

The Dalles Dam Fishway Status Report

9/23/2017

Inspection Period: 09/17/2017-09/23/2017

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:	21	Temperature:	67.8 °F
			Comments	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'	1.4			
Entrance weir N1	0	depth (≥ 8')	9.1			
Entrance weir N2	0	Closed				
PUD Intake differential	14	≤ 0.5'	0.6'		PUD rake crane being repainted. Return to service 9/28.	
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	0.0	11.2			
East entrance differential	0	1.0' - 2.0'	1.5			
Entrance weir E1	0	No criteria				
Entrance weir E2	0	depth (≥ 8')	12.0			
Entrance weir E3	0	depth (≥ 8')	11.9			
Collection channel velocity	0	1.5 - 4 fps	2.48			
Transportation channel velocity	0	1.5 - 4 fps	2.45			
North channel velocity	0	1.5 - 4 fps	2.64			
South channel velocity	0	1.5 - 4 fps	3.68			
West entrance differential	0	1.0' - 2.0'	1.5			
Entrance weir W1	0	depth (≥ 8')	8.3			
Entrance weir W2	0	depth (≥ 8')	8.3			
Entrance weir W3	0	No criteria				
South entrance differential	0	1.0' - 2.0'	1.5			
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	5	per FPP	MU 14 oos			
Turbine 1% Efficiency	0	per FPP				

OTHER ISSUES:

Birds/Sea lions:

No sea lions observed this week. No foraging gulls. Moderate cormorant numbers. No USDA hazing. Spillway avian line repair completed 9/14.

Operations

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 to be removed late 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. Further installation during winter outage.

PUD crane rake repainting complete. Reassembling components. Progress delayed due to wildfire smoke.

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.

Crane pad installation complete for north ladder dewatering access.

W1 entrance weir sticking in guide. Still maintaining criteria depth. Maintenance notified.

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 - 4 removed this week, 1677 through 9/10. 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)

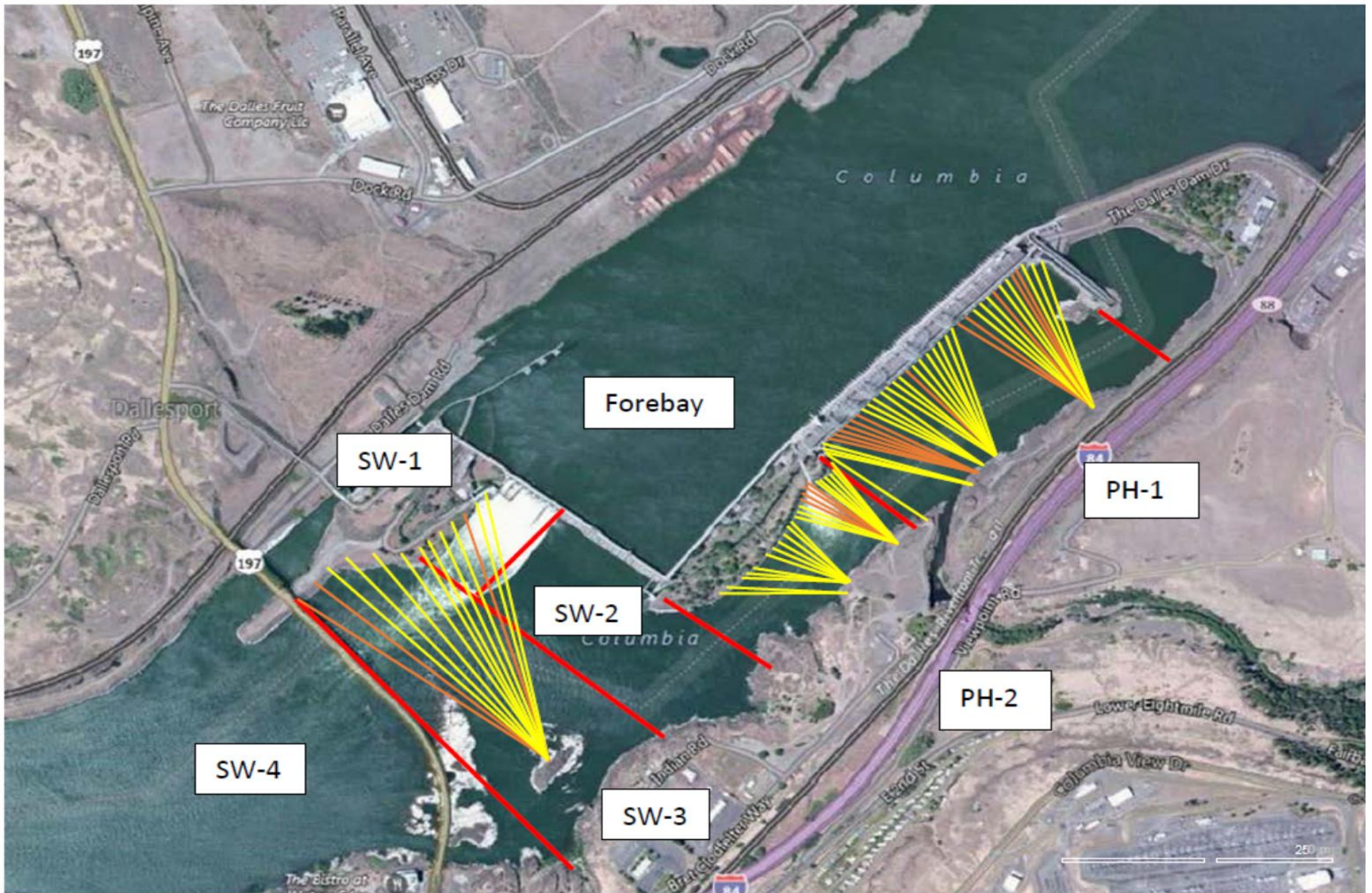
Fish unit breaker replace.- Manufacture this summer and install fall 2017. Switchover Jan 2018.

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				
9/17	JWR	AM	FB	0	0	0	61	0	0	0	0	0	0	0	0	0	61		
			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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	0	0	0	24	0	0	0	0	0	0	0	0	0	0	24	
9/18	JWR	PM	FB	0	0	1	34	0	0	0	0	0	0	0	0	0	35		
			PH1	0	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	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	0	0	0	23	0	0	0	0	0	0	0	0	0	0	23	
9/19	JWR	AM	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		
9/20	GJF	PM	FB	0	5	0	12	0	0	0	0	0	0	0	0	0	17		
			PH1	0	0	15	3	0	0	0	0	0	0	0	7	0	25	come	
			PH2	0	2	2	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		
			SW2	0	1	1	0	0	0	0	0	0	0	0	0	0	2		
			SW3	0	3	0	24	0	0	0	0	0	0	0	0	0	27		
9/21	JWR	AM	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		
9/22	GJF	PM	FB	0	0	0	5	0	0	0	0	0	0	0	0	0	5		
			PH1	0	0	6	4	0	0	0	0	0	0	0	0	0	10		
			PH2	0	0	5	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		
			SW2	0	0	2	0	0	0	0	0	0	0	0	0	0	2		
			SW3	0	4	0	19	0	0	0	0	0	0	0	0	0	23		
9/23	GJF	AM	FB	0	0	0	34	0	0	0	0	0	0	0	0	0	34		
			PH1	0	0	0	7	0	0	0	0	0	0	0	0	0	7		
			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	0	0	0	0	0	0	0	0	0	0	0	0		
			SW3	0	0	0	14	0	0	0	0	0	0	0	0	0	14		
SW4	0	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 East

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
9/17	8462	7606	856	2552	2016	536	943	884	59	1	0	0	29
9/18	8135	7357	778	2558	2078	480	1238	1129	109	2	0	0	11
9/19	5520	4842	678	2761	2036	725	846	814	32	1	0	0	17
9/20	6362	5602	760	4010	2998	1012	1173	1048	125	0	0	0	11
9/21	6281	5602	679	3857	2911	946	2149	1969	180	0	0	1	19
9/22	6601	5603	998	4044	3332	712	2544	2302	242	0	0	0	23
9/23	7601	6738	863	2798	2336	462	1741	1609	132	7	0	0	11
total	48962	43350	5612	22580	17707	4873	10634	9755	879	11	0	1	121

The Dalles North

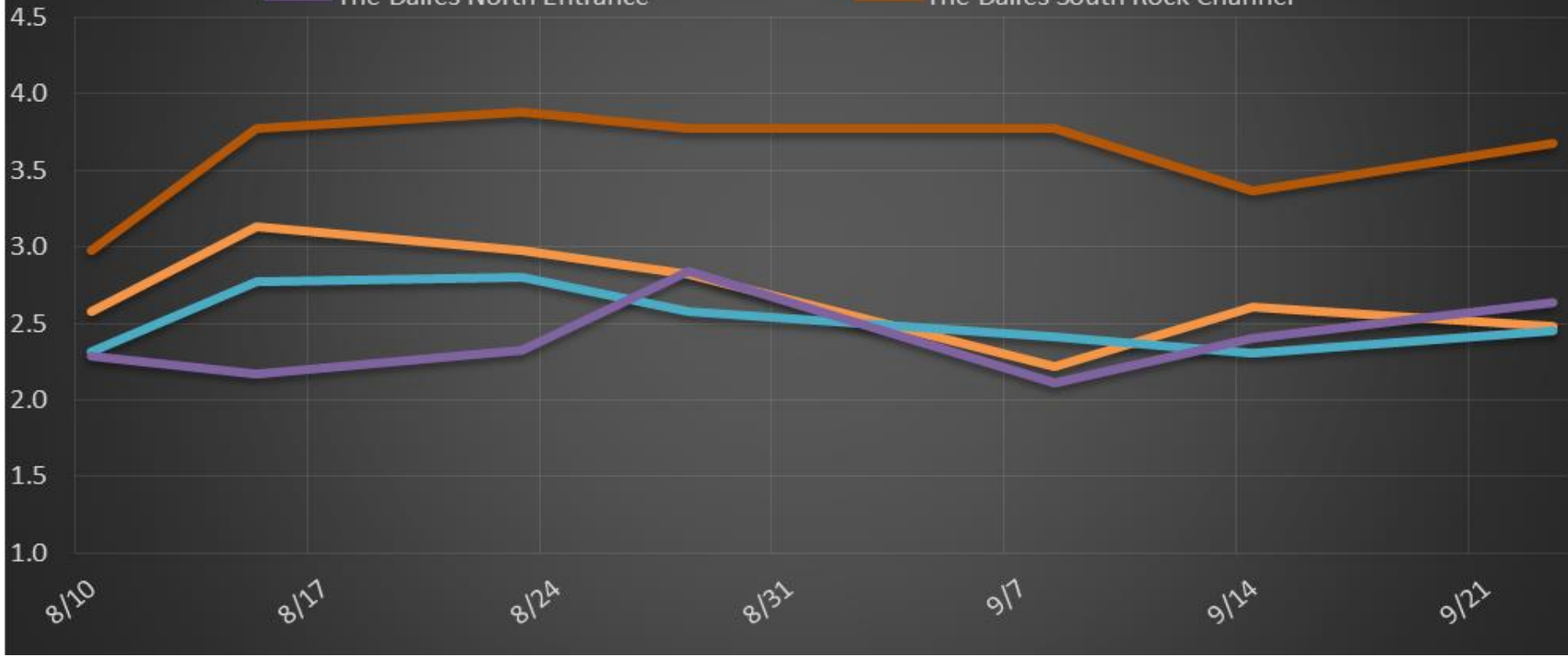
Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
9/17	1199	1074	125	614	512	102	198	190	8	0	0	0	5
9/18	776	684	92	468	341	127	211	206	5	1	0	0	1
9/19	749	664	85	415	284	131	119	115	4	4	0	0	0
9/20	755	700	55	554	396	158	284	274	10	0	0	0	1
9/21	726	629	97	495	356	139	296	268	28	6	0	0	2
9/22	554	505	49	456	384	72	218	212	6	1	0	0	0
9/23	330	284	46	415	347	68	194	184	10	0	0	0	2
total	5089	4540	549	3417	2620	797	1520	1449	71	12	0	0	11
% North	9.4	9.5	8.9	13.1	12.9	14.1	12.5	12.9	7.5	52.2	0.0	0.0	8.3

Salmon http://www.fpc.org/environment/fcounts.asp?fr_cdy=2017&fr_cdm=9&fr_cdd=3&to_cdm=9&to_cdd=9&subbtn=salmon&op=sdaily

Lamprey http://www.fpc.org/environment/fcounts.asp?fr_cdy=2017&fr_cdm=9&fr_cdd=3&to_cdm=9&to_cdd=9&subbtn=shad+lamprey&op=sdaily

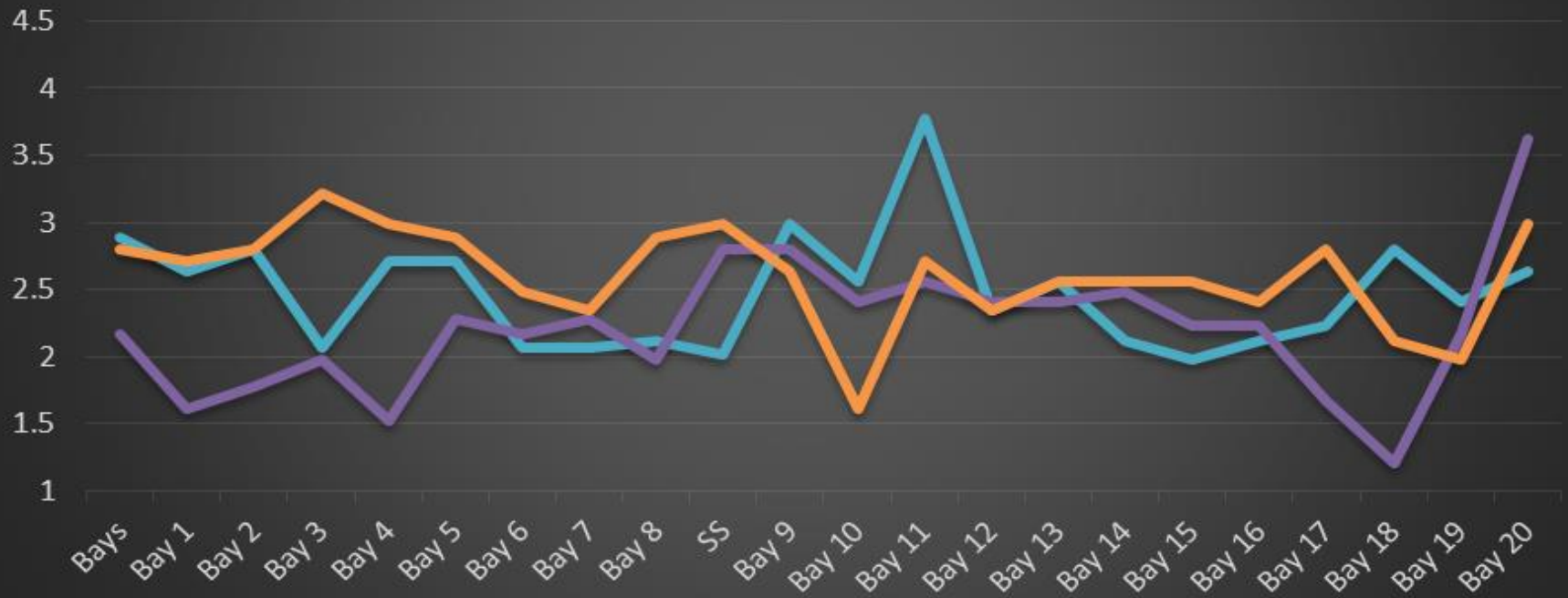
The Dalles Dam Average Velocities (In criteria 1.5 - 4.0 fps)

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



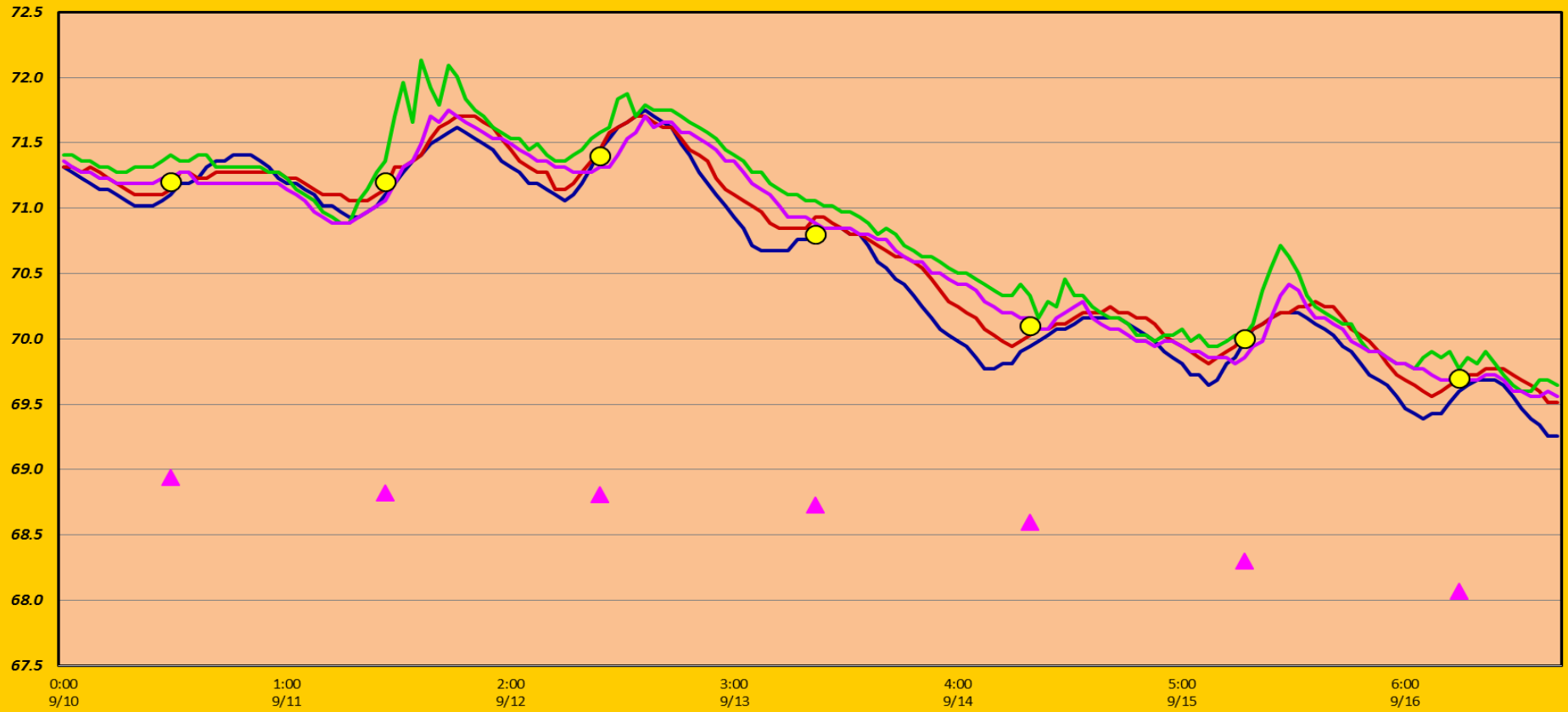
The Dalles Dam Collection Channel Velocities (In Criteria 1.5 - 4.0 fps)

23-Sep 8-Sep 14-Sep



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: <http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201709.icol.html>

Secchi:		Temperatures
9/17	5.0	Sun 69.1
9/18	5.0	Mon 68.7
9/19	5.0	Tue 68.2
9/20	5.0	Wed 67.6
9/21	5.0	Thurs 67.1
9/22	5.0	Fri 66.8
9/23	5.0	Sat 67.0
	5.0	AVG 67.8

The Dalles Dam Daily Readings and Averages for
Temperatures, Secchi, Entrances, and Spill

= Out of criteria

Date:	North Ladder		East Ladder											
	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
9/17			1.6	8.4	12.0	12.0	11.1	1.1	8.3	8.3		1.5	8.3	8.3
	1.4	9.1	1.6	8.4	12.0	12.0	11.1	1.5	8.3	8.3		1.5	8.3	8.3
	1.4	9.1	1.4	8.5	12.0	12.0	11.2	1.5	8.4	8.4		1.5	8.4	8.4
9/18			1.7	8.6	12.1	12.1	11.4	1.5	8.4	8.4		1.5	8.4	8.4
	1.4	9.1	1.6	9.0	11.9	11.9	11.1	1.5	8.3	8.3		1.5	8.3	8.3
	1.4	9.1	1.6	8.9	12.1	12.0	11.2	1.5	8.2	8.2		1.5	8.3	8.3
9/19			1.5	9.1	12.0	12.0	11.3	1.5	8.4	8.4		1.5	8.2	8.2
	1.4	9.1	1.5	8.9	12.0	12.0	11.1	1.5	8.3	8.3		1.5	8.3	8.3
	1.5	9.1	1.5	8.9	12.0	12.0	11.3	1.5	8.3	8.3		1.5	8.3	8.3
9/20			1.6	9.0	12.0	12.0	11.5	1.6	8.3	8.3		1.5	8.3	8.3
	1.4	9.1	1.6	9.0	12.0	12.0	11.5	1.6	8.3	8.3		1.5	8.3	8.3
	1.3	9.1	1.5	8.9	11.9	11.9	11.0	1.6	8.3	8.9		1.5	8.2	8.3
9/21			1.5	9.1	12.0	12.0	11.6	1.6	8.3	8.3		1.6	8.3	8.3
	1.3	9.1	1.6	8.9	12.0	12.0	11.4	1.5	8.2	8.2	1.5	8.3	8.3	
			1.6	8.9	12.0	12.0	11.4	1.5	8.2	8.2	1.6	8.3	8.3	
9/22			1.5	8.9	12.0	12.0	11.6	1.5	8.2	8.2	1.5	8.3	8.3	
	1.4	9.2	1.5	8.9	12.0	12.0	11.6	1.5	8.2	8.2	1.5	8.3	8.3	
	1.4	9.1	1.5	8.9	12.0	12.0	11.6	1.5	8.2	8.2	1.5	8.3	8.3	
9/23			1.5	9.0	11.9	11.9	10.4	1.5	8.3	8.3	1.5	8.3	8.3	
	1.4	9.0	1.4	9.1	11.0	11.0	11.5	1.5	8.3	8.3	1.4	8.4	8.3	
	1.3	9.2	1.4	9.1	12.1	12.0	10.5	1.5	8.2	8.3	1.5	8.2	8.2	
AVG:	1.4	9.1	1.5	NO CRITERIA	12.0	11.9	11.2	1.5	8.3	8.3	NO CRITERIA	1.5	8.3	8.3

Fishways are inspected twice daily plus one SCADA inspection.



Two furthest downstream
lines replace



3rd line installed