

The Dalles Dam Fishway Status Report

7/23/2017

Inspection Period: 07/16/2017-07/22/2017

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: 16 Comments: Lost SCADA display 5 days	Temperature: 69.7 °F Secchi: 4.3 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'	1.3	
Entrance weir N1	0	depth (≥ 8')	10.5	
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. Debris load light.	
Weir crest depth	0	1.0' ± 0.1'		
Junction pool weir JP6	0	depth (≥ 7')	12.5	
East entrance differential	0	1.0' - 2.0'	1.6	
Entrance weir E1	0	No criteria	0.0	
Entrance weir E2	0	depth (≥ 8')	12.1	
Entrance weir E3	0	depth (≥ 8')	12.0	
Collection channel velocity	0	1.5 - 4 fps	2.56	
Transportation channel velocity	0	1.5 - 4 fps	2.43	
North channel velocity	0	1.5 - 4 fps	2.29	
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')	10.0	
Entrance weir W2	0	depth (≥ 8')	10.0	
Entrance weir W3	0	depth (>8')	0.0	Closed
South entrance differential	0	1.0' - 2.0'	1.4	
Entrance weir S1	0	depth (≥ 8')	8.5	
Entrance weir S2	0	depth (≥ 8')	8.5	
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			
Turbine Unit Priority	1	per FPP		
Turbine 1% Efficiency	0	per FPP		

OTHER ISSUES:

Birds/Sea lions:

No sea lions observed this week. Overall bird numbers down from last week, but juvenile gull numbers increasing,

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 7/24/17.

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

MU22 out for annual maintenance. Returned 7/19/17.

Maintenance;

Slight slack on W1 weir cable, TDS notified, weir is operating

Lost SCADA display, reattached connection and returned to operation

East powerhouse avian line grid to be removed due to electrical shock hazard from induced voltage. FPOM approved. Avian predation monitoring to continue.

East exit weir electrical panel FCQ7 partially installed. Engineering design in progress before further installation. Starting CADD drawings.

PUD crane rake repainting starting. Test results showed no lead.

Rebuilding spare entrance weir gearbox.

Removed of unused redundant junction pool weirs 7/17. Fish lock weir gearboxes next.

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.

Modifying sturgeon tank 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:

Lost HOBO® probe at north ladder entrance, suspect zip-tie gave out, another probe deployed

Planning for temperature profiling study by District Aug and Sept. Four temperature strings to be deployed near east exit.

Pikeminnow dam angling - 249 removed this week, 1260 through 7/23. All from west powerhouse tailrace.

AWS construction - Planning for season 2 schedule. Requesting extensions to work outside in water work period. Commissioning plan underway for 3/18.

CTUIR completed allotted number of lamprey trapped (600 fish) in 7 days, Trapping continues for Yakama and Nez Perce.

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 - Lower west powerhouse asphalt expected end of July. Tailrace deck start Nov nights (FPOM approved)

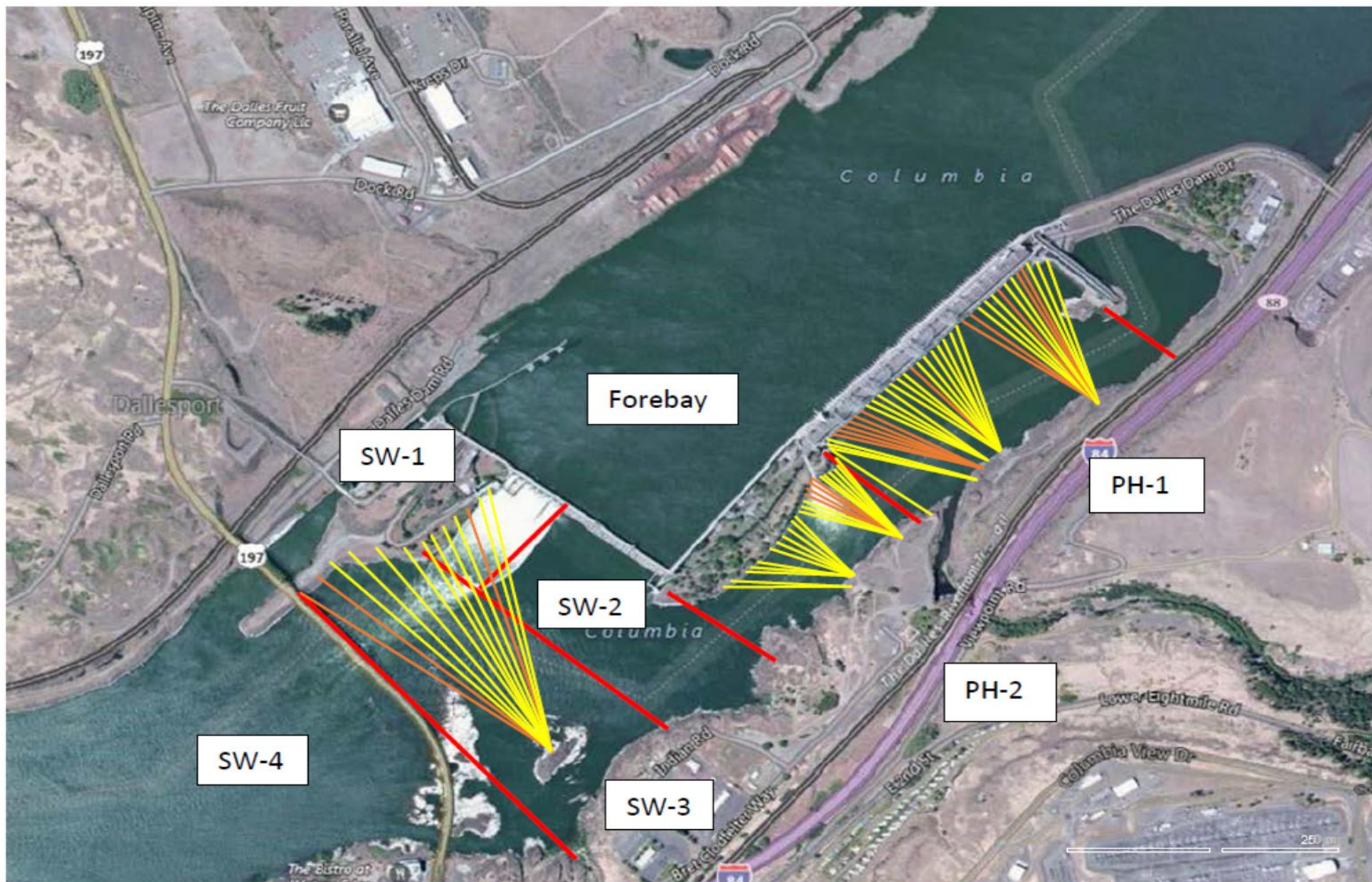
Fish unit breaker replace - Manufacture this summer and install fall 2017. Switchover Jan 2018.

Fish unit rehab - Phase 1A report Jan 2018. Award 2020. Completion 2022. 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				
7/16	GJF	PM	FB	0	0	0	14	0	0	0	0	0	0	0	0	0	14		
			PH1	0	0	5	3	0	0	0	0	0	0	0	0	0	0	8	
			PH2	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8	
			SW1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7	
			SW2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
			SW3	78	142	0	15	0	0	0	0	0	1	0	0	0	0	236	
7/16	GJF	PM	SW4	25	0	0	0	0	0	0	3	0	0	0	0	28			
7/17	GJF	AM	FB	0	14	3	41	0	0	1	0	0	0	0	0	0	59		
			PH1	0	3	10	1	0	0	0	0	1	0	0	0	0	15		
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
			SW2	0	0	5	0	0	0	0	0	0	0	0	0	0	0	5	
			SW3	37	84	0	0	0	0	0	0	0	0	0	0	0	0	121	
7/17	GJF	AM	SW4	24	0	0	0	0	0	8	0	0	0	0	0	32			
7/18	GJF	PM	FB	0	0	4	32	0	0	0	0	0	0	0	0	0	36		
			PH1	0	0	0	1	0	0	0	0	0	0	0	0	0	1		
			PH2	2	0	1	0	0	0	0	0	0	0	0	0	0	3		
			SW1	2	0	0	0	0	0	0	0	0	0	0	0	0	2		
			SW2	0	0	4	0	0	0	0	0	0	0	0	0	0	4		
			SW3	64	59	0	0	0	0	0	0	0	0	0	0	0	0	123	
7/18	GJF	PM	SW4	17	4	0	0	0	0	0	7	0	0	0	0	28			
7/19	GJF	AM	FB	0	2	2	15	0	0	0	0	0	0	0	0	0	19		
			PH1	0	1	2	6	0	0	0	0	0	0	0	0	0	9		
			PH2	3	0	0	0	0	0	0	0	0	0	0	0	0	3		
			SW1	2	0	0	0	0	0	0	0	0	0	0	0	0	2		
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	27	15	0	0	0	0	0	0	0	1	0	0	0	0	43	
7/19	GJF	AM	SW4	13	4	0	0	0	0	0	5	2	0	0	0	24			
7/20	GJF	PM	FB	0	0	3	45	0	0	0	0	0	0	0	0	0	48		
			PH1	2	1	3	1	0	0	0	0	0	0	0	0	0	7		
			PH2	2	0	0	0	0	0	0	0	0	0	0	0	0	2		
			SW1	1	0	0	0	0	0	0	0	0	0	0	0	0	1		
			SW2	0	0	2	0	0	0	0	0	0	0	0	0	0	2		
			SW3	19	34	1	0	0	0	0	0	0	8	1	0	0	0	63	
7/20	GJF	PM	SW4	10	7	0	0	0	0	0	13	11	0	0	0	41			
7/21	EHK	AM	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			PH1	0	0	0	27	0	0	0	0	0	0	0	0	0	0	27	
			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	16	32	0	0	0	0	0	0	0	3	0	0	0	0	51	
7/21	EHK	AM	SW4	0	0	0	0	0	0	0	8	0	0	0	0	8			
7/22	PLM	PM	FB	0	10	3	22	0	0	0	0	0	0	0	0	0	35		
			PH1	0	1	0	0	0	0	0	0	0	0	0	0	0	1		
			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	1	0	0	0	0	0	0	0	0	0	0	0	1	
			SW3	34	58	0	0	0	0	0	0	0	13	0	0	0	0	105	
7/22	PLM	PM	SW4	6	0	0	0	0	0	0	12	41	0	0	0	59			

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

The Dalles East

Ammended lamprey #'s -Dates transposed

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
7/9	1163	1019	144	69	38	31	0	0	0	782	0	0	442
7/10	977	857	120	81	28	53	0	0	0	437	0	0	457
7/11	866	730	136	103	47	56	0	0	0	480	0	0	1456
7/12	636	553	83	78	30	48	0	0	0	562	0	0	584
7/13	492	402	90	82	38	44	0	0	0	344	0	0	494
7/14	561	460	101	84	40	44	0	0	0	462	0	0	445
7/15	375	305	70	102	42	60	0	0	0	174	0	0	563
total	5070	4326	744	599	263	336	0	0	0	3241	0	0	4441

The Dalles North

Ammended lamprey #'s -Dates transposed

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
7/9	326	307	19	13	7	6	0	0	0	497	0	0	317
7/10	292	262	30	27	14	13	0	0	0	529	0	0	245
7/11	143	133	10	13	6	7	0	0	0	205	0	0	84
7/12	246	214	32	29	13	16	0	0	0	344	0	0	187
7/13	98	90	8	23	10	13	0	0	0	143	0	0	196
7/14	146	132	14	29	4	25	0	0	0	145	0	0	316
7/15	144	124	20	34	12	22	0	0	0	224	0	0	378
total	1395	1262	133	168	66	102	0	0	0	2087	0	0	1723
% North	21.6	22.6	15.2	21.9	20.1	23.3	0.0	0.0	0.0	39.2	0.0	0.0	28.0

The Dalles East

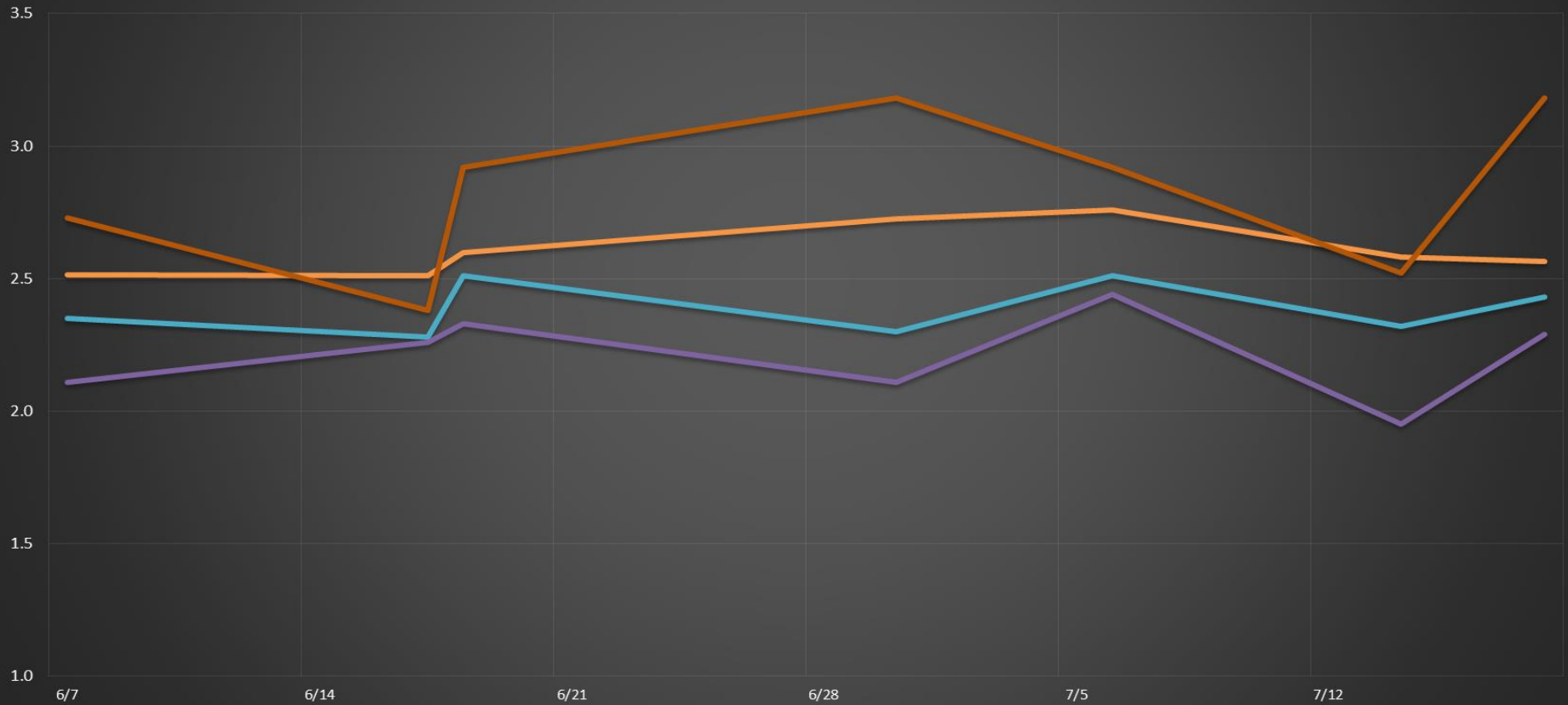
Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
7/16	629	541	88	108	47	61	0	0	0	196	0	0	263
7/17	570	520	50	129	49	80	0	0	0	113	0	0	433
7/18	516	457	59	206	76	130	0	0	0	186	0	0	403
7/19	503	430	73	155	66	89	0	0	0	108	0	0	337
7/20	338	288	50	178	58	120	0	0	0	82	0	0	634
7/21	361	289	72	120	41	79	0	0	0	68	0	0	145
7/22	390	316	74	176	67	109	0	0	0	38	0	0	202
total	3307	2841	466	1072	404	668	0	0	0	791	0	0	2417

The Dalles North

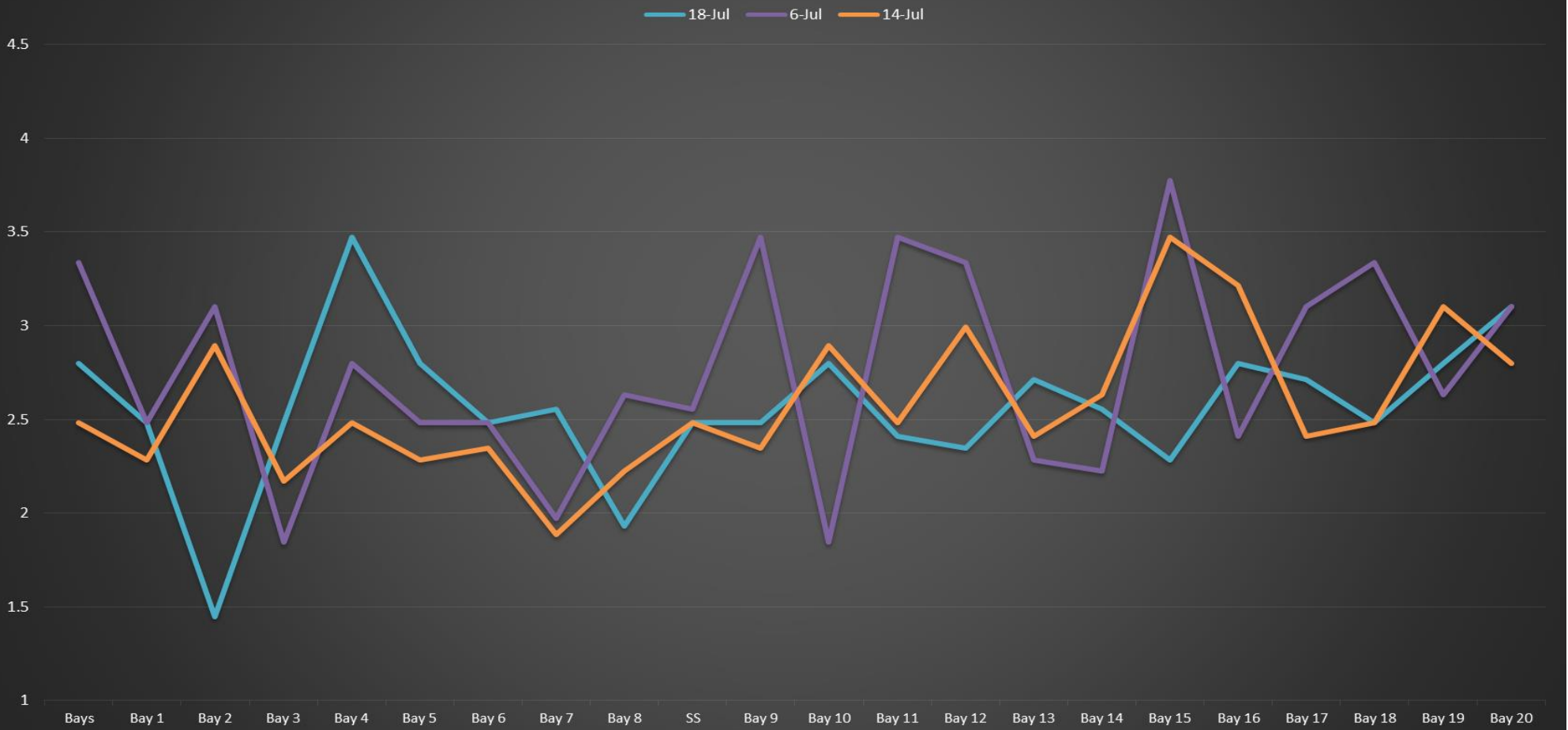
Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
7/16	168	157	11	34	11	23	0	0	0	149	0	0	287
7/17	186	164	22	31	8	23	0	0	0	162	0	0	295
7/18	119	112	7	20	8	12	0	0	0	72	0	0	233
7/19	120	106	14	24	14	10	0	0	0	60	0	0	204
7/20	95	89	6	58	24	34	0	0	0	46	0	0	322
7/21	160	143	17	58	23	35	0	0	0	58	0	0	175
7/22	153	131	22	63	10	53	0	0	0	66	0	0	119
total	1001	902	99	288	98	190	0	0	0	613	0	0	1635
% North	23.2	24.1	17.5	21.2	19.5	22.1	0.0	0.0	0.0	43.7	0.0	0.0	40.4

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

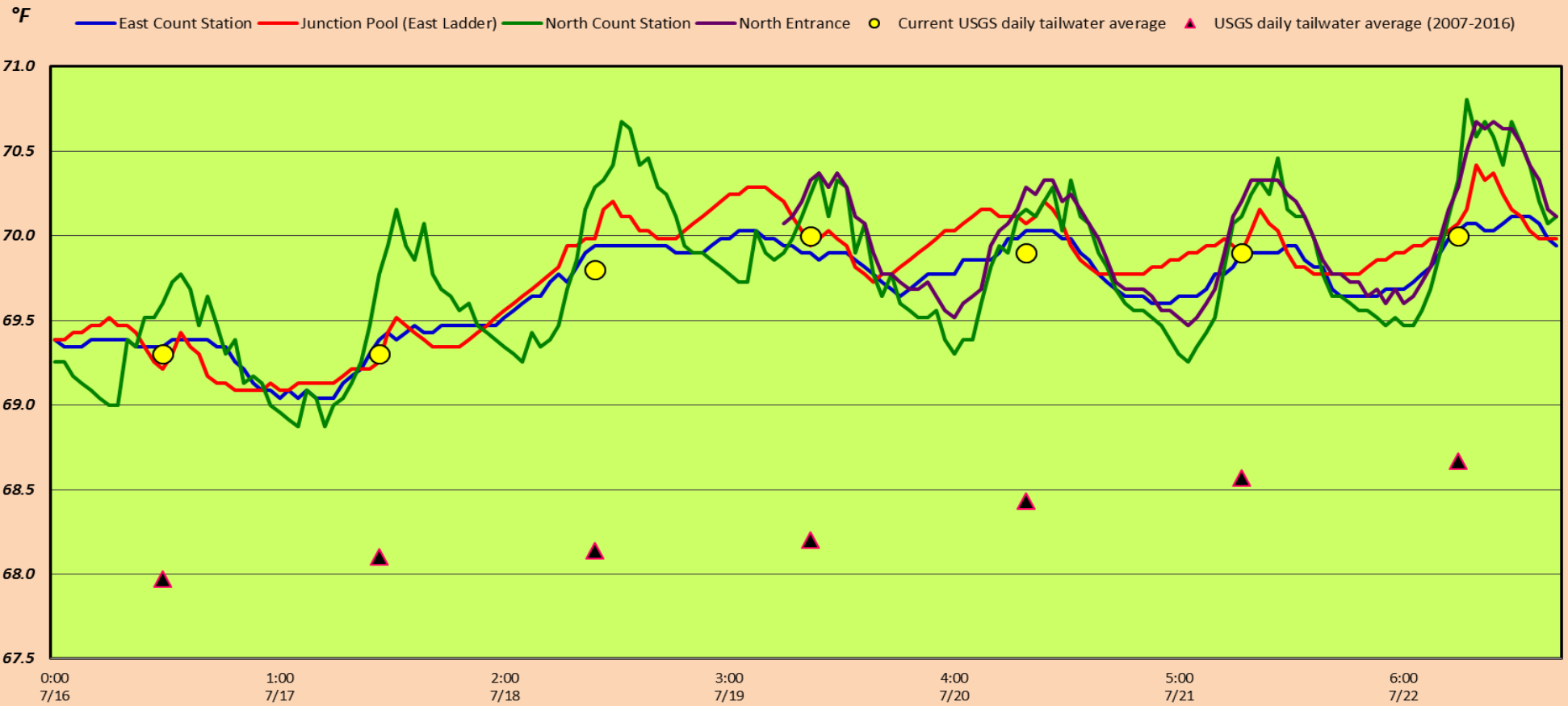
The Dalles Collection Channel The Dalles Transportation Channel The Dalles North Entrance The Dalles South Rock Channel



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
5.0	Sun	69.3
5.0	Mon	69.3
4.0	Tue	69.8
4.0	Wed	70.0
4.0	Thurs	69.9
4.0	Fri	69.9
4.0	Sat	70.0
4.3	AVG	69.7

USGS: http://www.nwd-wc.usace.army.mil/tml/documents/ops/temp/201707_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	
7/16			1.7		12.1	12.0	13.1	1.5	10.1	10.1		1.4	8.5	8.5	
	1.4	10.4	1.7		12.1	12.0	13.1	1.5	10.1	10.1		1.4	8.5	8.5	
	1.4	10.4	1.7		12.0	11.9	13.0	1.6	10.0	10.0		1.5	8.5	8.5	
7/17			1.5		12.1	12.0	12.2	1.4	10.1	10.1		1.4	8.6	8.6	
	1.3	10.6	1.6		11.9	11.9	12.3	1.5	10.0	10.1		1.4	8.5	8.4	
	1.3	10.6	1.5		12.1	12.0	13.1	1.5	10.1	10.1		1.5	8.5	8.5	
7/18	scada display out														
	1.4	10.5	1.6		12.1	12.1	12.2	1.5	9.9	9.9		1.3	8.5	8.5	
	1.5	10.4	1.6		12.2	12.1	12.7	1.4	10.1	10.1		1.5	8.5	8.5	
7/19	scada display out														
	1.3	10.6	1.7		12.0	12.1	13.5	1.6	10.0	10.0		1.5	8.6	8.6	
	1.4	10.5	1.7		12.0	12.0	13.5	1.5	10.0	10.0		1.6	8.6	8.6	
7/20	scada display out														
	1.4	10.4	1.5		12.1	12.1	12.4	1.3	10.0	10.0		1.3	8.6	8.6	
	1.3	10.3	1.6		12.1	12.1	12.6	1.4	9.9	9.9		1.5	8.4	8.5	
7/21	scada display out														
	1.3	10.3	1.5		11.9	11.9	12.1	1.4	9.1	10.1	1.5	8.4	8.5		
	1.4	10.3	1.5		12.0	12.0	12.4	1.4	10.0	10.0	1.4	8.5	8.6		
7/22	scada display out														
	1.2	10.5	1.3		12.0	12.1	11.2	1.4	10.0	10.0	1.3	8.5	8.6		
	1.2	10.5	1.3		12.1	12.0	11.2	1.4	10.0	10.0	1.3	8.5	8.6		
AVG:	1.3	10.5	1.6		12.1	12.0	12.5	1.5	10.0	10.0		1.4	8.5	8.5	

Fishways are inspected twice daily plus one SCADA inspection.