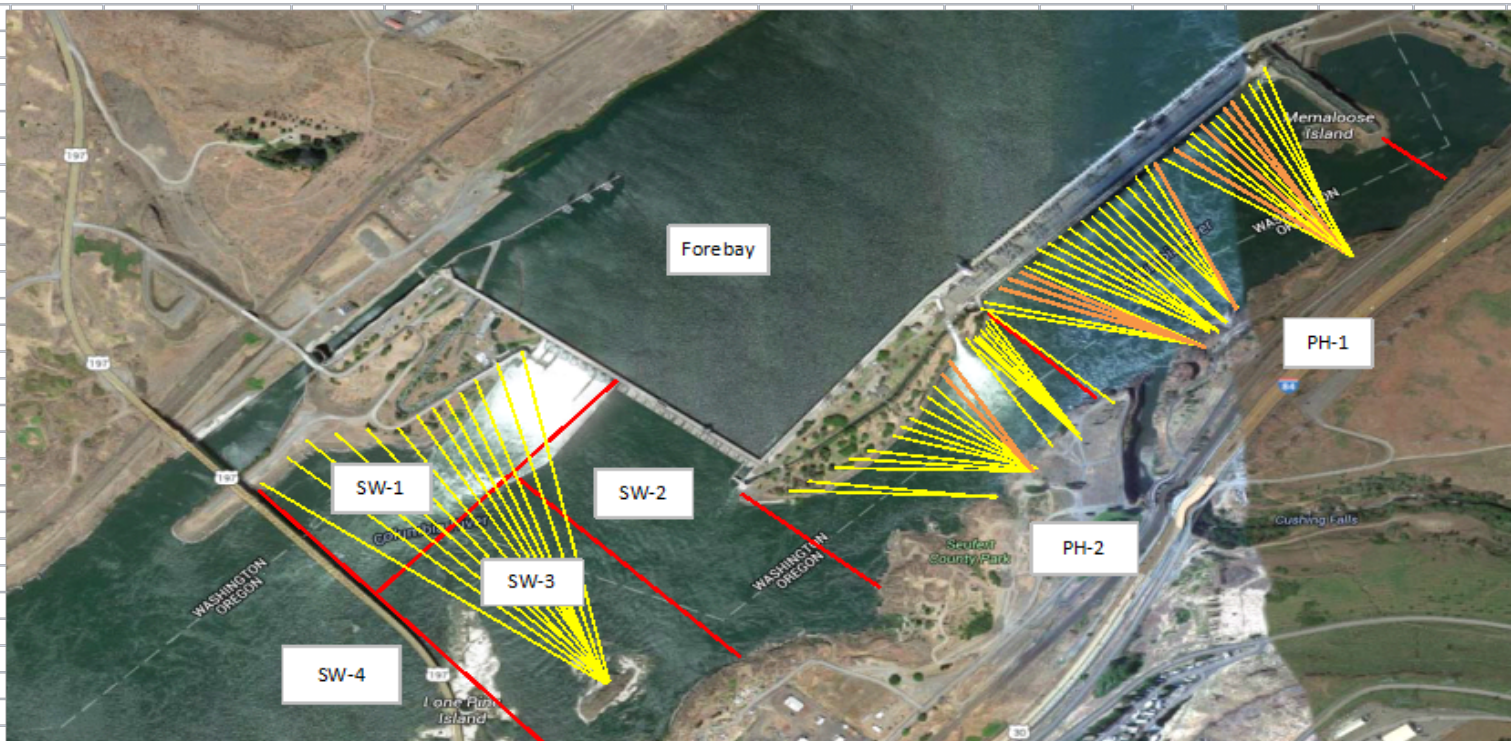
**Research/Contractors:**

Normandeau fish counters season resumed Apr1. Pre season planning meeting completed.

USGS water quality monitoring pre season meeting complete. Monitor stations at east powerhouse forebay and tailrace shoreline.

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					
3/27/16	GJF	10:03	FB	0	0	1	0	0	0	0	0	0	0	0	0	0	1			
		9:34	PH1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	5		
		9:40	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		10:15	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		9:45	SW2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1		
		9:46	SW3	0	12	0	18	0	0	0	0	0	0	0	0	0	0	30		
9:47	SW4	0	16	0	5	0	0	0	0	0	0	0	0	0	0	21				
3/28/16	GJF	14:15	FB	0	0	1	0	0	0	0	0	0	0	0	0	0	1			
		13:00	PH1	0	3	0	6	0	0	0	0	0	0	0	0	0	0	9		
		13:06	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		13:47	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		13:14	SW2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1		
		13:15	SW3	0	14	0	22	0	0	0	0	0	0	0	0	0	0	36		
13:16	SW4	0	33	0	12	0	0	0	0	0	0	0	0	0	0	45				
3/29/16	JWR	9:38	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		8:57	PH1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2		
		9:00	PH2	0	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	0		
		9:02	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		9:03	SW3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:04	SW4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4				
3/30/16	JWR	13:33	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		13:06	PH1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2		
		13:09	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		13:32	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		13:14	SW2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1		
		13:15	SW3	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4		
13:16	SW4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
3/31/16	EK	10:17	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		9:40	PH1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2		
		10:20	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		10:35	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		9:49	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		9:50	SW3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10:16	SW4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1				
4/1/16	JWR	12:12	FB	0	1	0	0	0	0	0	0	0	0	0	0	0	1			
		11:48	PH1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	COME		
		11:50	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		12:11	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		11:52	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		11:53	SW3	0	0	0	10	0	0	0	0	0	0	0	0	0	0	10		
11:54	SW4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1				
4/2/16	JWR	10:16	FB	0	0	0	0	0	0	0	1	0	0	0	0	0	1			
		9:45	PH1	0	0	1	1	0	0	0	0	0	0	0	0	0	2			
		9:49	PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		10:15	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		9:51	SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		9:52	SW3	0	0	0	6	0	0	0	0	0	0	0	0	0	0	6		
9:53	SW4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

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

### The Dalles East

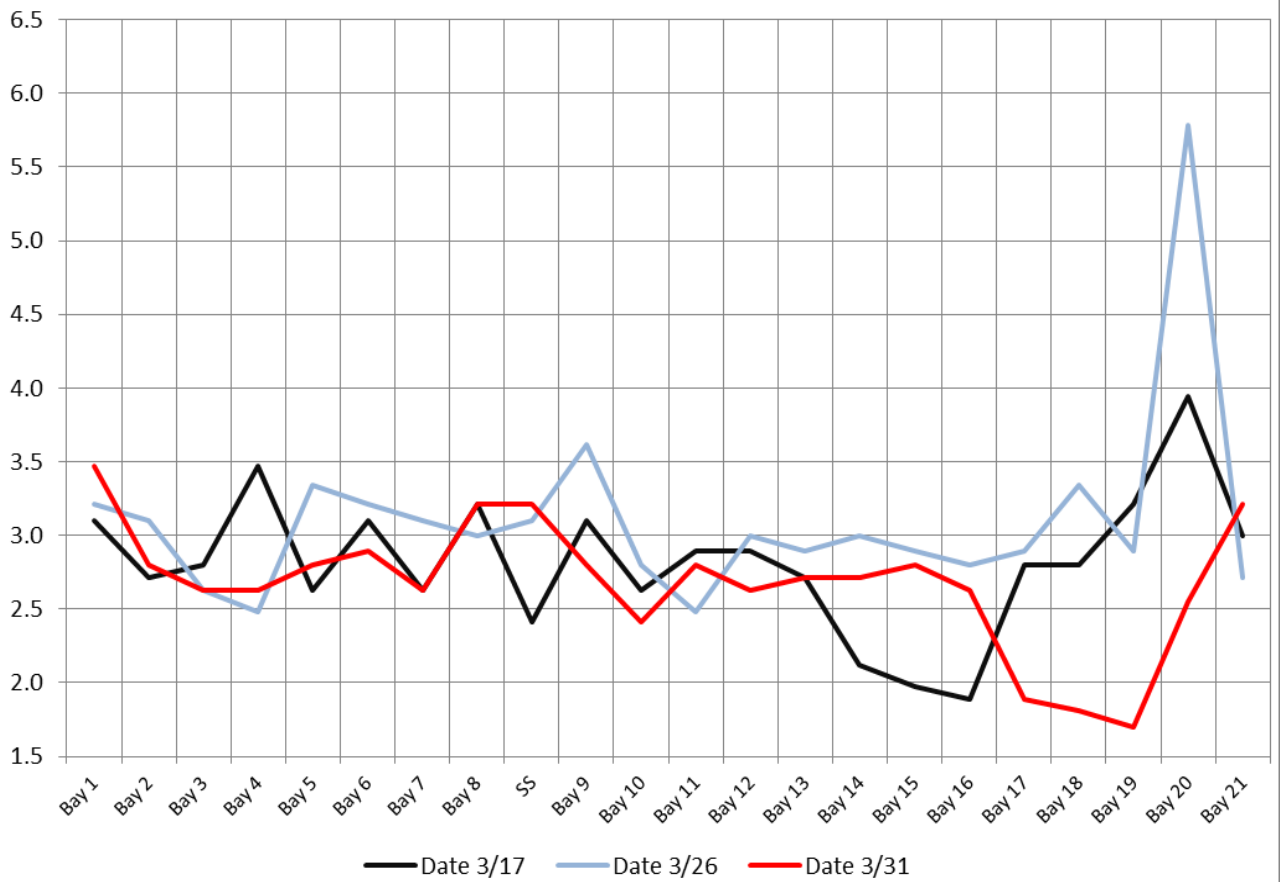
Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
4/1	20	20	0	22	10	12	0	0	0	0	0	0	0
4/2	30	30	0	24	10	14	0	0	0	0	0	0	0
Total	50	50	0	46	20	26	0	0	0	0	0	0	0

### The Dalles North

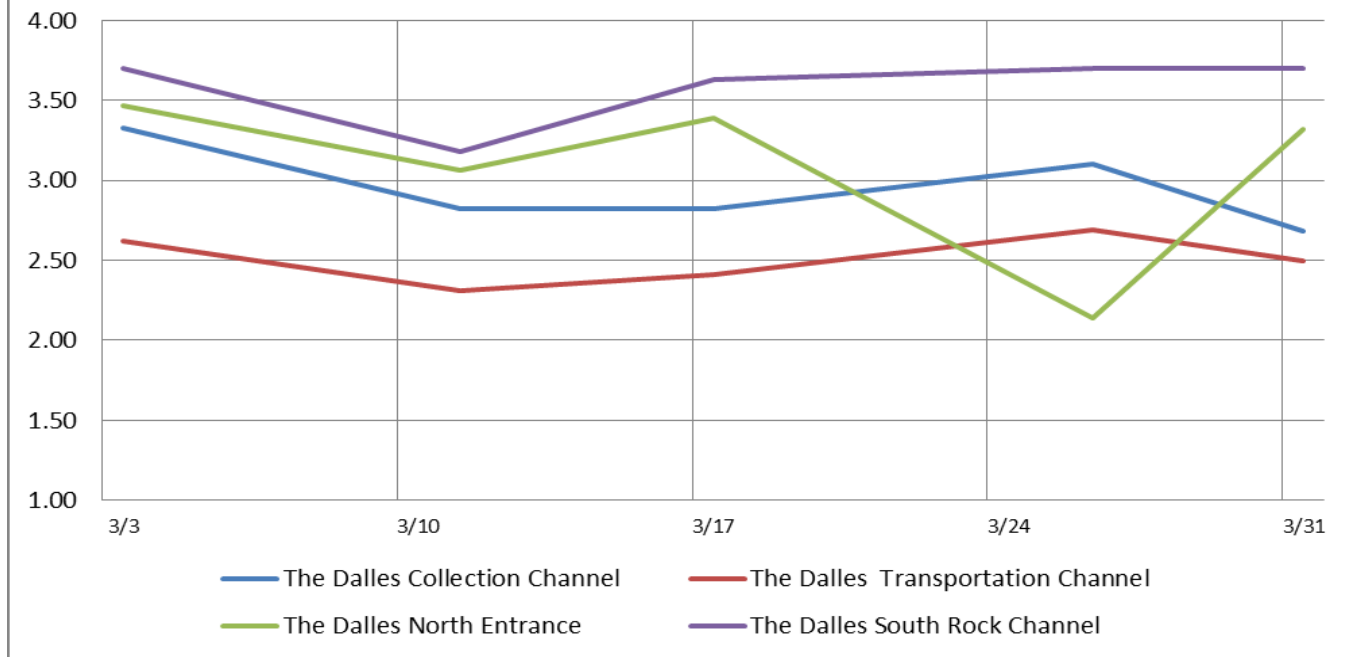
Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Pink
4/1	2	1	1	-1	-1	0	0	0	0	0	0	0	0
4/2	0	0	0	2	0	2	0	0	0	0	0	0	0
Total	2	1	1	1	-1	2	0	0	0	0	0	0	0
% North	3.8	2.0	100.0	2.1	-5.3	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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

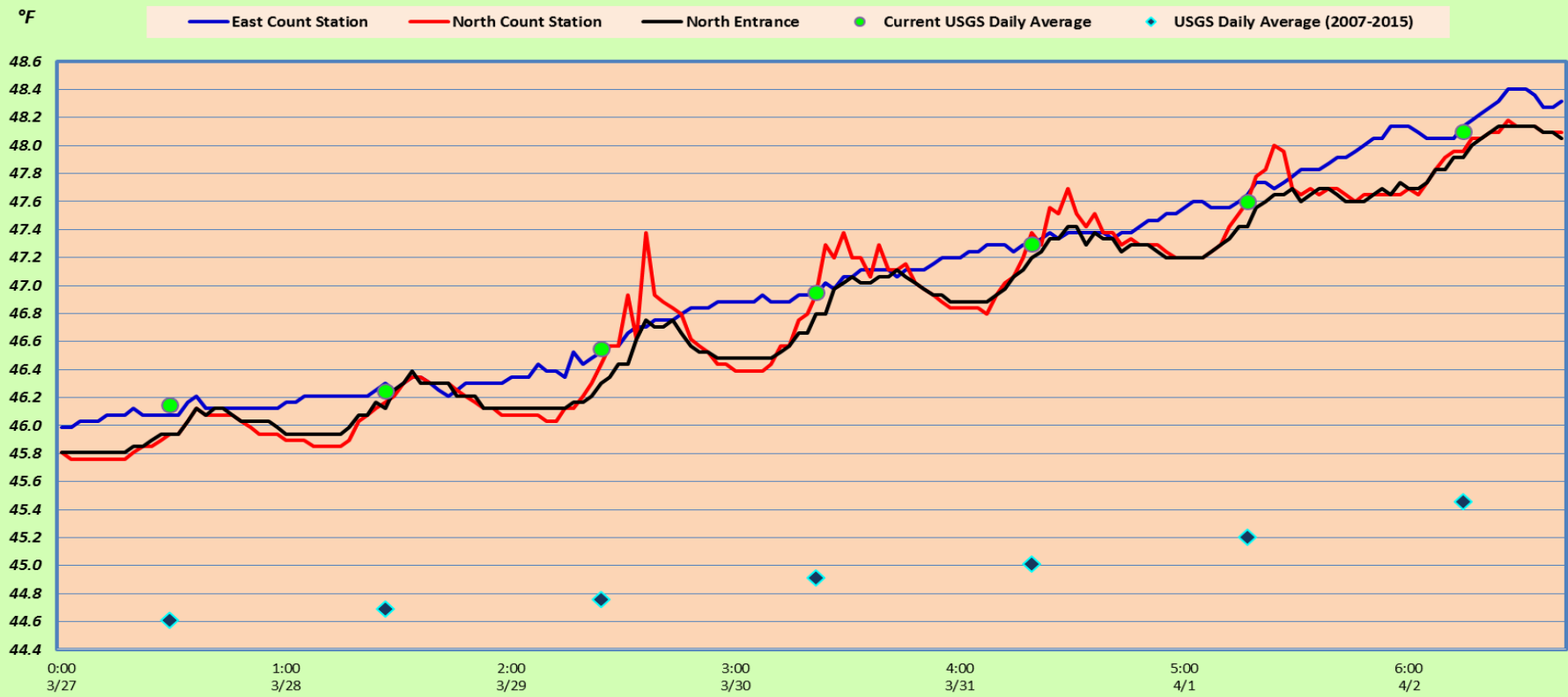
The Dalles Dam Collection Channel Velocites (In criteria 1.5 - 4.0 fps)



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



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





Secchi:		Temperatures
4.0	Sun	46.15
5.0	Mon	46.25
4.5	Tue	46.55
4.0	Wed	46.95
4.0	Thurs	47.30
4.0	Fri	47.60
4.0	Sat	48.10
4.2	AVG	46.99

USGS: CH <http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201603.lcol.html>  
<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 ON SEAL
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	
3/27			1.6	11.5	12.4	12.5	11.3	1.4	11.4	11.4		1.3	9.3	9.3
	1.4	9.6	1.5	11.5	12.6	12.5	11.5	1.4	11.3	11.4		1.4	8.2	8.1
	1.4	9.5	1.5	11.5	12.4	12.5	11.3	1.4	11.4	11.3		1.3	9.2	9.2
3/28			1.7	11.5	12.5	12.5	12.0	1.6	11.3	11.3		1.4	9.3	9.3
	1.3	9.7	1.7	11.6	12.6	12.6	11.9	1.6	11.4	11.3		1.4	11.1	11.1
	1.4	9.5	1.8	11.6	12.6	12.6	12.1	1.5	11.3	11.2		1.3	9.4	9.4
3/29			1.8	11.6	12.5	12.5	11.9	1.5	11.3	11.3		1.4	9.2	9.2
	1.4	9.5	1.5	11.9	12.9	12.9	11.9	1.4	11.4	11.4		1.4	9.2	9.2
	1.4	9.5	1.2	12.0	12.9	12.9	10.9	1.2	11.3	11.3		1.4	9.2	9.2
3/30			1.6	12.0	13.0	13.0	10.9	1.4	11.5	11.5		1.3	9.2	9.2
	1.3	9.6	1.3	12.0	12.9	13.0	10.5	1.5	9.4	9.5		1.5	8.5	8.5
	1.3	9.5	1.5	10.0	12.9	13.0	10.1	1.5	10.4	10.5		1.5	8.6	8.6
3/31			1.6	10.1	13.0	13.1	11.9	1.8	10.6	10.6		1.6	8.6	8.6
	1.3	9.7	1.7	10.9	12.9	13.0	11.6	1.5	11.0	11.0		1.5	8.6	8.6
	1.4	9.5	1.5	10.2	13.5	13.5	11.3	1.5	10.7	10.7		1.5	8.4	8.4
4/1			1.7	10.6	13.5	13.5	12.2	1.7	10.7	10.7		1.7	8.4	8.3
	1.4	9.5	1.5	10.4	13.8	13.8	12.3	1.6	11.1	11.1		1.6	8.6	8.6
	1.4	9.5	1.5	10.5	13.6	13.6	12.2	1.9	11.1	11.1		1.5	8.7	8.7
4/2			1.2	11.1	13.5	13.5	10.6	1.4	11.3	11.3		1.4	8.7	8.7
	1.4	9.5	1.4	9.7	13.6	13.6	11.3	1.5	10.7	10.7		1.5	8.5	8.5
	1.4	9.5	1.4	9.6	13.6	13.6	11.6	1.5	10.8	10.8		1.6	8.4	8.4
<b>AVG:</b>	<b>1.4</b>	<b>9.5</b>	<b>1.5</b>	<b>11.0</b>	<b>13.0</b>	<b>13.0</b>	<b>11.5</b>	<b>1.5</b>	<b>11.0</b>	<b>11.0</b>		<b>1.5</b>	<b>8.9</b>	<b>8.9</b>

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