

# The Dalles Dam Fishway Status Report

4/22/2017

Inspection Period: 04/16/2017-04/22/2017

## THE DALLES DAM



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: 47.0 °F
			Comments		Secchi: 3.3 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')	10.1		
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	Work cleaning circuit boxes performed.	
Weir 158-159 differential	0	1.0' ± 0.1'	158 calibrated and adjusted.		
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')	15.1		
East entrance differential	0	1.0' - 2.0'	1.6		
Entrance weir E1	0	No criteria	2.0		
Entrance weir E2	0	depth (≥ 8')	11.9		
Entrance weir E3	0	depth (≥ 8')	11.8		
Collection channel velocity	0	1.5 - 4 fps	2.47		
Transportation channel velocity	0	1.5 - 4 fps	2.57		
North channel velocity	0	1.5 - 4 fps	1.93		
South channel velocity	0	1.5 - 4 fps	2.92		
West entrance differential	1	1.0' - 2.0'	1.6		
Entrance weir W1	0	depth (≥ 8')	0.0	W1 weir out of service. Bulkhead installed. W3 in service in to replace W1.	
Entrance weir W2	0	depth (≥ 8')	11.3		
Entrance weir W3	0	depth (>8')	11.3		
South entrance differential	0	1.0' - 2.0'	1.5		
Entrance weir S1	0	depth (≥ 8')	9.8		
Entrance weir S2	0	depth (≥ 8')	9.8		
<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/pattern	14.0			Exceeding 40% due to high flows	
Turbine Unit Priority	14	per FPP	MU 2, 3, 5, 9, 12, 15, 16, 21 out of service		
Turbine 1% Efficiency	NA	per FPP	Out of fish passage season		

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

Sea lion observed 4/18 near east entrance. USDA notified for hazing.

Gulls starting to gather downstream of spillway. Bird observation data collected once daily. Refer to Avian Zone map and bird count.

**Operations:**

North and east fishways in full operation.

Sluiceway six gate operation will start Apr 1. Additional gate opening at unit 6 to avoid continuing rail removal work at unit 1.

Spillway open with with involuntary spill.

**Current Outages;**

MU2 out for hydraulic diagnosis. Return 6/1/17

MU12 out for hydraulic diagnosis. Return 5/25/17.

T8 (MU15 & MU16) out for transformer failure. Transformer replacement spring 2018.

MU21 out for exciter failure. Return 5/11/17

MU3 out for governor oil level. Return 5/14/17.

MU9 out for oil leak. Return 5/4/17. Dewatered 4/10. Eleven small sturgeon removed from draft tube and released to river.

MU6 out for annual maintenance. Return 4/27/17.

**Maintenance;**

Entrance W1 bulkhead installed. Weir W1 wheels replaced with new plastic wheels. W3 operating in its place.

East exit weir electrical panel FCQ7 installation/design resuming design completion with some available funds.

PUD crane rake repainting project to start this month.

Other repair maintenance plans; 154 -157 rehab/weir wheel replace, diffuser valve overhaul (rehab or decommission).

Fish related /non-fish funded items; Spillway crane and spillgate 9, both awaiting funding.

All spillway items on Critical Infrastructure list.

**Research/Construction/Contractors:**

*AWS construction* - 7' valve room partially enclosed. Remaining pour requiring concrete wall partial removal and concrete drilling. FPOM coordinated.

All forebay work done for season 1, to resume December. Work continues in precast yard on north shore.

*Lamprey minor mods* - Rounded entrance weir cap parts being ordered. Tribal lamprey trap hoist design 60%, install 2018.

*Railroad track removal* - West powerhouse tailrace deck ~100' track removed. Remaining tailrace deck next winter. Intake deck rail at units 4-7 complete.

Intake deck rail at unit 1-3 in progress. Two unit 1 open gates and 2 unit 6 gates open >100' from work area.

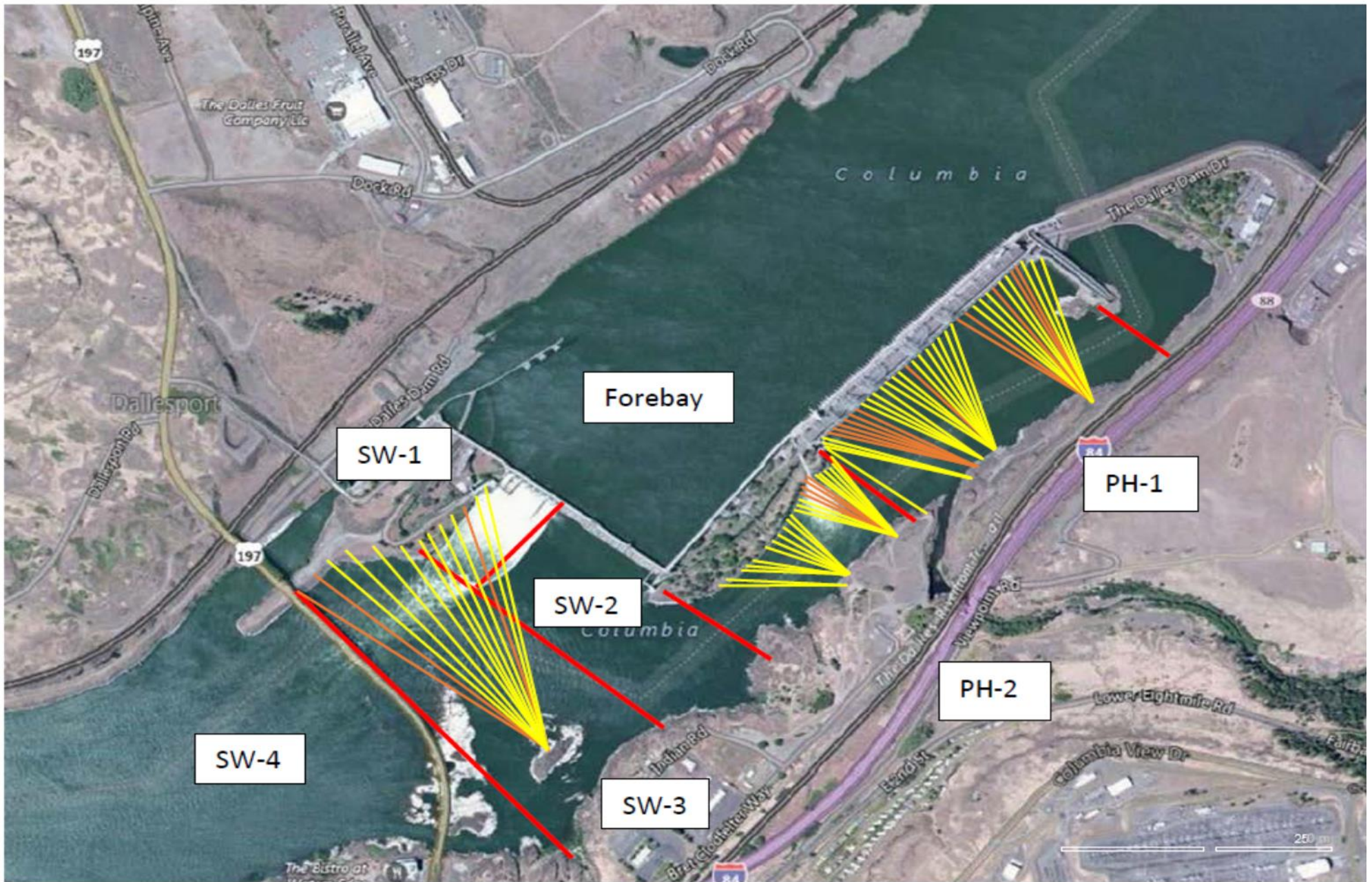
*Fish unit breaker replace*.- Field measurements night Apr26-27 night. FPOM approved. Manufacture over summer. Install fall 2017. Switchover Jan 2018.

*Fish unit rehab* - Phase 1A report Jan 2018. Award 2020. Completion 2022. Possible increase flow capacity for redundancy. Team site visit Apr11.

*Transtormer replacement* - Install start May 2018. Coordinated through FPOM.

Approved by: Ron Twiner

Operation Project Manager The Dalles Dam



Red lines = avian zones

Yellow lines = current wires

Orange lines = down or missing wires

# 2017 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				
4/2	JR	PM	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4/3	JR	AM	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4/4	JR	PM	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4/5	JR	AM	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4/6	JR	PM	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4/7	JR	AM	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4/8	JR	PM	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			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
4/9	6	6	0	9	7	2	0	0	0	0	0	0
4/10	11	11	0	5	1	4	0	0	0	0	0	0
4/11	10	10	0	7	6	1	0	0	0	0	0	0
4/12	8	8	0	1	1	0	0	0	0	0	0	0
4/13	10	10	0	5	4	1	0	0	0	0	0	0
4/14	14	14	0	3	1	2	0	0	0	0	0	0
4/15	12	12	0	6	2	4	0	0	0	0	0	0
<b>total</b>	<b>71</b>	<b>71</b>	<b>0</b>	<b>36</b>	<b>22</b>	<b>14</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
4/9	0	0	0	0	0	0	0	0	0	0	0	0
4/10	0	0	0	0	0	0	0	0	0	0	0	0
4/11	0	0	0	0	0	0	0	0	0	0	0	0
4/12	0	0	0	0	0	0	0	0	0	0	0	0
4/13	0	0	0	0	0	0	0	0	0	0	0	0
4/14	0	0	0	0	0	0	0	0	0	0	0	0
4/15	0	0	0	0	0	0	0	0	0	0	0	0
<b>total</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>0</b>	<b>0</b>
<b>% North</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>0</b>	<b>0</b>

[http://www.fpc.org/environment/fcounts.asp?fr\\_cdy=2017&fr\\_cdm=4&fr\\_cdd=9&to\\_cdm=4&to\\_cdd=15&subbtn=salmon&op=sdaily](http://www.fpc.org/environment/fcounts.asp?fr_cdy=2017&fr_cdm=4&fr_cdd=9&to_cdm=4&to_cdd=15&subbtn=salmon&op=sdaily)



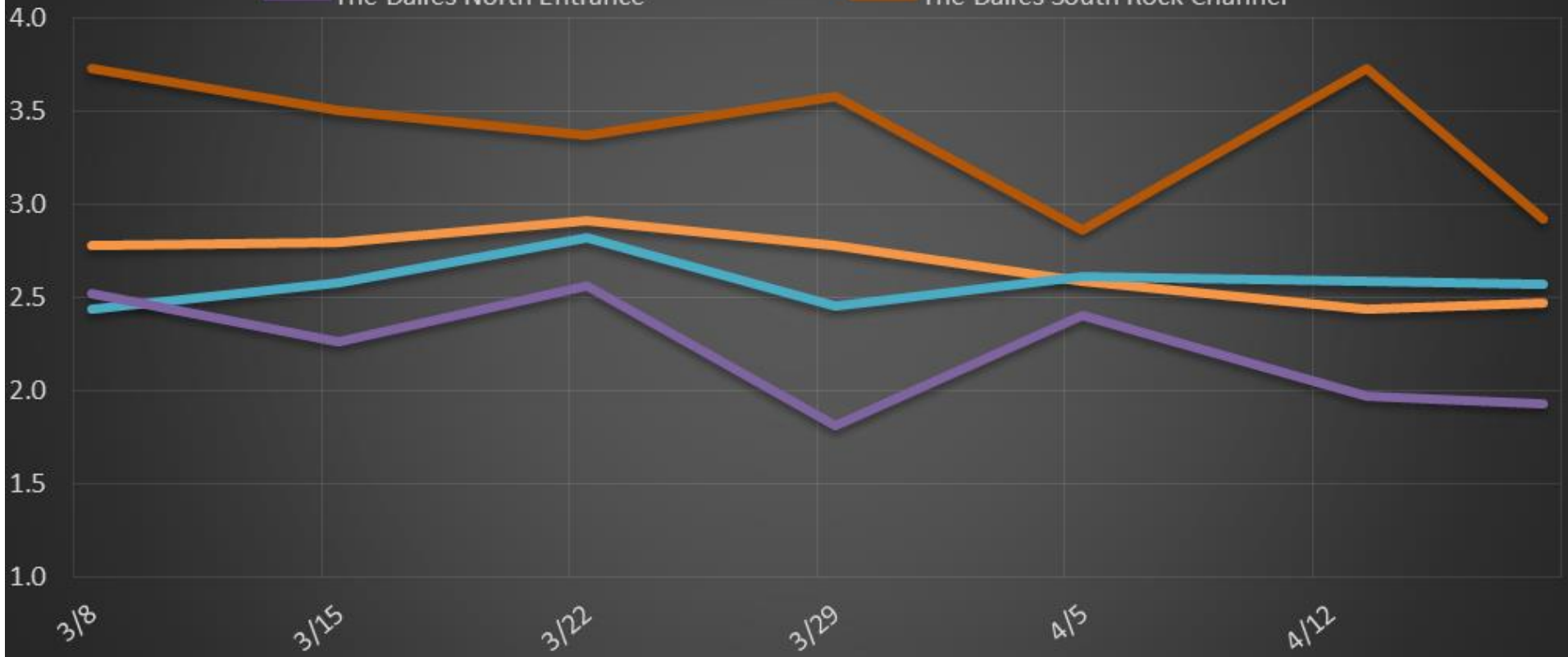
# The Dalles Dam Average Velocities (In criteria 1.5 - 4.0 fps)

The Dalles Collection Channel

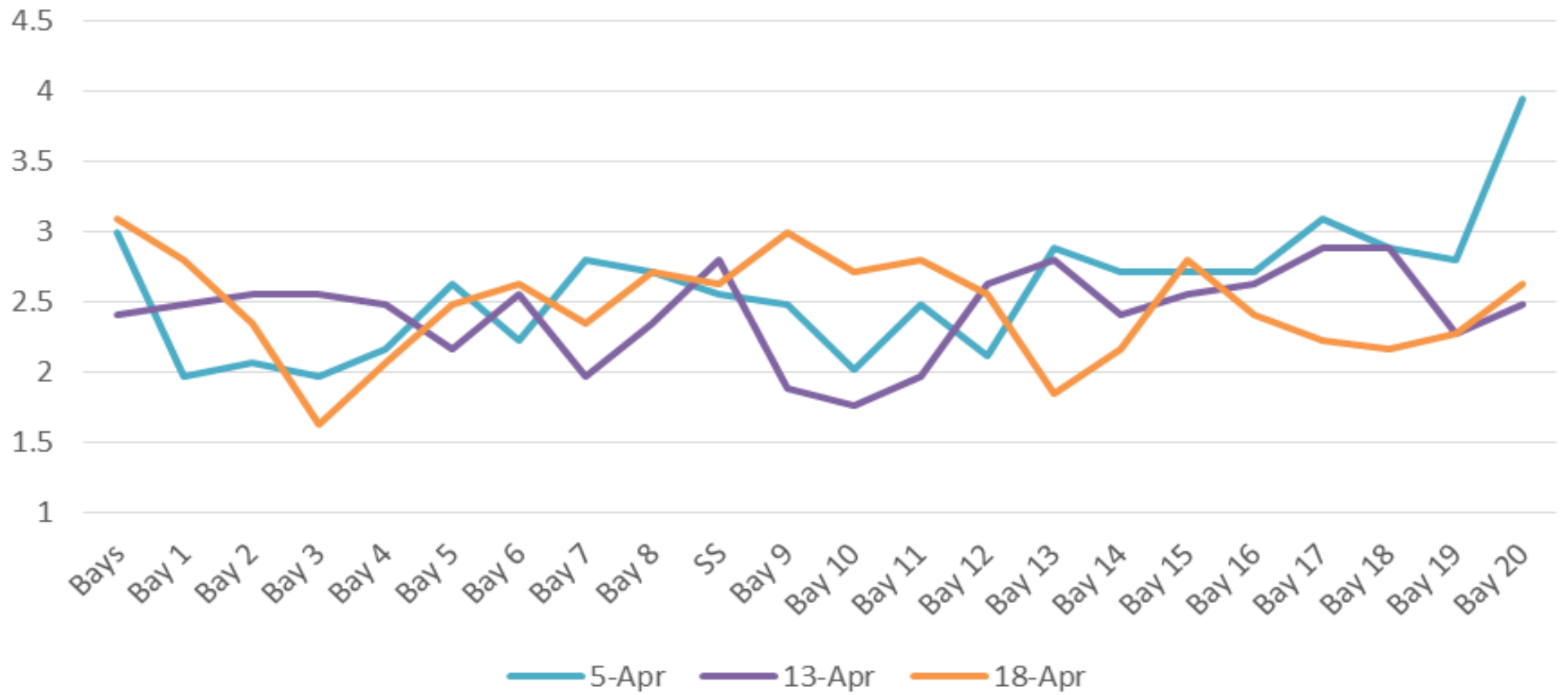
The Dalles Transportation Channel

The Dalles North Entrance

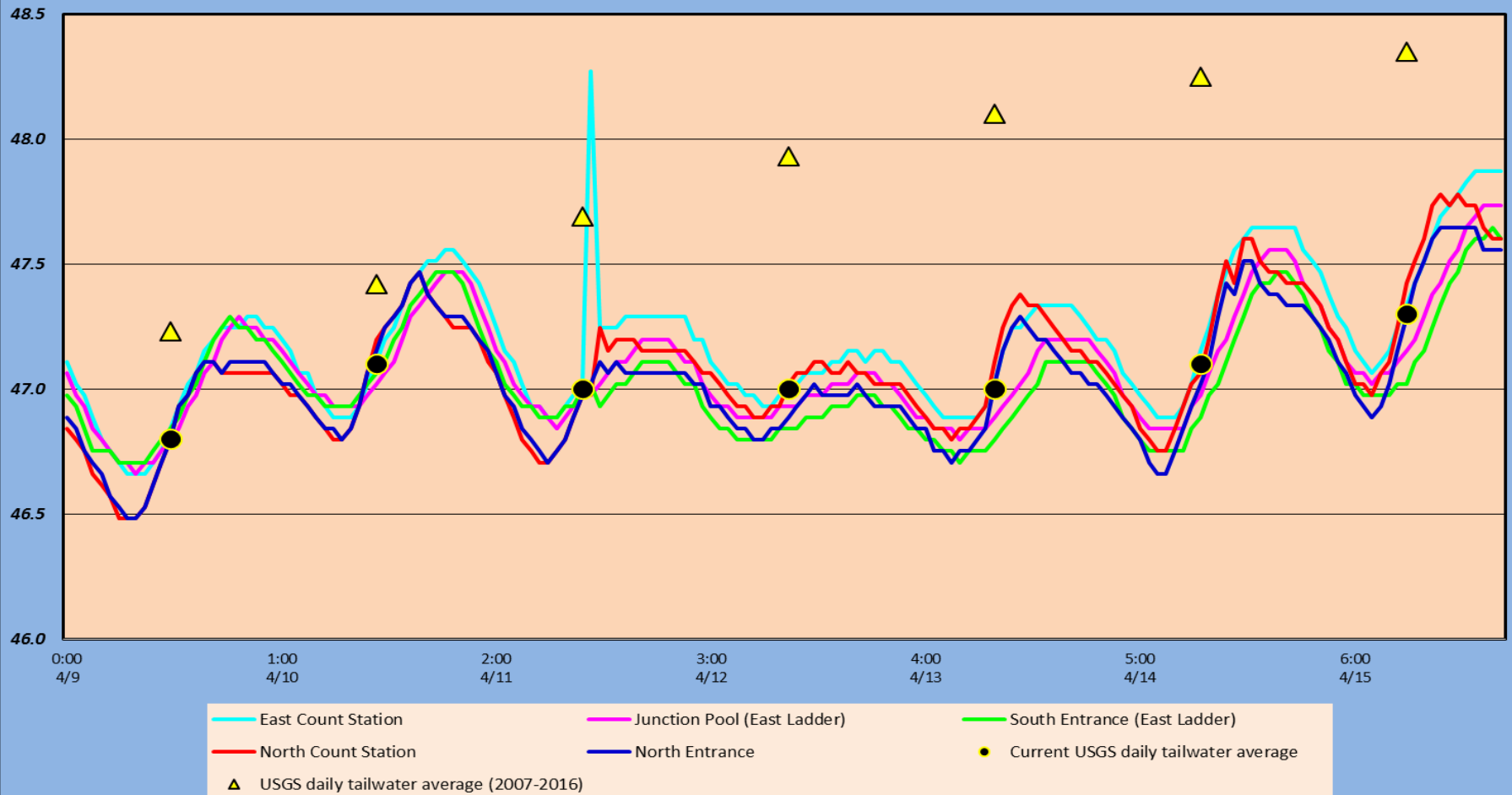
The Dalles South Rock Channel



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



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





Secchi:		Temperatures
3.0	Sun	46.8
3.0	Mon	47.1
3.0	Tue	47.0
3.5	Wed	47.0
4.0	Thurs	47.0
3.5	Fri	47.1
3.0	Sat	47.3
3.3	AVG	47.0

USGS: [http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201704\\_lcol.html](http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201704_lcol.html)

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

= Out of criteria

Spill link  
[http://www.nwd-wc.usace.army.mil/dd/nwdp/project\\_hourly/webexec/rep?r=tda&ago=0](http://www.nwd-wc.usace.army.mil/dd/nwdp/project_hourly/webexec/rep?r=tda&ago=0)

Date:	North Ladder		East Ladder											24 hr avg	
	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	
4/9			1.7	2.0	11.5	11.5	15.9	1.7		11.2	11.2	1.9	9.5	9.5	54.5
	1.4	10.0	1.5	2.0	11.7	11.7	15.7	1.6		11.2	11.2	1.5	10.9	10.9	
	1.1	9.9	1.5	2.0	11.7	11.7	15.9	1.6		11.1	11.1	1.4	10.3	10.3	
4/10			1.6	1.9	11.7	11.7	14.6	1.5		11.1	11.1	1.4	10.2	10.2	52.2
	1.3	10.0	1.6	2.1	11.7	11.7	14.6	1.5		11.3	11.3	1.4	10.4	10.4	
	1.5	9.9	2.0		11.6	11.6	14.5	1.5		11.2	11.1	1.3	10.3	10.3	
4/11			1.6	2.0	11.8	11.8	14.7	1.5		11.8	11.8	1.3	10.4	10.4	53.8
	1.4	10.0	1.5	2.5	12.1	12.1	14.9	1.6		11.2	11.2	1.5	9.9	9.9	
	1.5	10.0	1.5	2.0	12.0	12.0	14.2	1.4		11.2	11.2	1.5	9.5	9.5	
4/12			1.6	2.0	12.0	12.0	14.9	1.6		11.2	11.2	1.5	9.4	9.4	53.4
	1.5	9.9	1.6	2.1	12.1	12.1	15.0	1.6		11.3	11.2	1.6	9.4	9.4	
	1.4	10.1	1.5	2.1	12.1	12.1	14.8	1.5		11.2	11.2	1.5	9.4	9.5	
4/13			1.7	2.0	11.9	11.2	15.6	1.5		11.2	11.2	1.6	9.4	9.5	50.9
	1.3	9.9	1.6	1.9	12.0	11.1	15.5	1.7		11.2	11.3	1.6	9.5	9.5	
	1.4	10.2	1.8	2.0	11.9	11.0	15.4	1.7		11.1	11.2	1.6	9.4	9.4	
4/14			1.4	2.0	12.0	12.2	15.1	1.6		11.1	11.8	1.4	9.6	9.6	49.2
	1.4	10.2	1.6	2.0	11.6	12.5	15.1	1.5		11.6	11.3	1.4	9.5	9.5	
	1.4	10.3	1.6	1.9	11.9	12.1	15.4	1.6		11.5	11.3	1.5	9.5	9.5	
4/15			1.6	2.0	12.0	12.1	14.8	1.6		11.5	11.2	1.5	9.5	9.4	49.4
	1.5	10.2	1.5	2.0	12.3	12.3	14.8	1.4		11.4	11.4	1.5	9.5	9.5	
	1.4	10.2	1.5	2.0	12.2	12.3	14.8	1.5		11.3	11.4	1.5	9.6	9.5	
<b>AVG:</b>	<b>1.4</b>	<b>10.1</b>	<b>1.6</b>	<b>2.0</b>	<b>11.9</b>	<b>11.8</b>	<b>15.1</b>	<b>1.6</b>		<b>11.3</b>	<b>11.3</b>	<b>1.5</b>	<b>9.8</b>	<b>9.8</b>	<b>51.9</b>

Fishways are inspected twice daily plus one SCADA inspection.



Finishing 7' valve room.