

The Dalles Dam Fishway Status Report

5/14/2017

Inspection Period: 05/07/2017-05/13/2017

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: 53.9 °F
			Comments		Secchi: 2.9 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'	1.5		
Entrance weir N1	0	depth (≥ 8')	10.7		
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	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')	19.7		
East entrance differential	0	1.0' - 2.0'	1.4		
Entrance weir E1	0	No criteria	8.8		
Entrance weir E2	0	depth (≥ 8')	11.7		
Entrance weir E3	0	depth (≥ 8')	11.7		
Collection channel velocity	0	1.5 - 4 fps	2.23		
Transportation channel velocity	0	1.5 - 4 fps	2.04		
North channel velocity	0	1.5 - 4 fps	2.20		
South channel velocity	0	1.5 - 4 fps	3.18		
West entrance differential	0	1.0' - 2.0'	1.6		
Entrance weir W1	0	depth (≥ 8')	11.2	W1 weir out of service. Bulkhead installed. W3 in service in to replace W1.	
Entrance weir W2	0	depth (≥ 8')	11.2		
Entrance weir W3	0	depth (>8')	0.0		
South entrance differential	0	1.0' - 2.0'	1.6		
Entrance weir S1	0	depth (≥ 8')	10.1		
Entrance weir S2	0	depth (≥ 8')	10.1		
JUVENILE PASSAGE					
Sluiceway operation	0	Units 1, 8, 18			
Turbine trashrack drawdown	0	<1.5', wkly	range: 0.1-0.8'		
Spill volume/pattern	5			Exceeding 40% due to high flows	
Turbine Unit Priority	14	per FPP	MU 2, 3, 6, 9, 12, 15, 16, 21 out of service		
Turbine 1% Efficiency	0	per FPP			

OTHER ISSUES:

Birds/Sea lions:

Sea lions (C014, 1-31) observed daily near sluiceway and east entrance eating salmon. USDA hazing attempted. 1-31 observed below bonneville
Gulls predation over island downstream of spillway. USDA hazing by boat. Bird observation data collected once daily. Refer to Avian Zone map and bird count.

Operations:

North and east in full operation.
Spillway open with involuntary spill.
Sluiceway open with 6 gates (units 1, 8 and 18)
Lost E3 HOB0 temperature monitor probe (South Entrance)

Current Outages;

MU2 out for hydraulic diagnosis. Return 6/1/17
MU12 out for hydraulic diagnosis and overhaul. Return 6/23/17.
T8 (MU15 & MU16) out for transformer failure. Transformer replacement 2018.
MU21 out for exciter failure. Return 6/8/17
MU19 out for annual. Return 5/18/17
MU19 out for annual maint. Return 5/16/17
Unit 2 dewatered 5/10. Thirteen strurgeon removed from draft and release to tailwater.

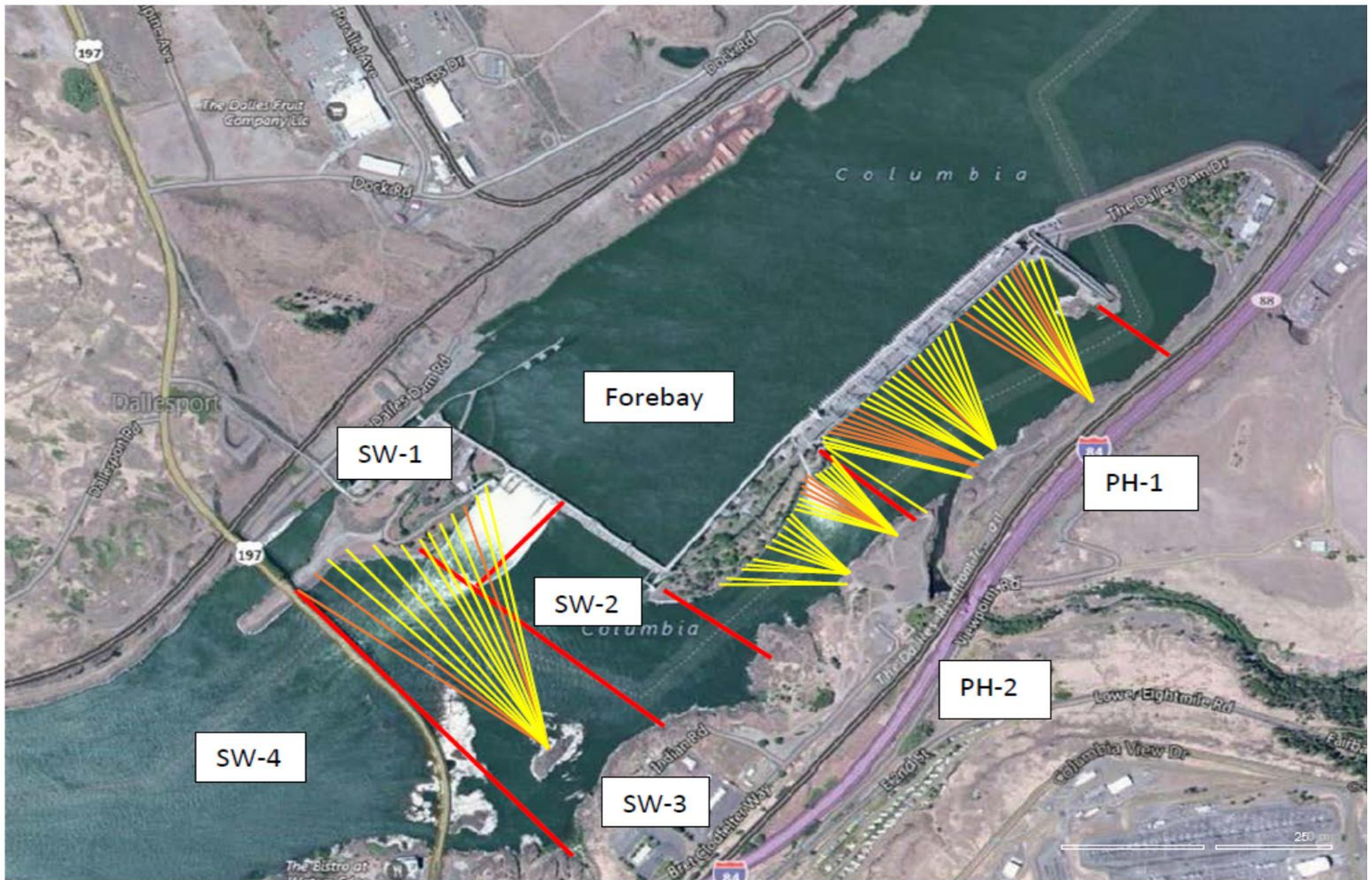
Maintenance;

East exit weir electrical panel FCQ7 installation/design resuming design completion.
PUD crane rake repainting to start this month.
Rebuilding spare entrance weir gearbox.
Planning crane pad for north ladder improved dewatering access.
Other repair maintenance plans; 154 -157 rehab/weir wheel replace, diffuser valve overhaul (rehab and 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 - all work complete for season 1.
Lamprey minor mods - Rounded entrance weir cap parts for all entrances ordered. Tribal lamprey trap hoist design 90%. Fab FY17 and install FY18.
Railroad track removal - Remaining tailrace deck next winter. Intake deck rail removal underway at units 9-12.
Fish unit breaker replace.- Manufacture this summer. Install fall 2017. Switchover Jan 2018. Schedule approved through FPOM.
Fish unit rehab - Phase 1A report Jan 2018. Award 2020. Completion 2022. Possible increase flow capacity for redundancy. Data collection continues.
Transformer 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				
5/7	GJF	PM	FB	0	2	4	11	0	0	0	0	0	0	0	0	0	17		
			PH1	1	0	3	2	0	0	0	0	0	0	0	0	0	0	6	
			PH2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	3	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
			SW3	42	11	0	0	0	0	0	0	0	0	0	0	0	0	53	
			SW4	37	0	0	0	0	0	0	0	0	0	0	0	0	0	37	
5/8	GJF	AM	FB	0	0	2	23	0	0	0	0	0	0	0	0	0	25		
			PH1	1	0	3	0	0	0	0	0	0	0	0	0	0	0	4	
			PH2	3	0	1	0	0	0	0	0	0	0	0	0	0	0	4	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
			SW3	48	67	0	0	0	0	0	0	0	0	0	0	0	0	115	
			SW4	13	0	0	0	0	0	0	0	0	0	0	0	0	0	13	
5/9	GJF	PM	FB	0	0	2	8	0	0	0	0	0	0	0	0	0	10		
			PH1	1	0	3	9	0	0	0	0	0	0	0	0	0	0	13	
			PH2	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	3	
			SW3	34	51	0	0	0	0	0	0	0	0	0	0	0	0	85	
			SW4	47	0	0	0	0	0	0	0	0	0	0	0	0	0	47	
5/10	GJF	AM	FB	0	1	3	24	0	0	1	0	0	0	0	0	0	29		
			PH1	0	1	2	9	0	0	0	0	0	0	0	0	0	0	12	
			PH2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
			SW3	29	56	0	0	0	0	0	0	0	0	0	0	0	0	85	
			SW4	30	0	0	0	0	0	0	0	0	0	0	0	0	0	30	
5/11	GJF	PM	FB	0	1	3	8	0	0	0	0	0	0	0	0	0	12		
			PH1	0	0	2	7	0	0	0	0	0	0	0	0	0	0	9	
			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	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
			SW3	13	25	0	0	0	0	0	0	0	0	0	0	0	0	38	
			SW4	26	0	0	0	0	0	0	0	0	0	0	0	0	0	26	
5/12	JWR	AM	FB	0	0	0	15	0	0	0	0	0	0	0	0	0	15		
			PH1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3	
			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	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
			SW3	14	43	0	0	0	0	0	0	0	0	0	0	0	0	57	
			SW4	37	0	0	0	0	0	0	0	0	0	0	0	0	0	37	
5/13	JWR	PM	FB	0	0	1	28	0	0	0	0	0	0	0	0	0	29		
			PH1	1	0	0	5	0	0	0	0	0	0	0	0	0	0	6	
			PH2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	12	0	0	0	0	0	0	0	0	0	0	0	0	0	12	
			SW3	42	88	0	0	0	0	0	0	0	0	0	0	0	0	130	
			SW4	55	0	0	0	0	0	0	0	0	0	0	0	0	0	55	

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
5/7	2064	1949	115	1	0	1	0	0	0	0	0	0
5/8	1694	1573	121	2	1	1	0	0	0	0	0	0
5/9	2280	2191	89	1	0	1	0	0	0	0	0	0
5/10	2251	2090	161	6	4	2	0	0	0	0	0	0
5/11	1997	1879	118	0	0	0	0	0	0	0	0	0
5/12	1193	1127	66	1	0	1	0	0	0	0	0	0
5/13	835	750	85	2	1	1	0	0	0	0	0	0
total	12314	11559	755	13	6	7	0	0	0	0	0	0

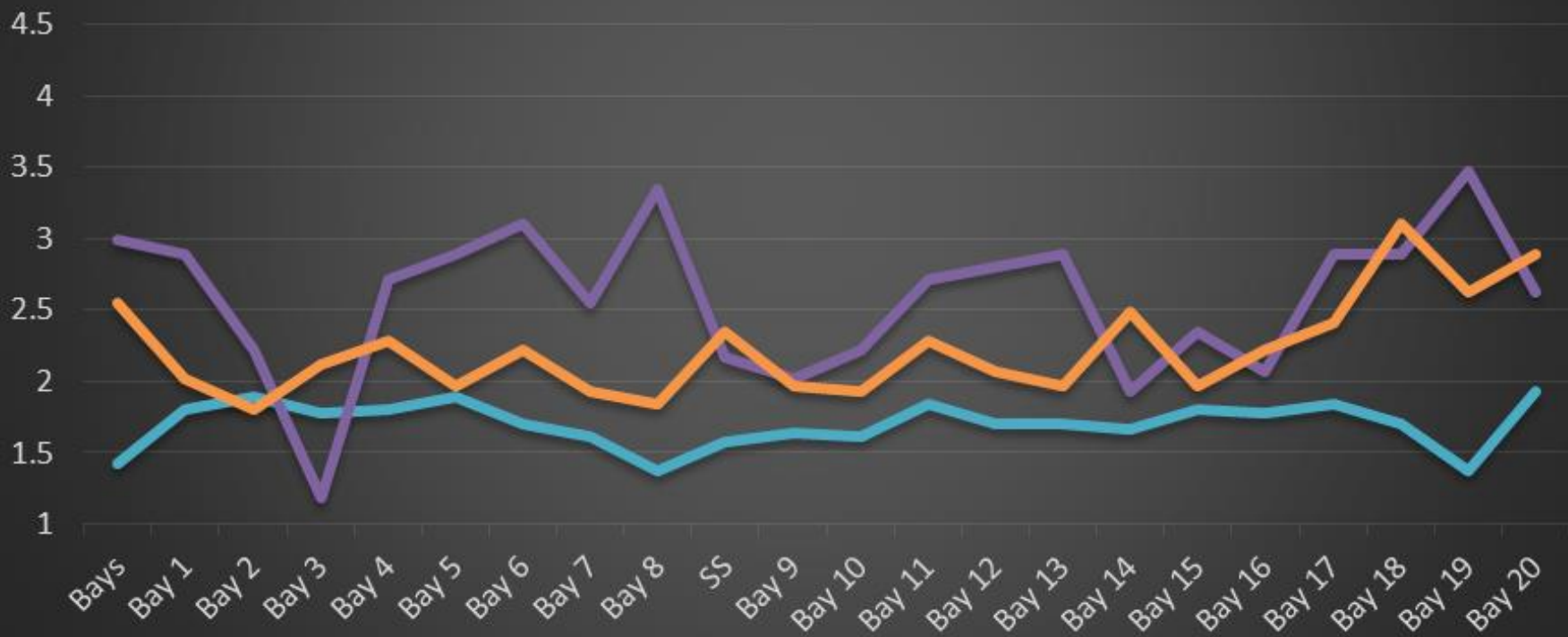
The Dalles North

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink
5/7	0	0	0	0	0	0	0	0	0	0	0	0
5/8	0	0	0	0	0	0	0	0	0	0	0	0
5/9	0	0	0	0	0	0	0	0	0	0	0	0
5/10	0	0	0	0	0	0	0	0	0	0	0	0
5/11	4	4	0	0	0	0	0	0	0	0	0	0
5/12	11	11	0	0	0	0	0	0	0	0	0	0
5/13	5	5	0	0	0	0	0	0	0	0	0	0
total	20	20	0	0	0	0	0	0	0	0	0	0
% North	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

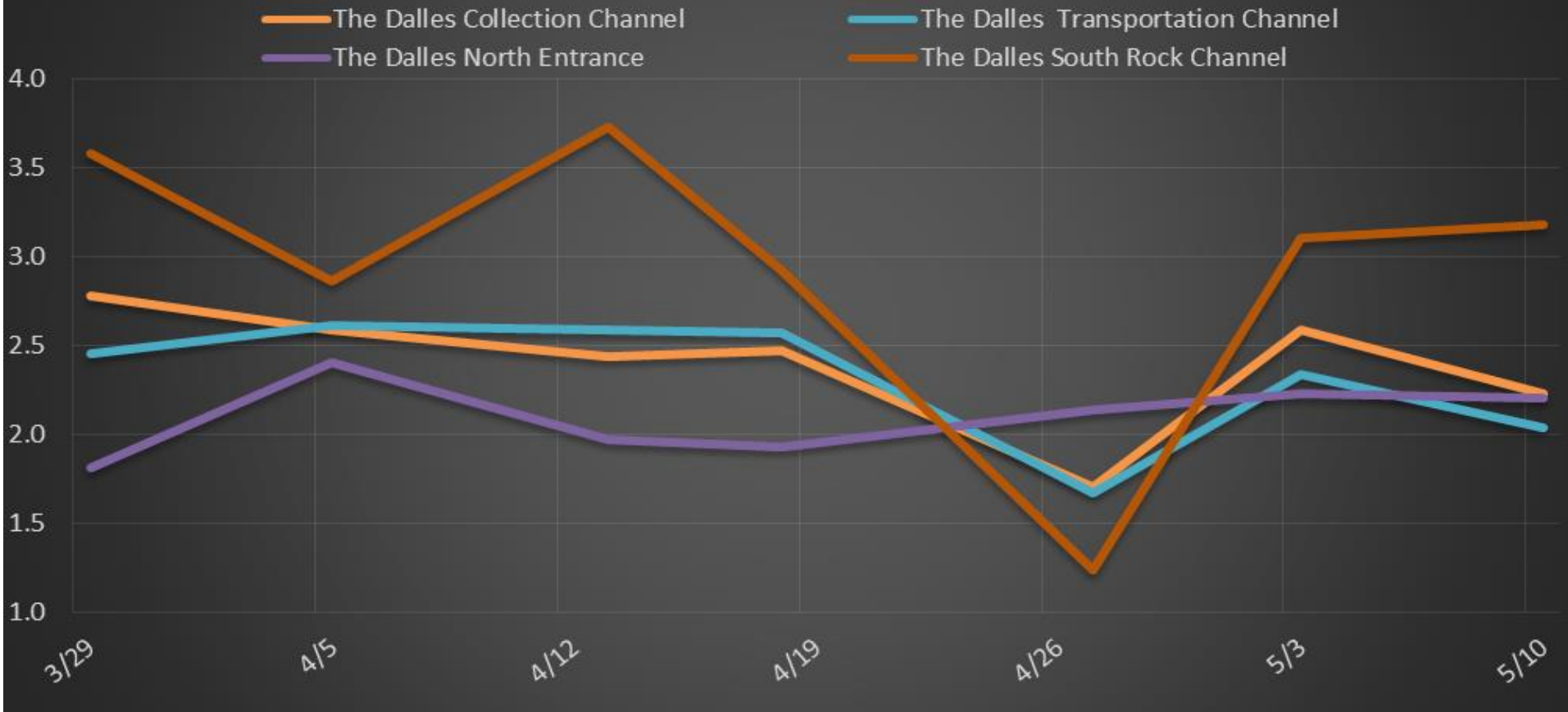
http://www.fpc.org/environment/fcounts.asp?fr_cdy=2017&fr_cdm=4&fr_cdd=30&to_cdm=5&to_cdd=6&subbtn=salmon&op=sdaily

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

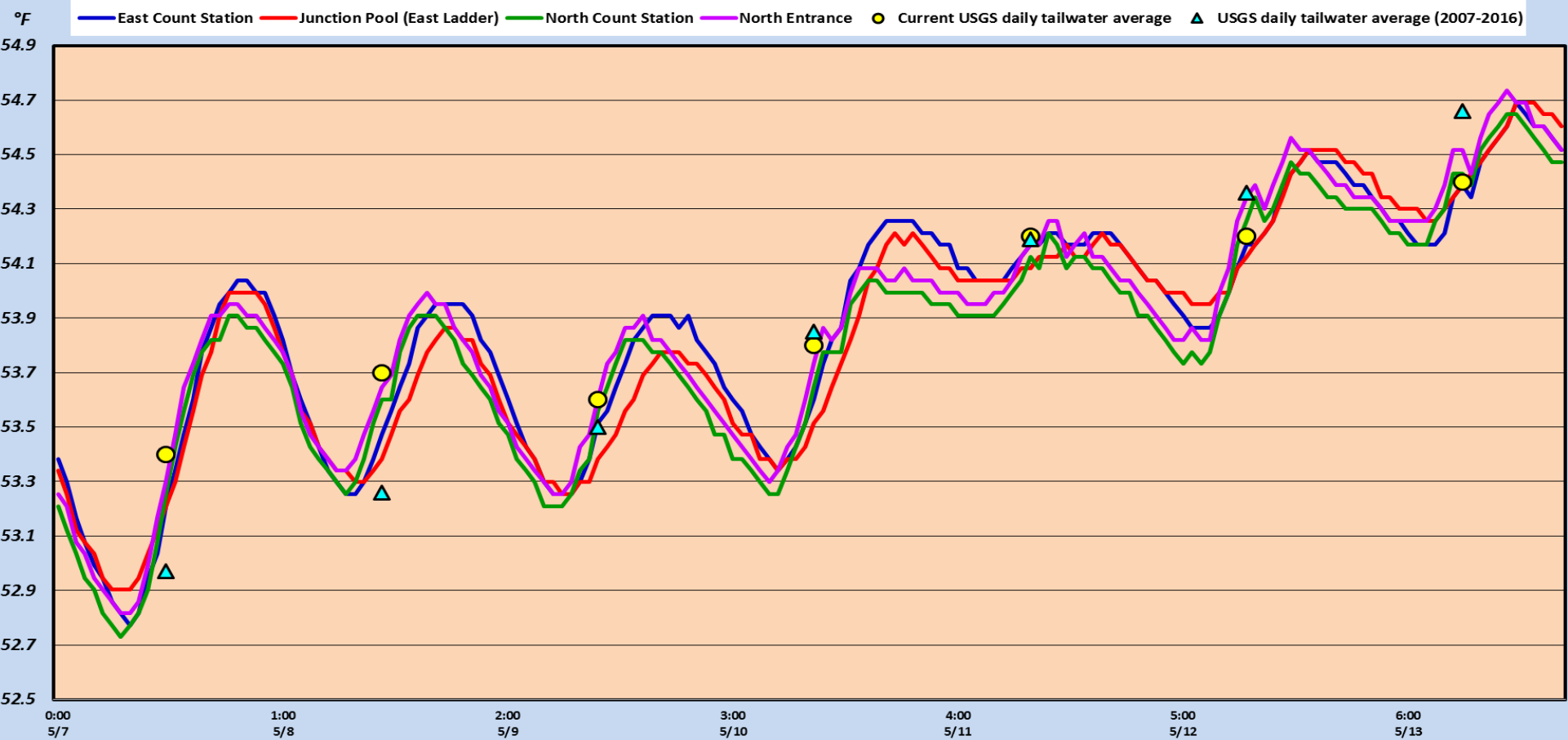
27-Apr 3-May 10-May



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



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



Secchi:		Temperatures
3.0	Sun	53.4
2.0	Mon	53.7
3.0	Tue	53.6
3.0	Wed	53.8
3.0	Thurs	54.2
3.0	Fri	54.2
3.0	Sat	54.4
2.9	AVG	53.9

USGS: <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

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	
5/7			1.5	10.4	12.0	12.0	19.5	1.7	10.6	10.6		1.6	9.1	9.2	68.5
	1.5	10.8	1.4	10.6	12.0	12.4	19.7	1.8	10.4	10.5		1.8	9.2	9.3	
	1.4	10.8	1.4	10.6	12.0	12.0	19.7	1.8	10.4	10.5		2.0	9.1	9.2	
5/8			1.3	11.4	12.1	12.1	20.5	1.8	10.7	10.7		1.3	9.2	9.2	70.7
	1.5	10.7	1.5	10.4	12.1	11.9	19.5	1.6	11.0	11.0		2.0	9.1	9.1	
	1.5	10.8	1.3	10.8	12.0	12.1	19.9	1.6	10.9	10.9		1.9	9.3	9.2	
5/9			1.3	10.8	11.9	12.0	19.9	1.6	10.9	10.9		1.8	10.0	10.0	71.3
	1.9	10.3	1.4	10.4	12.1	12.0	19.5	1.4	10.9	11.0		1.6	10.2	10.2	
	1.4	10.7	1.3	10.4	12.2	12.1	19.5	1.5	11.1	11.0		1.8	10.2	10.0	
5/10			1.3	10.2	12.0	12.1	19.3	1.5	11.1	11.1		1.7	10.7	10.6	71.4
	1.4	10.8	1.3	9.9	11.9	11.9	19.0	1.4	11.0	11.1		1.6	11.1	11.0	
	1.4	10.8	1.4	7.6	12.0	12.1	18.9	1.5	10.7	10.8		1.7	11.5	11.6	
5/11			1.4	7.6	12.0	12.0	19.2	1.6	10.6	10.6		1.7	11.5	11.5	48.9
	1.6	10.8	1.4	7.5	12.0	12.0	19.8	1.5	10.6	10.6	1.1	11.6	11.6		
	1.2	10.8	1.2	7.4	11.9	11.9	20.1	1.7	10.8	10.8	1.3	11.5	11.3		
5/12			1.3	7.4	12.0	12.0	20.4	1.8	10.6	10.6	1.3	11.4	11.4	51.8	
	1.4	10.7	1.4	6.4	10.8	10.6	20.4	1.6	12.5	12.5	1.3	10.0	10.2		
	1.4	10.8	1.8	6.7	10.3	10.1	19.9	1.7	12.1	12.1	1.5	8.4	8.6		
5/13			1.4	6.3	10.7	10.5	19.8	1.6	12.5	12.4	1.6	9.3	9.6	55.6	
	1.4	10.9	1.5	6.3	10.5	10.7	19.8	1.5	12.4	12.2	1.7	9.5	9.4		
	1.4	10.8	1.5	6.6	10.8	10.8	20.1	1.5	13.0	13.0	1.4	9.9	9.9		
AVG:	1.5	10.7	1.4	8.8	11.7	11.7	19.7	1.6	11.2	11.2		1.6	10.1	10.1	62.6

Fishways are inspected twice daily plus one SCADA inspection.



Junction pool weirs dragging from high tailwater. Limits adjusted to clear surface.