

The Dalles Dam Fishway Status Report

5/28/2017

Inspection Period: 05/21/2017-05/27/2017

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: Comments	21	Temperature: Secchi:	55.8 °F 3.0 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')	10.8			
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 Work cleaning circuit boxes performed.			
Weir 158-159 differential	0	1.0' ± 0.1'	158 callibrated and adjusted.			
Count station differential	0	≤ 0.3'	Picket leads raked as needed. Debris load light.			
Weir crest depth	0	1.0' ± 0.1'				
Junction pool weir JP6	0	depth (≥ 7')	18.9			
East entrance differential	0	1.0' - 2.0'	1.6			
Entrance weir E1	0	No criteria	5.4			
Entrance weir E2	0	depth (≥ 8')	11.1			
Entrance weir E3	0	depth (≥ 8')	11.1			
Collection channel velocity	0	1.5 - 4 fps	2.66			
Transportation channel velocity	0	1.5 - 4 fps	2.45			
North channel velocity	0	1.5 - 4 fps	2.05			
South channel velocity	0	1.5 - 4 fps	2.52			
West entrance differential	0	1.0' - 2.0'	1.5			
Entrance weir W1	0	depth (≥ 8')	12.3			
Entrance weir W2	0	depth (≥ 8')	12.3			
Entrance weir W3	0	depth (>8')	0.0	Closed		
South entrance differential	0	1.0' - 2.0'	1.4			
Entrance weir S1	1	depth (≥ 8')	9.6			
Entrance weir S2	0	depth (≥ 8')	9.6			
JUVENILE PASSAGE						
Sluicgate 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:

No sea lion sighting since May 18.

Gull numbers have decreased significantly. USDA hazing by boat downstream of bridge. Refer to avian map and observations.

Operations:

North and east fishladders 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). Replacement on progress.

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 7/5/18.

Maintenance;

East exit weir electrical panel FCQ7 installation/design resuming engineering design.

PUD crane rake repainting to start soon.

Rebuilding spare entrance weir gearbox.

Planning crane pad for north ladder, and sturgeon tank modifications for improved fishladder dewatering fish salvage.

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. Spillgate 9 on large cap list, projected for 2022.

Research/Construction/Contractors:

Pikeminnow dam angling - 87 removed thorough May 21. Primarily from west powerhouse tailrace.

AWS construction - all work complete for season 1. Planning for season 2 and for commissioning procedures.

Lamprey minor mods - Rounded entrance weir cap parts for all entrances ordered. Tribal lamprey trap hoist design complete. Fab FY17 and install FY18.

Railroad track removal - Intake deck rail removal underway at units 13-18. Lower west powerhouse asphalt section approved outside in water work period.

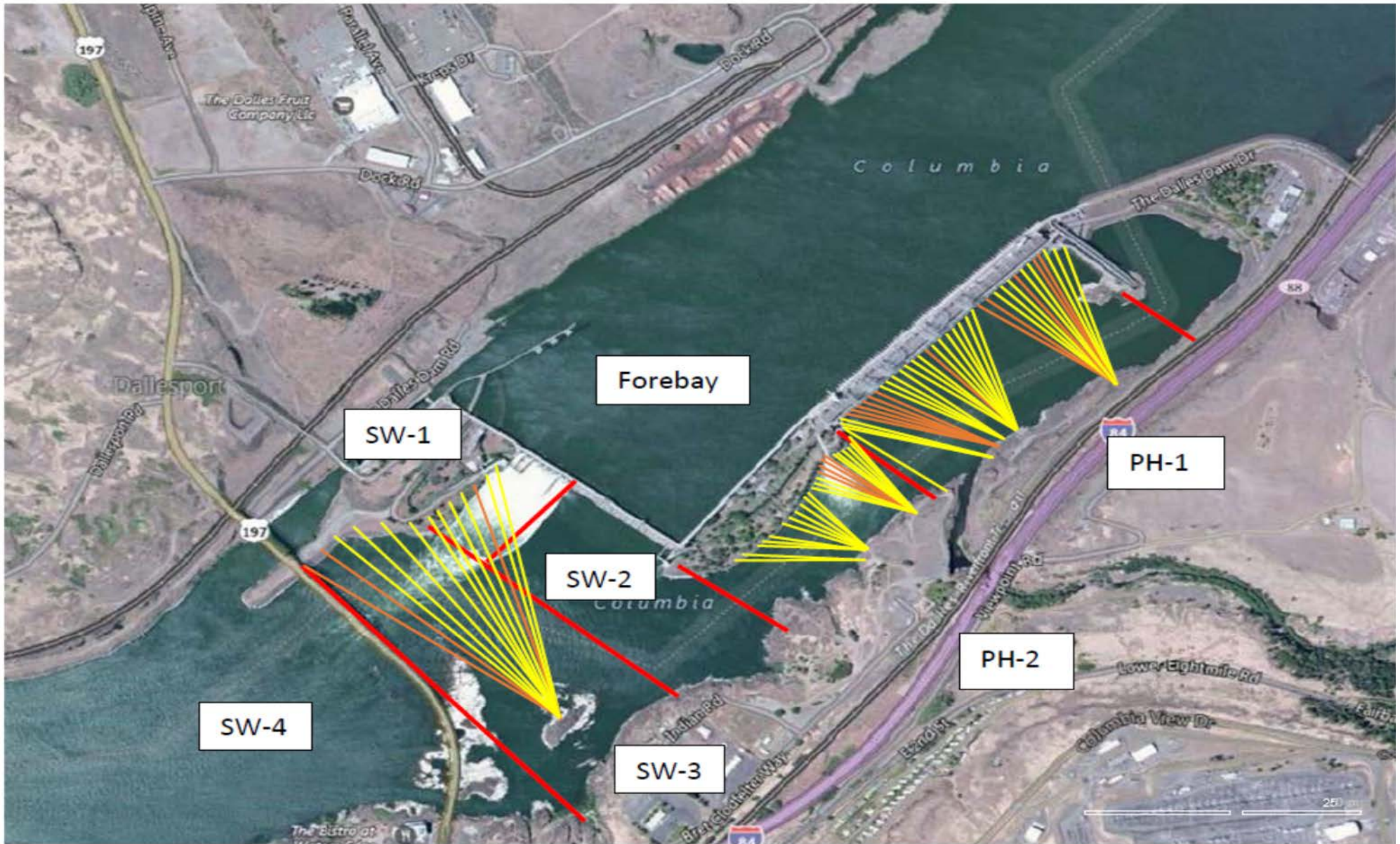
Fish unit breaker replace. - Manufacture this summer. Install fall 2017. Switchover Jan 2018.

Fish unit rehab - Phase 1A report Jan 2018. Award 2020. Completion 2022. Possible increase flow capacity for redundancy. Data collection continues.

Transformer replacement - Install start May 2018.

Approved by: Ron Twiner

Operation Project Manager The Dalles Dam



Red lines = avian zones

Yellow lines = current wires

Orange lines = down or missing wires

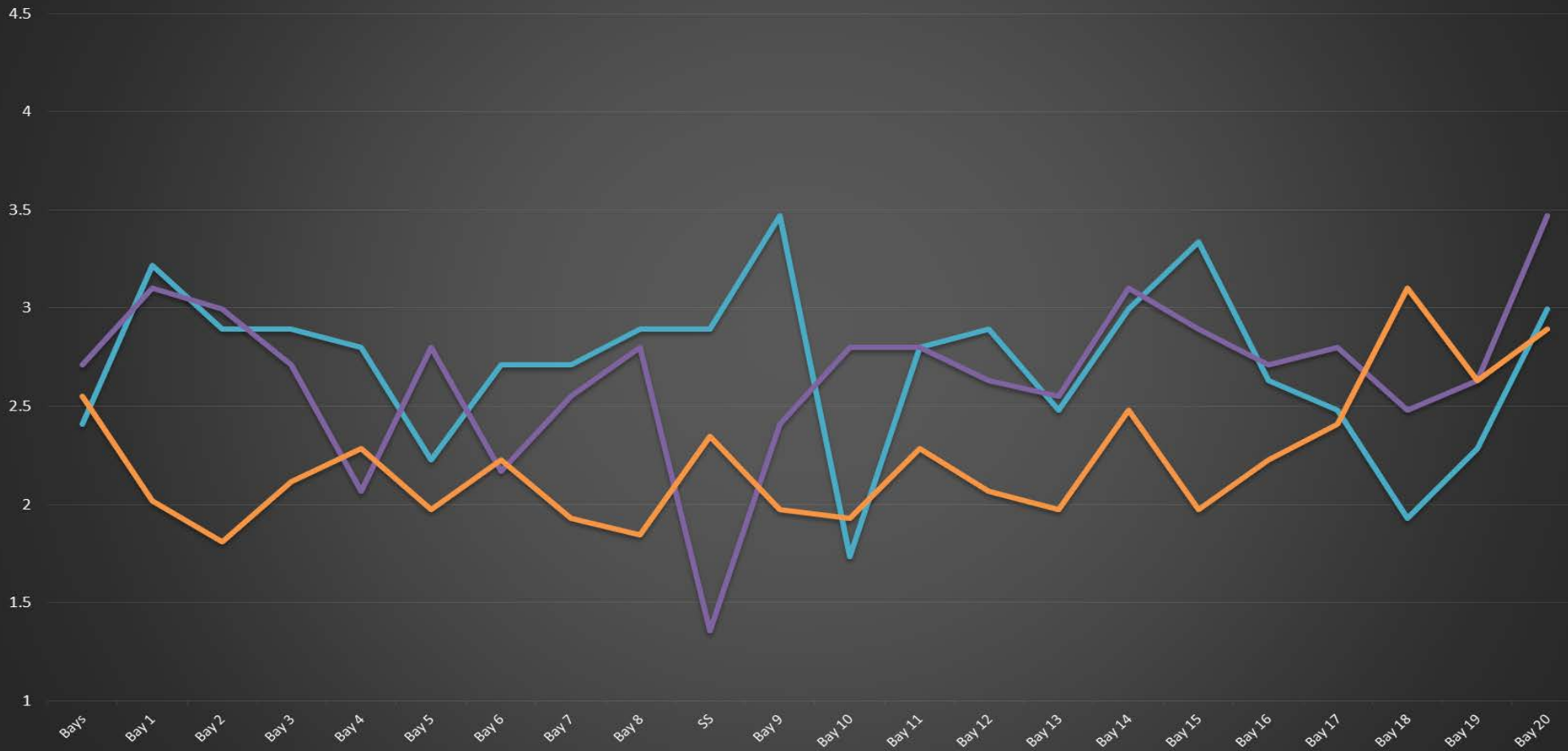
2017 Piscivorous Bird Counts

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			
5/21	GJF	PM	FB	0	0	2	8	0	0	0	0	0	0	0	0	0	10	
			PH1	4	0	3	0	0	0	0	0	0	0	0	0	0	7	
			PH2	8	0	0	0	0	0	0	0	0	0	0	0	0	8	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	21	0	0	0	0	0	0	0	0	0	0	0	0	21	
			SW3	33	58	0	0	0	0	0	0	0	0	0	0	0	91	
5/22	GJF	AM	SW4	122	0	0	0	0	0	0	0	0	0	0	0	122		
			FB	0	0	4	48	0	0	0	0	0	0	0	0	0	52	
			PH1	7	0	2	7	0	0	0	0	0	0	0	0	0	16	
			PH2	6	0	0	0	0	0	0	0	0	0	0	0	0	6	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	24	0	0	0	0	0	0	0	0	0	0	0	0	24	
5/23	GJF	PM	SW3	26	9	0	0	0	0	0	0	0	0	0	0	35		
			SW4	54	0	0	0	0	0	0	0	0	0	0	0	54		
			FB	0	0	3	28	0	0	0	0	0	0	0	0	0	31	
			PH1	3	0	0	0	0	0	0	0	0	0	0	0	0	3	
			PH2	5	0	0	0	0	0	0	0	0	0	0	0	0	5	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/24	GJF	AM	SW2	22	0	0	0	0	0	0	0	0	0	0	0	22		
			SW3	21	0	0	0	0	0	0	0	0	0	0	0	21		
			SW4	40	0	0	0	0	0	0	0	0	0	0	0	40		
			FB	0	0	2	25	0	0	0	0	0	0	0	0	0	27	
			PH1	4	0	3	0	0	0	0	0	0	0	0	0	0	7	
			PH2	7	0	0	0	0	0	0	0	0	0	0	0	0	7	
5/25	GJF	PM	SW1	0	0	0	0	0	0	0	0	0	0	0	0	0		
			SW2	45	0	0	0	0	0	0	0	0	0	0	0	45		
			SW3	75	0	0	0	0	0	0	0	0	0	0	0	75		
			SW4	39	0	0	0	0	0	0	0	0	0	0	0	39		
			FB	0	0	2	26	0	0	0	0	0	0	0	0	0	28	
			PH1	1	0	3	0	0	0	0	0	0	0	0	0	0	4	
5/26	JWR	AM	PH2	11	0	1	0	0	0	0	0	0	0	0	0	12		
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0		
			SW2	27	0	0	0	0	0	0	0	0	0	0	0	27		
			SW3	13	0	0	0	0	0	0	0	0	0	0	0	13		
			SW4	33	0	0	0	0	0	0	0	0	0	0	0	33		
			FB	0	0	0	44	0	0	0	0	0	0	0	0	0	44	
5/27	JWR	PM	PH1	0	1	0	3	0	0	0	0	0	0	0	0	4		
			PH2	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		
			SW2	4	0	0	0	0	0	0	0	0	0	0	0	4		
			SW3	8	0	0	0	0	0	0	0	0	0	0	0	8		
			SW4	15	0	0	0	0	0	0	0	0	0	0	0	15		
5/27	JWR	PM	FB	0	0	0	37	0	0	0	0	0	0	0	0	37		
			PH1	0	0	0	6	0	0	0	0	0	0	0	0	6		
			PH2	1	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		
			SW2	11	0	0	0	0	0	0	0	0	0	0	0	11		
			SW3	1	0	0	0	0	0	0	0	0	0	0	0	1		
SW4	0	0	0	0	0	0	0	0	0	0	0	0	0					

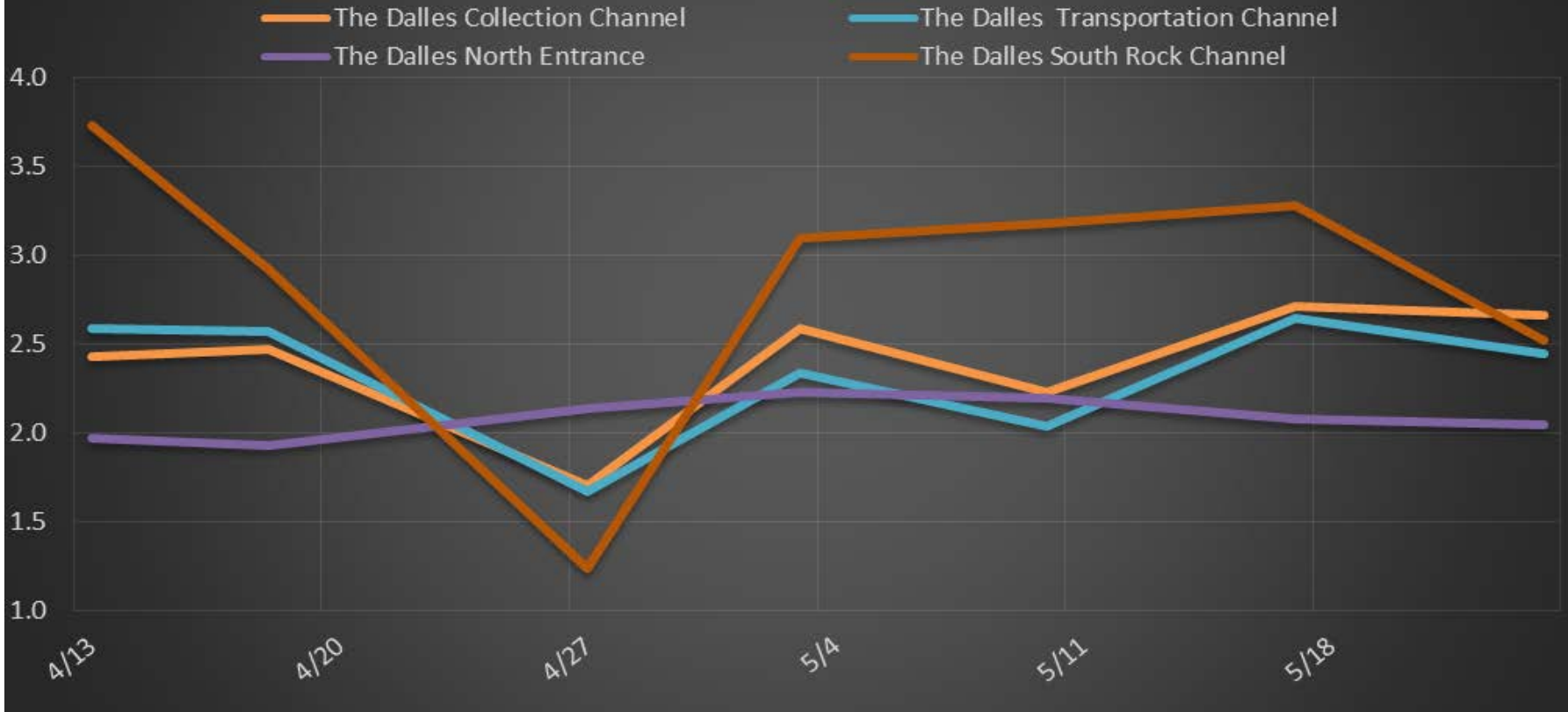
Key: BAEA = Bald Eagle; GBH = Great Blue Heron; COME = Common Merganser

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

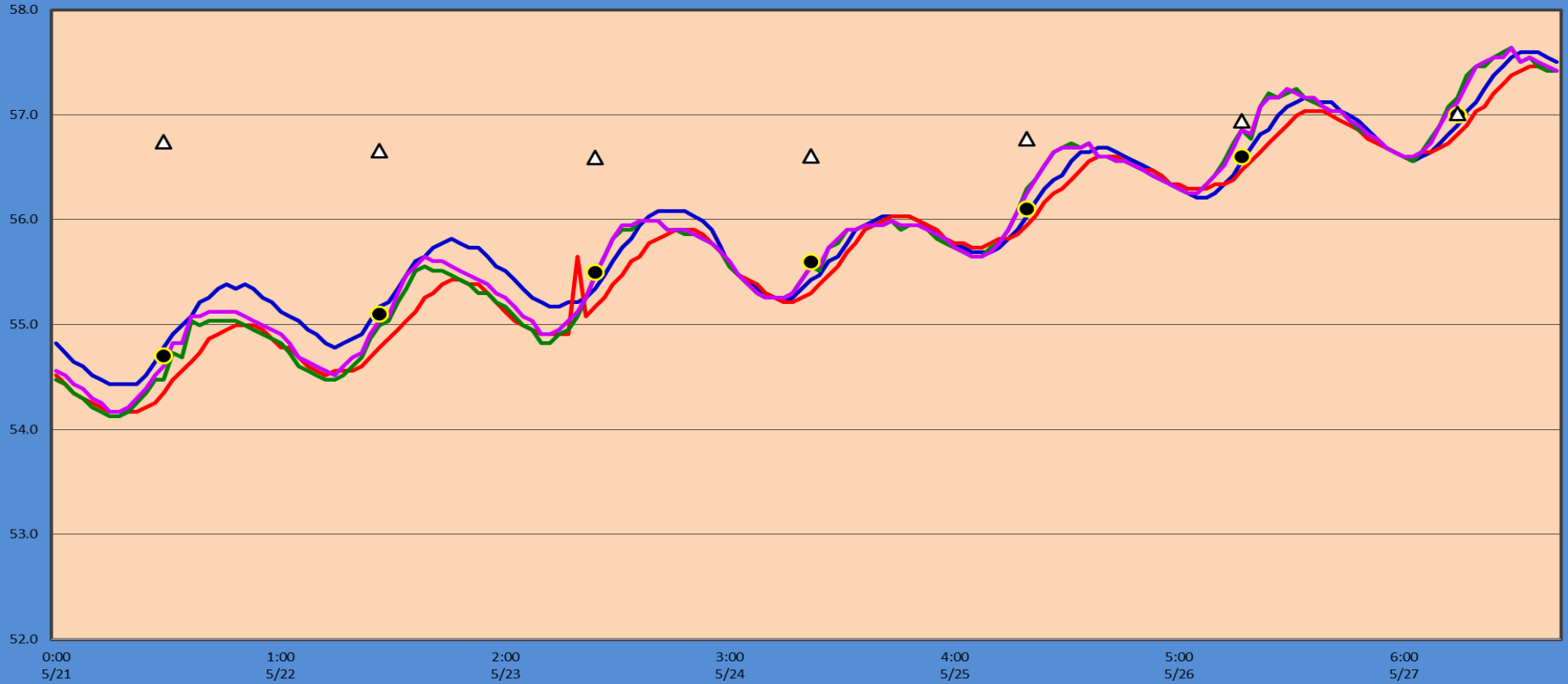
17-May 24-May 10-May



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



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



— East Count Station — Junction Pool (East Ladder) — North Count Station — North Entrance ● Current USGS daily tailwater average ▲ USGS daily tailwater average (2007-2016)

USGS:		Temperatures
Secchi:		
3.0	Sun	54.7
3.0	Mon	55.1
3.0	Tue	55.5
3.0	Wed	55.6
3.0	Thurs	56.1
3.0	Fri	56.6
3.0	Sat	57.0
3.0	AVG	55.8

http://www.nwd-wc.usace.army.mil/html/documents/ops/temp/201705_lcdl.htm

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	
5/21			1.6	4.4	10.5	10.5	17.9	1.5	12.3	12.3		1.5	10.1	10.1	58.2
	1.4	10.8	1.7	4.5	10.6	10.6	18.0	1.5	12.3	12.2		1.4	10.2	10.2	
	1.4	10.8	1.7	4.1	10.6	10.6	17.6	1.5	12.3	12.3		1.4	10.2	10.3	
5/22			1.8	3.8	10.6	10.7	17.3	1.4	12.4	12.4		1.3	10.5	10.4	59.5
	1.5	10.8	1.8	3.8	10.4	10.5	17.3	1.5	12.2	12.3		1.4	10.2	10.3	
	1.4	10.7	1.8	3.7	11.1	11.5	17.2	1.4	12.2	12.3		1.4	9.5	9.4	
5/23			2.0	4.0	10.4	10.5	17.5	1.4	12.4	12.4		1.4	10.2	10.2	58.0
	1.4	10.8	1.8	4.1	10.5	10.6	17.6	1.4	12.3	12.3		1.4	10.2	10.2	
	1.4	10.8	1.7	4.6	11.4	11.4	18.1	1.4	12.4	12.3		1.4	9.6	9.6	
5/24			1.7	5.7	12.1	12.0	19.2	1.5	12.3	12.3		1.5	9.5	9.5	56.7
	1.5	10.8	1.7	4.7	12.0	11.9	18.2	1.5	12.3	12.3		1.5	9.5	9.5	
	1.4	10.8	1.7	5.1	11.9	11.9	18.6	1.4	12.3	12.3		1.4	9.6	9.5	
5/25			1.1	7.2	11.8	12.0	20.7	1.6	12.2	12.2		1.2	9.4	9.5	50.6
	1.4	10.9	1.3	7.6	11.0	11.0	20.9	1.7	12.2	12.2		0.9	9.4	9.5	
	1.4	10.8	1.5	6.9	11.0	11.0	20.4	1.7	12.2	12.2		1.3	9.6	9.6	
5/26			1.4	7.3	10.5	10.8	20.8	1.6	12.3	12.3		1.0	8.7	9.0	49.0
	1.4	10.7	1.5	6.8	11.1	10.9	20.3	1.7	12.2	12.2		1.6	8.5	8.4	
	1.5	10.7	1.4	7.4	11.1	10.9	20.9	1.7	12.4	12.4		1.0	8.2	8.3	
5/27			1.7	5.8	10.8	10.7	19.3	1.7	12.3	12.3		1.8	8.8	8.7	53.0
	1.4	10.8	1.5	6.4	11.3	11.1	19.9	1.6	12.3	12.3		1.5	9.6	9.5	
	1.4	10.8	1.5	5.9	11.4	11.1	19.4	1.6	12.3	12.3		1.6	9.4	9.4	
AVG:	1.4	10.8	1.6	5.4	11.1	11.1	18.9	1.5	12.3	12.3		1.4	9.6	9.6	55.0

Fishways are inspected twice daily plus one SCADA inspection.