

The Dalles Dam Fishway Status Report

9/3/2017

Inspection Period: 08/27/2017-09/02/2017

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: Comments	21	Temperature: 71.6 °F	Secchi: 5.0 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'	1.2			
Entrance weir N1	0	depth (≥ 8')	9.6			
Entrance weir N2	0	Closed				
PUD Intake differential	10	≤ 0.5'	0.6'	PUD rake crane being repainted. Intake raked with mobile crane.		
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. Debris load light.			
Weir crest depth	0	1.0' ± 0.1'				
Junction pool weir JP6	0	depth (≥ 7')	8.8			
East entrance differential	1	1.0' - 2.0'	1.5			
Entrance weir E1	0	No criteria				
Entrance weir E2	0	depth (≥ 8')	11.6			
Entrance weir E3	0	depth (≥ 8')	11.6			
Collection channel velocity	0	1.5 - 4 fps	2.82			
Transportation channel velocity	0	1.5 - 4 fps	2.58			
North channel velocity	0	1.5 - 4 fps	2.84			
South channel velocity	0	1.5 - 4 fps	3.77			
West entrance differential	0	1.0' - 2.0'	1.4			
Entrance weir W1	0	depth (≥ 8')	8.5			
Entrance weir W2	0	depth (≥ 8')	8.5			
Entrance weir W3	0	No criteria				
South entrance differential	0	1.0' - 2.0'	1.2			
Entrance weir S1	0	depth (≥ 8')	8.3			
Entrance weir S2	0	depth (≥ 8')	8.3			
JUVENILE PASSAGE						
Sluiceway operation	0	Units 1, 8, 18				
Turbine trashrack drawdown	0	<1.5', wkly	range: 0.1-0.8'			
Spill volume/pattern	0		Spillway closed midnight Aug31			
Turbine Unit Priority	0	per FPP				
Turbine 1% Efficiency	0	per FPP				

OTHER ISSUES:

Birds/Sea lions:

No sea lions observed this week. Overall bird numbers decreasing. No gulls after spillway closed.

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North and east fishladders in full operation.

Spillway open 40% river flow for fish passage through spillgates 1-8 through 8/31.

Sluiceway open with 6 gates (units 1, 8 and 18)

Current Outages;

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

Maintenance;

East powerhouse avian line grid may be removed early Sept due to electrical shock hazard. FPOM approved. Avian predation monitoring to continue.

East exit weir electrical panel FCQ7 partially installed. Engineering design and CADD drawings continues.

PUD crane rake repainting underway ~70% complete.

Rebuilding entrance weir and east exit weir spare gearboxes.

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

Planning crane pad for north ladder dewatering access. Cultural approval expected early Sept. Install mid Sept.

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. All awaiting funding.

All spillway items on Critical Infrastructure. Spillgate 9 on large cap list, projected for 2022.

Research/Construction/Contractors:

Fish Counters - Normandau counters on site through Oct.

Pikeminnow dam angling - 87 removed this week, 1617 through 8/20. All from west powerhouse tailrace.

AWS construction - Planning season 2 schedule. Extensions Oct/Nov night work and Nov day work FPOM approved. Commissioning plan underway for 3/31.

Adult Lamprey translocation project completed trapping at project for season

Lamprey minor mods - Rounded entrance weir cap parts for all entrances ordered. Moorings to assist in assembling. Tribal lamprey trap hoist design pending.

Railroad track removal - Lower west powerhouse asphalt 9/8. Tailrace deck start Nov nights (FPOM approved)

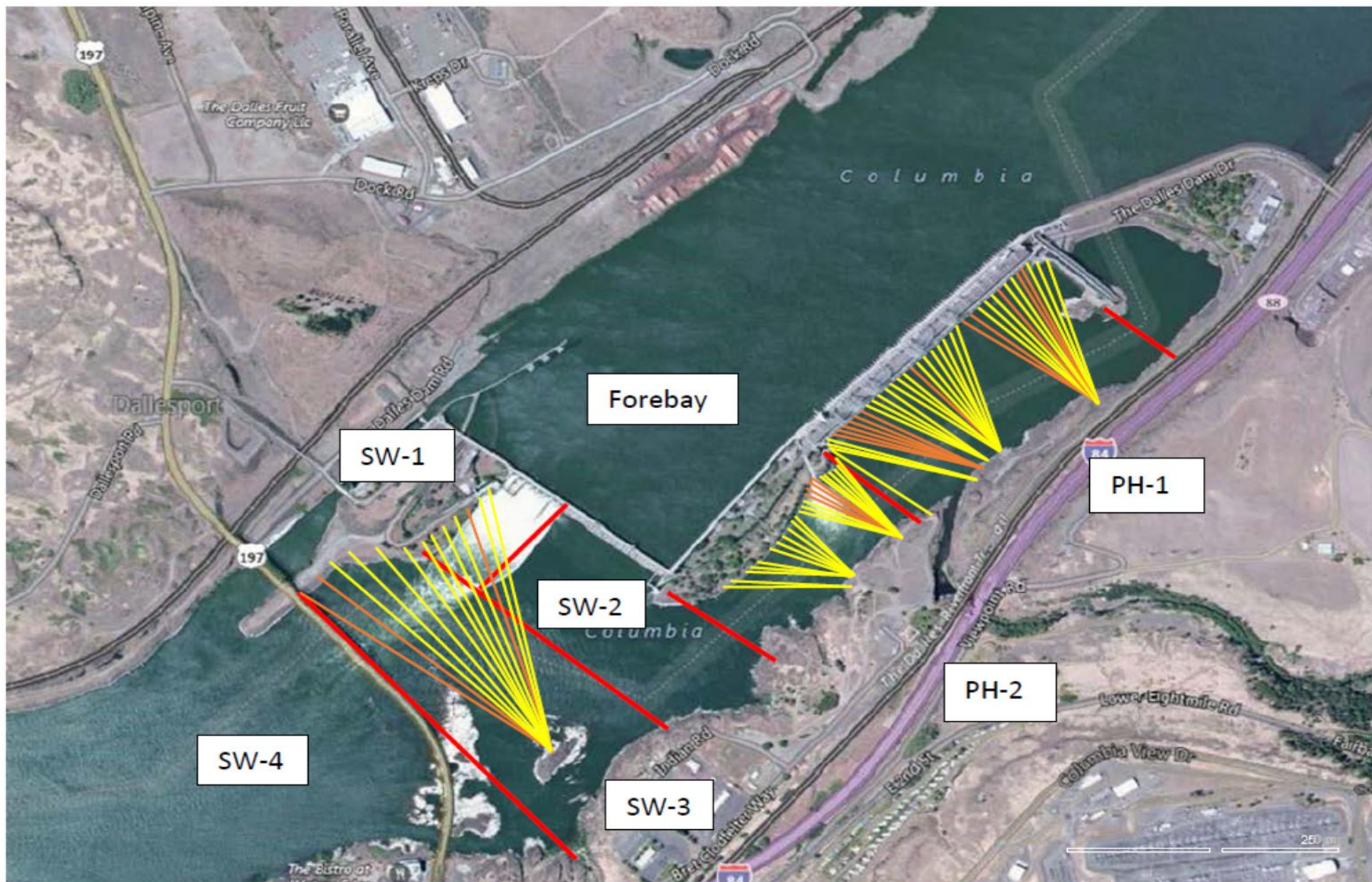
Fish unit breaker replace - Manufacture this summer and install fall 2017. Switchover Jan 2018.

Fish unit rehab - Phase 1A report Jan 2018. Award 2020. Completion 2022.

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	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			
8/27	GJF	PM	FB	0	0	0	9	0	0	0	0	0	0	0	0	0	9	
			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	5	0	0	0	0	0	0	0	0	0	0	0	0	5	
			SW4	10	40	0	8	0	0	0	0	0	0	0	0	0	58	
8/28	GJF	AM	FB	0	9	15	13	0	0	1	2	0	0	0	0	0	40	
			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	4	4	2	0	0	0	0	0	0	0	0	0	0	10	
			SW4	3	29	0	8	0	0	0	0	0	0	0	0	0	40	
8/29	GJF	PM	FB	0	15	7	25	0	0	0	0	0	0	0	0	0	47	
			PH1	0	1	3	16	0	0	0	0	0	0	0	0	0	20	
			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	6	0	3	0	0	0	0	0	0	0	0	0	0	9	
			SW4	8	21	0	9	0	0	0	0	0	3	0	0	0	41	
8/30	JWR	AM	FB	0	0	0	64	0	0	0	0	0	0	0	0	0	64	
			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	8	0	0	0	0	0	0	0	0	0	0	0	8	
			SW4	0	32	0	0	0	0	0	0	0	0	0	0	0	32	
8/31	GJF	PM	FB	0	15	2	9	0	0	0	0	0	0	0	0	0	26	
			PH1	0	0	3	7	0	0	0	0	0	0	0	0	0	10	
			PH2	0	0	2	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	
			SW2	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
			SW3	4	0	2	4	0	0	0	0	0	0	0	0	0	10	
			SW4	8	24	0	5	0	0	0	0	0	1	0	0	0	38	
9/1	JWR	AM	FB	0	0	0	120	0	0	0	0	0	0	0	0	0	120	Spill Off
			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	9	0	0	0	0	0	0	0	0	0	9	
			SW4	0	4	0	0	0	0	0	0	0	0	0	0	0	4	
9/2	JWR	PM	FB	0	1	7	25	0	0	0	0	0	0	0	0	0	33	
			PH1	0	0	1	10	0	0	0	0	0	0	0	0	0	11	
			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	5	0	0	0	0	0	0	0	0	0	5	
			SW4	0	0	1	5	0	0	0	0	0	0	0	0	0	6	

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
8/27	1089	946	143	579	433	146	23	18	5	0	0	0	53
8/28	950	848	102	430	300	130	21	11	10	0	0	0	70
8/29	1726	1498	228	474	371	103	31	24	7	1	0	1	49
8/30	1282	1062	220	409	294	115	27	20	7	1	0	0	72
8/31	1111	906	205	680	502	178	58	42	16	0	0	0	149
9/1	1387	1165	222	871	623	248	155	101	54	5	0	0	266
9/2	2598	2280	318	1139	840	299	103	90	13	2	0	0	167
total	10143	8705	1438	4582	3363	1219	418	306	112	9	0	1	826

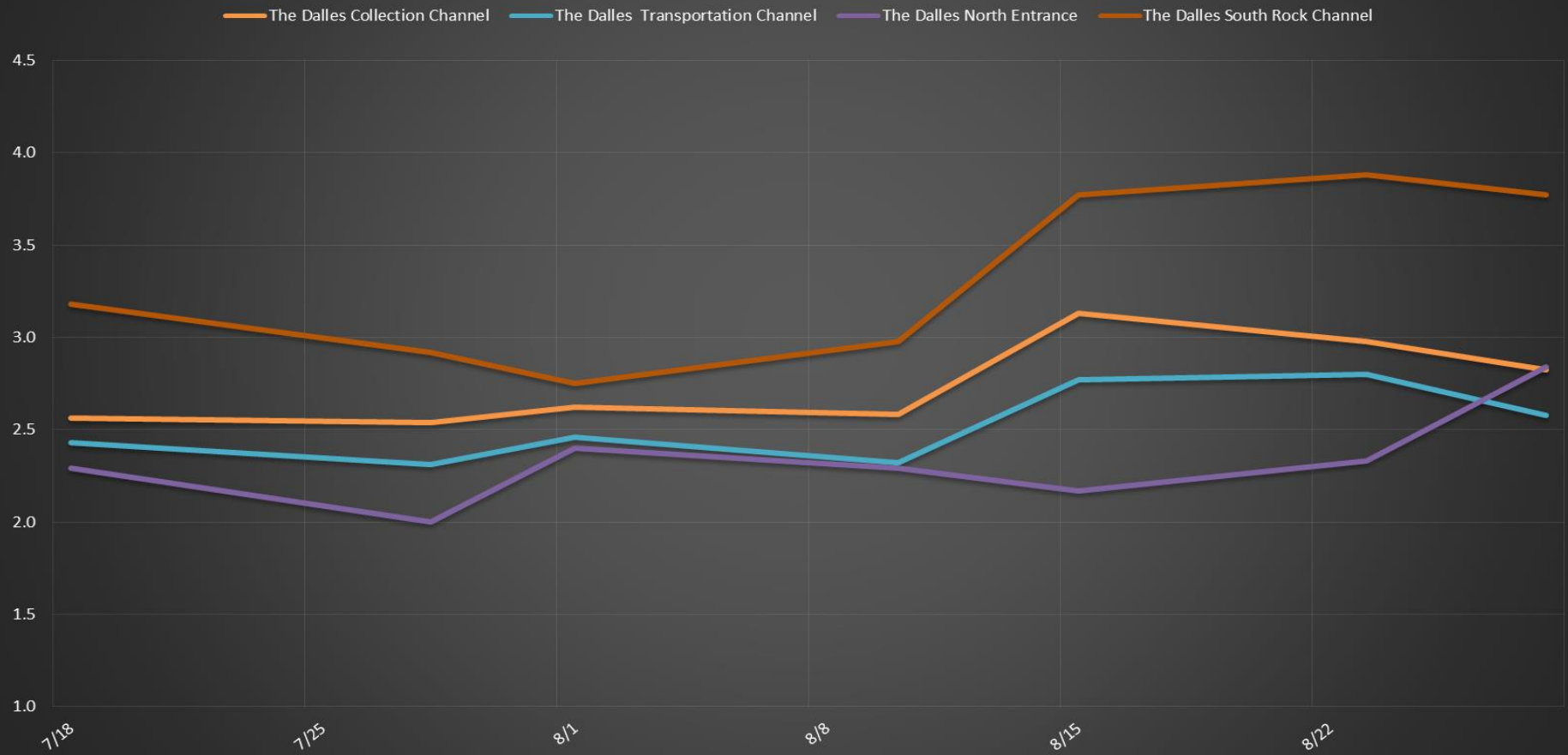
The Dalles North

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
8/27	307	282	25	405	274	131	5	5	0	1	0	0	14
8/28	499	464	35	231	160	71	7	7	0	0	0	0	46
8/29	892	836	56	237	154	83	11	10	1	0	0	0	41
8/30	493	450	43	225	151	74	8	7	1	1	0	0	44
8/31	510	470	40	416	288	128	12	10	2	0	0	0	20
9/1	155	125	30	130	92	38	17	13	4	0	0	0	65
9/2	89	71	18	46	32	14	5	1	4	0	0	0	26
total	2945	2698	247	1690	1151	539	65	53	12	2	0	0	256
% North	22.5	23.7	14.7	26.9	25.5	30.7	0.0	0.0	0.0	18.2	0.0	0.0	23.7

[Salmon](http://www.fpc.org/environment/fcounts.asp?fr_cdy=2017&fr_cdm=8&fr_cdd=27&to_cdm=9&to_cdd=2&subbtn=salmon&op=sdaily) http://www.fpc.org/environment/fcounts.asp?fr_cdy=2017&fr_cdm=8&fr_cdd=27&to_cdm=9&to_cdd=2&subbtn=salmon&op=sdaily

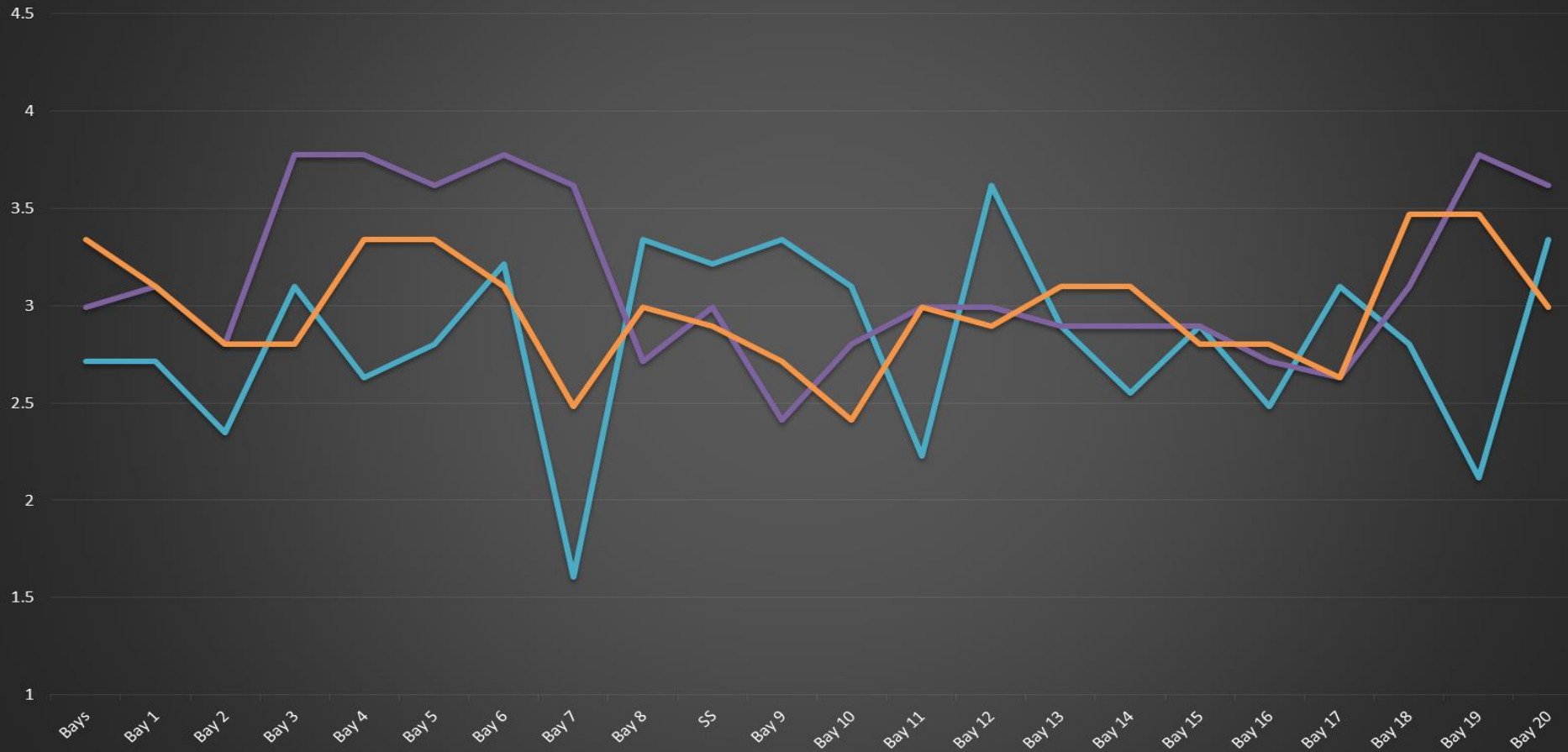
[Lamprey](http://www.fpc.org/environment/fcounts.asp?fr_cdy=2017&fr_cdm=8&fr_cdd=27&to_cdm=9&to_cdd=2&subbtn=shad+lamprey&op=sdaily) http://www.fpc.org/environment/fcounts.asp?fr_cdy=2017&fr_cdm=8&fr_cdd=27&to_cdm=9&to_cdd=2&subbtn=shad+lamprey&op=sdaily

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



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

28-Aug 15-Aug 23-Aug



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



USGS: http://www.nwd-wc.usace.army.mil/tml/documents/ops/temp/201708_lcol.html

Secchi:		Temperatures
8/27	5.0	Sun 71.8
8/28	5.0	Mon 71.9
8/29	5.0	Tue 72.0
8/30	5.0	Wed 71.6
8/31	5.0	Thurs 71.1
9/1	5.0	Fri 71.2
9/2	5.0	Sat 71.4
	5.0	AVG 71.6

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	
8/27			1.5	NO CRITERIA	10.6	10.6	7.9	1.2	8.7	8.7	NO CRITERIA	1.3	8.2	8.2	39.9
	1.3	9.7	1.5		10.6	10.6	7.9	1.3	8.7	8.7		1.3	8.2	8.3	
	1.3	9.8	1.5		10.7	10.6	7.9	1.2	8.8	8.8		1.2	8.3	8.4	
8/28			1.5		10.6	10.6	7.9	1.2	8.7	8.7		1.3	8.2	8.2	40.2
	1.3	9.5	1.5		10.6	10.6	7.9	1.4	8.2	8.3		1.3	8.3	8.2	
	1.3	9.5	1.5		10.8	10.7	8.0	1.5	8.3	8.3		1.3	8.3	8.2	
8/29			1.3		10.6	10.7	8.6	1.5	8.3	8.3		1.3	8.3	8.3	39.9
	1.3	9.3	1.5		11.8	11.6	9.8	1.5	8.9	9.0		1.4	8.4	8.3	
	1.2	9.4	1.5		11.6	11.8	9.8	1.5	8.9	8.9		1.4	8.3	8.3	
8/30			2.3		11.7	11.7	8.7	1.4	8.8	8.8		1.4	8.2	8.3	40.0
	1.3	9.4	1.6		12.5	12.7	9.3	1.4	8.3	8.2		1.2	8.4	8.4	
	1.2	9.8	1.7		12.2	12.1	9.0	1.4	8.3	8.3		1.2	8.3	8.3	
8/31			1.6		12.0	11.9	8.9	1.3	8.2	8.2		1.1	8.4	8.4	39.9
	1.3	9.4	1.4		12.1	12.0	9.2	1.3	8.2	8.2		1.2	8.2	8.2	
	1.3	9.8	1.4		12.2	12.2	9.3	1.3	8.4	8.4		1.2	8.4	8.4	
9/1			1.4	12.3	12.5	9.4	1.4	8.3	8.2	1.2	8.3	8.3	Spill		
	1.1	9.4	1.4	12.6	12.6	9.5	1.4	8.3	8.3	1.3	8.3	8.3			
	1.2	10.0	1.6	12.6	12.6	10.8	1.5	8.4	8.4	1.3	8.4	8.4			
9/2			1.8	11.5	11.5	7.8	1.3	8.3	8.3	1.1	8.4	8.4	Off		
	1.2	9.7	1.5	11.5	11.5	8.4	1.3	8.4	8.4	1.1	8.4	8.4			
	1.1	9.5	1.5	11.6	11.6	8.3	1.1	8.5	8.5	1.1	8.4	8.4			
AVG:	1.2	9.6	1.5	NO CRITERIA	11.6	11.6	8.8	1.4	8.5	8.5	NO CRITERIA	1.2	8.3	8.3	40.0

Fishways are inspected twice daily plus one SCADA inspection.