

The Dalles Dam Fishway Status Report

7/1/2017

Inspection Period: 06/25/2017-07/01/2017

THE DALLES DAM



US Army Corps
of Engineers
Portland District

The Dalles Project-Fisheries
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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: 61.5 °F
			Comments	Secchi: 3.9 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'	1.4	
Entrance weir N1	0	depth (≥ 8')	10.6	
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')	13.8	
East entrance differential	0	1.0' - 2.0'	1.5	
Entrance weir E1	0	No criteria	0.9	
Entrance weir E2	0	depth (≥ 8')	12.7	
Entrance weir E3	0	depth (≥ 8')	12.4	
Collection channel velocity	0	1.5 - 4 fps	2.72	
Transportation channel velocity	0	1.5 - 4 fps	2.30	
North channel velocity	0	1.5 - 4 fps	2.11	
South channel velocity	0	1.5 - 4 fps	3.18	
West entrance differential	0	1.0' - 2.0'	1.5	
Entrance weir W1	0	depth (≥ 8')	10.4	
Entrance weir W2	0	depth (≥ 8')	10.4	
Entrance weir W3	0	depth (>8')	0.0	Closed
South entrance differential	0	1.0' - 2.0'	1.5	High TW causing transfer of south channal water to west entrance via bypass
Entrance weir S1	0	depth (≥ 8')	8.6	
Entrance weir S2	0	depth (≥ 8')	8.6	
JUVENILE PASSAGE				
Sluicgate operation	0	Units 1, 8, 18		
Turbine trashrack drawdown	0	<1.5', wkly	range: 0.1-0.8'	
Spill volume/pattern	0			Exceeding 40% due to high flows
Turbine Unit Priority	11	per FPP	MU 1, 12, 15, 16, out of service	
Turbine 1% Efficiency	0	per FPP	FERC annual MU exercise	

OTHER ISSUES:

Birds/Sea lions:

Gull numbers have decreased significantly. USDA hazing continues. Refer to avian map and observations.

Inspection Period: 06/18/2017-06/24/2017

Operations:

North and east fishladders in full operation.

Spillway open 40% river flow for fish passage through spillgates 1-8.

Sluiceway open with 6 gates (units 2, 8 and 18)

Current Outages;

MU1 out for 5 year overhaul. Return 7/14/17.

MU12 out for hydraulic diagnosis and overhaul. Return 7/5/17.

T8 (MU15 & MU16) out for transformer failure. Transformer replacement 7/5/18.

MU22 out for annual maintenance. Return 7/6/17.

Maintenance;

East exit weir electrical panel FCQ7 partially installed. Engineering design completion underway.

PUD crane rake repainting awaiting lead test confirmation before starting.

Rebuilding spare entrance weir gearbox.

Removal of unused redundant junction pool weirs and fish lock weir gearboxes to start soon.

Designing fish lock upper and lower bulkhead replacement with concrete for improved isolation and fishladder protection.

Planning crane pad for north ladder dewatering access. Awaiting cultural approval.

Designing sturgeon tank modifications for improved fish salvage.

Other repair maintenance plans for upcoming fiscal years; 154 -157 rehab/weir wheel replace, diffuser valve overhaul (rehab and decommission).

Fish related /non-fish funded items; Spillway assessment, spillway crane replace 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 - 130 removed this week, 556 through 6/25. All from west powerhouse tailrace.

AWS construction - All work complete for season 1. Planning for season 2 schedule and 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 complete. Lower west powerhouse asphalt expected end of July (FPOM approved).

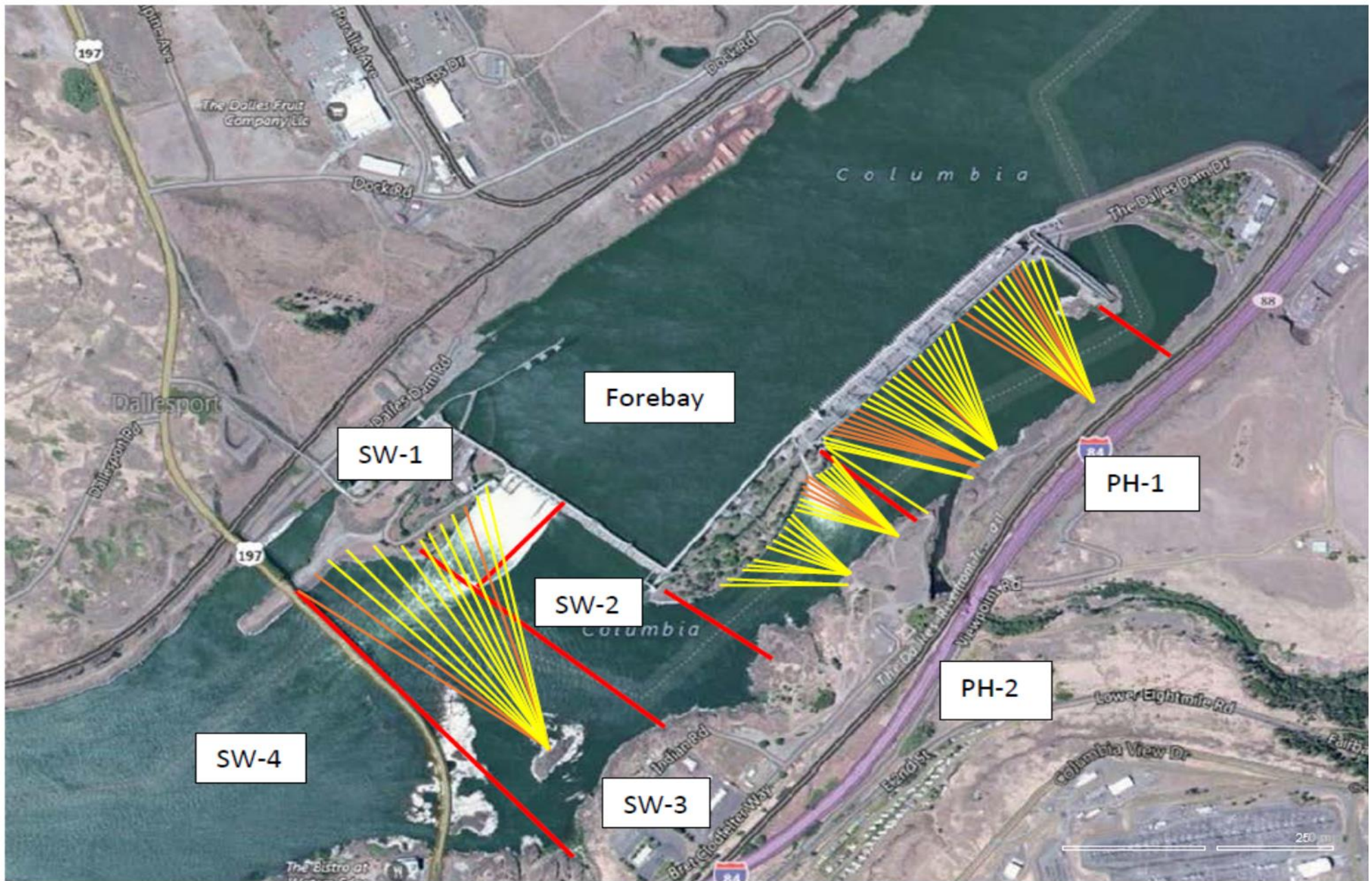
Fish unit breaker replace.- Manufacture this summer and install fall 2017. Switchover Jan 2018.

Fish unit rehab - Phase 1A report Jan 2018. Award 2020. Completion 2022. Continuing data analysis for present conditions.

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

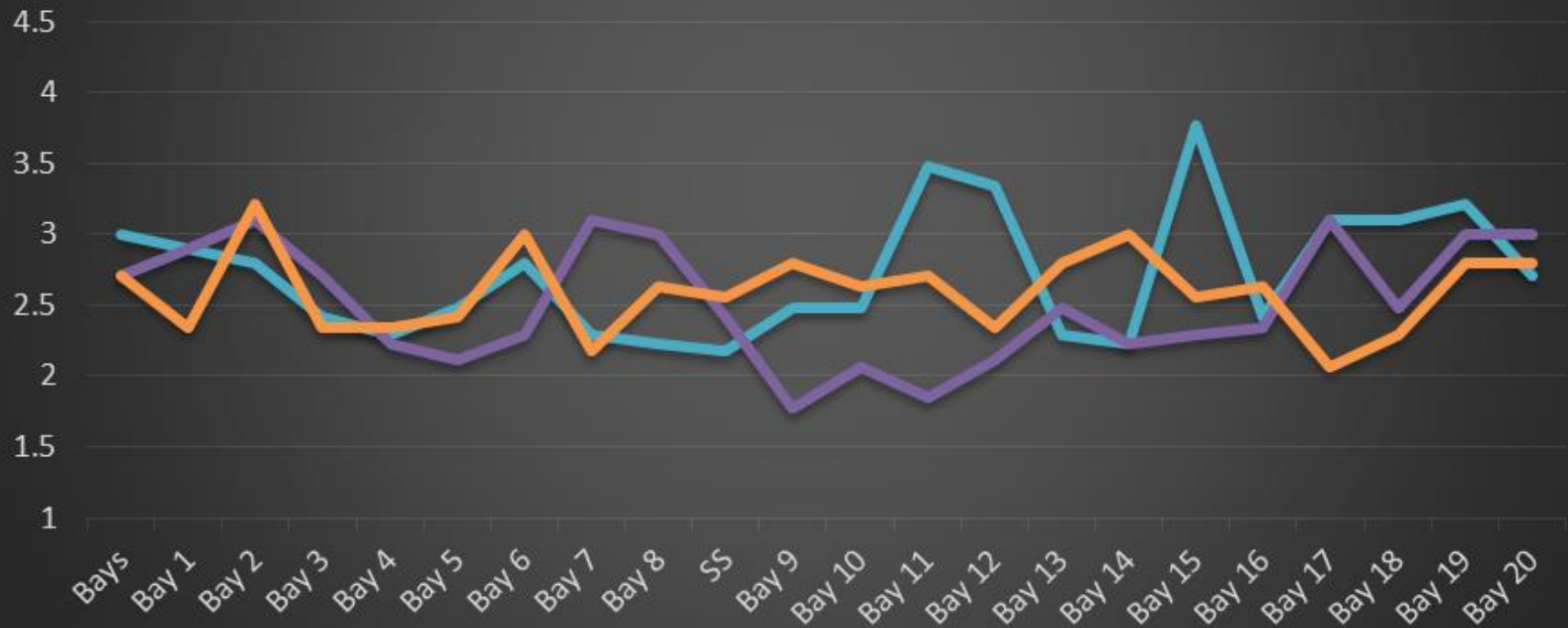
F=foraging, NF=non-foraging

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			
6/25	JWR	AM	FB	0	0	1	74	0	0	0	0	0	0	0	0	0	75	
			PH1	0	1	3	9	0	0	0	0	6	0	0	0	0	19	
			PH2	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	
			SW2	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
			SW3	18	30	0	0	0	0	0	0	0	0	0	0	0	48	
6/26	JWR	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	
			SW1	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	
			SW3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6/27	GJF	AM	FB	0	0	0	19	0	0	0	0	0	0	0	0	0	19	
			PH1	1	0	25	0	0	0	0	0	0	0	0	0	0	26	
			PH2	0	0	1	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	
			SW2	0	0	2	0	0	0	0	0	1	0	0	0	0	3	
			SW3	21	0	0	0	0	0	0	0	0	0	0	0	0	21	
6/28	GJF	PM	FB	0	0	0	9	0	0	0	0	0	0	0	0	0	9	
			PH1	1	0	8	7	0	0	0	0	3	1	0	0	20		
			PH2	7	0	0	0	0	0	0	0	0	0	0	0	7		
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0		
			SW2	0	0	2	0	0	0	0	0	0	0	0	0	0	2	
			SW3	22	0	0	0	0	0	0	0	0	0	0	0	0	22	
6/29	GJF	AM	FB	0	0	3	29	0	0	0	0	0	0	0	0	32		
			PH1	2	1	10	6	0	0	0	0	4	2	0	0	25		
			PH2	9	0	2	0	0	0	0	0	0	0	0	0	11		
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0		
			SW2	1	0	1	0	0	0	0	0	0	0	0	0	2		
			SW3	20	0	0	0	0	0	0	0	0	0	0	0	20		
6/30	GJF	PM	FB	0	0	5	11	0	0	0	0	0	0	0	0	16		
			PH1	0	0	20	7	0	0	0	0	7	5	0	0	39		
			PH2	7	0	2	0	0	0	0	0	0	0	0	0	9		
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0		
			SW2	1	0	1	0	0	0	0	0	1	0	0	0	3		
			SW3	9	0	14	0	0	0	0	0	0	0	0	0	23		
7/1	GJF	AM	FB	0	0	0	21	0	0	0	0	0	0	0	0	21		
			PH1	0	0	2	7	0	0	0	0	7	1	0	0	17		
			PH2	9	0	0	0	0	0	0	0	1	0	0	0	10		
			SW1	3	0	0	0	0	0	0	0	0	0	0	0	3		
			SW2	0	0	1	0	0	0	0	0	0	0	0	0	1		
			SW3	79	123	0	0	0	0	0	0	13	0	0	0	215		
SW4	29	17	0	6	0	0	0	0	16	4	0	0	72					

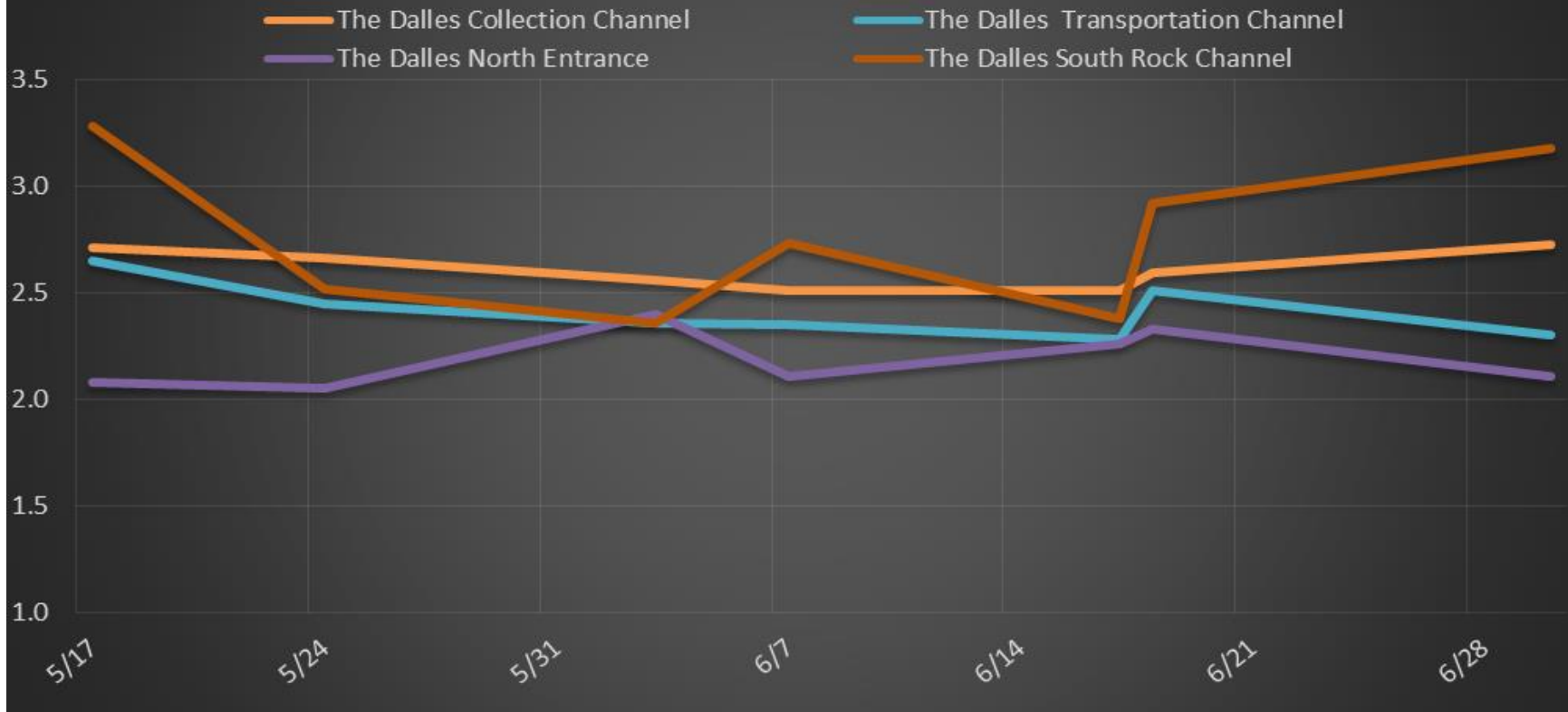
Key: BAEA = Bald Eagle; GBH = Great Blue Heron; COME = Common Merganser

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

30-Jun 17-Jun 18-Jun



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



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



		USGS:	http://www.nwd-wc.usace.army.mil/tml/documents/ops/temp/201706.lcol.html
Secchi:		Temperatures	
6/25	4.0	Sun	60.0
6/26	3.5	Mon	60.4
6/27	4.0	Tue	60.9
6/28	4.0	Wed	61.3
6/29	4.0	Thurs	61.8
6/30	4.0	Fri	62.6
7/1	4.0	Sat	63.2
	3.9	AVG	61.5

**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	
6/25			1.6	1.4	12.6	12.6	14.6	1.5	10.3	10.3		1.5	8.4	8.4	39.3
	1.3	10.5	1.4	1.8	13.0	13.0	15.0	1.6	10.7	10.7		1.5	8.5	8.5	
	1.4	10.4	1.5	2.0	13.0	13.0	15.2	1.5	10.5	10.5		1.5	8.5	8.5	
6/26			1.3	0.7	13.0	13.0	13.9	1.4	10.7	10.7		1.4	8.5	8.5	40.1
	1.4	10.5	1.5	0.7	12.5	12.5	13.9	1.5	10.8	10.8		1.5	8.5	8.5	
	1.4	10.5	1.6	1.3	12.5	12.5	14.5	1.5	10.9	10.9		1.4	8.6	8.6	
6/27			1.7	0.0	12.4	11.5	13.1	1.3	10.7	10.7		1.6	8.6	8.5	39.8
	1.1	10.7	1.7	0.0	12.1	11.6	13.2	1.5	10.8	10.8		1.3	9.6	9.5	
	1.1	10.8	1.5	0.6	12.8	12.8	14.8	1.5	10.8	10.9		1.5	8.6	8.5	
6/28			1.4	0.0	12.7	12.7	13.2	1.3	10.8	10.8		1.5	8.5	8.5	39.9
	1.4	10.6	1.5	0.8	12.7	12.7	14.0	1.5	10.8	10.8		1.4	8.6	8.6	
	1.4	10.6	1.3	1.5	13.0	13.0	14.7	1.5	10.8	10.8		1.4	8.7	8.5	
6/29			1.3	0.0	12.6	12.7	12.6	1.2	10.7	10.7		1.4	8.6	8.4	39.7
	1.4	10.6	1.2	6.0	12.8	12.8	12.8	1.5	9.8	9.9		1.4	8.7	8.6	
	1.4	10.6	1.5	0.6	12.7	12.8	13.8	1.7	9.7	9.7		1.5	8.5	8.4	
6/30			1.7	0.6	12.8	12.2	13.8	1.7	9.7	9.7	1.5	8.6	8.6	39.9	
	1.4	10.7	1.6	0.5	12.8	12.1	13.7	1.7	9.9	9.9	1.5	8.6	8.5		
	1.4	10.8	1.7	0.5	12.8	12.1	13.7	1.7	9.8	9.8	1.4	8.6	8.6		
7/1			1.7	0.0	12.7	11.1	12.7	1.5	9.8	9.8	1.5	8.6	8.6	40.0	
	1.4	10.8	1.8	0.0	12.9	12.9	12.5	1.5	9.9	9.9	1.5	8.6	8.4		
	1.4	10.8	1.6	0.1	12.9	11.7	13.3	1.6	9.9	9.9	1.5	8.5	8.5		
AVG:	1.4	10.6	1.5	0.9	12.7	12.4	13.8	1.5	10.4	10.4		1.5	8.6	8.6	39.8

Fishways are inspected twice daily plus one SCADA inspection.