

The Dalles Dam Fishway Status Report

09/30/18

Inspection Period: September 23 - 29, 2018

THE DALLES DAM



US Army Corps
of Engineers
Portland District

The Dalles Project-Fisheries
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The Dalles Dam	Inspections Out of Criteria	Criteria Limit	Total Number of Inspections:	21	Temperature:	65.3 °F
			Comments	Aquatic weeds abound on racks	Secchi:	5.4 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')	9.9			
Entrance weir N2	0	Closed				
PUD Intake differential	1	≤ 0.5'				excessive aquatic weeds requiring frequent raking
EAST FISHWAY						
Exit differential	0	≤ 0.5'				
Removable weirs 154-157	0	Per forebay				
Weir 158-159 differential	0	1.0' ± 0.1'				
Count station differential	0	≤ 0.3'				
153 Weir crest depth	0	1.0' ± 0.1'	>1.1'			
Junction pool weir JP6	0	0.0				
East entrance differential	0	1.0' - 2.0'	1.5			
Entrance weir E1	0	No criteria				
Entrance weir E2	0	depth (≥ 8')	13.3			
Entrance weir E3	0	depth (≥ 8')	13.4			
Collection channel velocity	0	1.5 - 4 fps	2.33 fps	Range: MU11, 1.87 fps to MU 17, 2.61fps		
Transportation channel velocity	0	1.5 - 4 fps	2.88 fps			
North channel velocity	0	1.5 - 4 fps	3.06 fps			
South channel velocity	0	1.5 - 4 fps	3.42 fps			
West entrance differential	0	1.0' - 2.0'	1.5			
Entrance weir W1	0	depth (≥ 8')	8.6			
Entrance weir W2	0	depth (≥ 8')	8.6			
Entrance weir W3	0	No criteria				
South entrance differential	0	1.0' - 2.0'	1.4			
Entrance weir S1	0	depth (≥ 8')	8.3			
Entrance weir S2	0	depth (≥ 8')	8.3			
JUVENILE PASSAGE						
Sluiceway operation	0	Units 1, 21	3-1,3-2, 3-3,8-1,8-3, 18-2 and endgate open			
Turbine trashrack drawdown	0	<1.5', biweekly				
Spill volume/pattern	0	None				
Turbine Unit Priority	0	per FPP				
Turbine 1% Efficiency	0	per FPP				

OTHER ISSUES:

Birds and Sea lions:

Spillway line grid ready for next season. Still determining plan for west powerhouse grid induced voltage issue.
Refer to avian count tab for bird activity.

Operation:

North and east adult fishways in full operation
Sluiceway open with 6 sluiceway operation (1, 8 & 18)

Current Outages;

MU5 forced OOS blade seals. RTS 1/21/2018
MU13 and MU14 OOS for line 5 outage relating to T8 transformer replace. RTS 9/10/2019
MU15 OOS transformer replacement. RTS 11/01/2018
MU16 OOS transformer replacement. RTS 6/29/2019

Maintenance

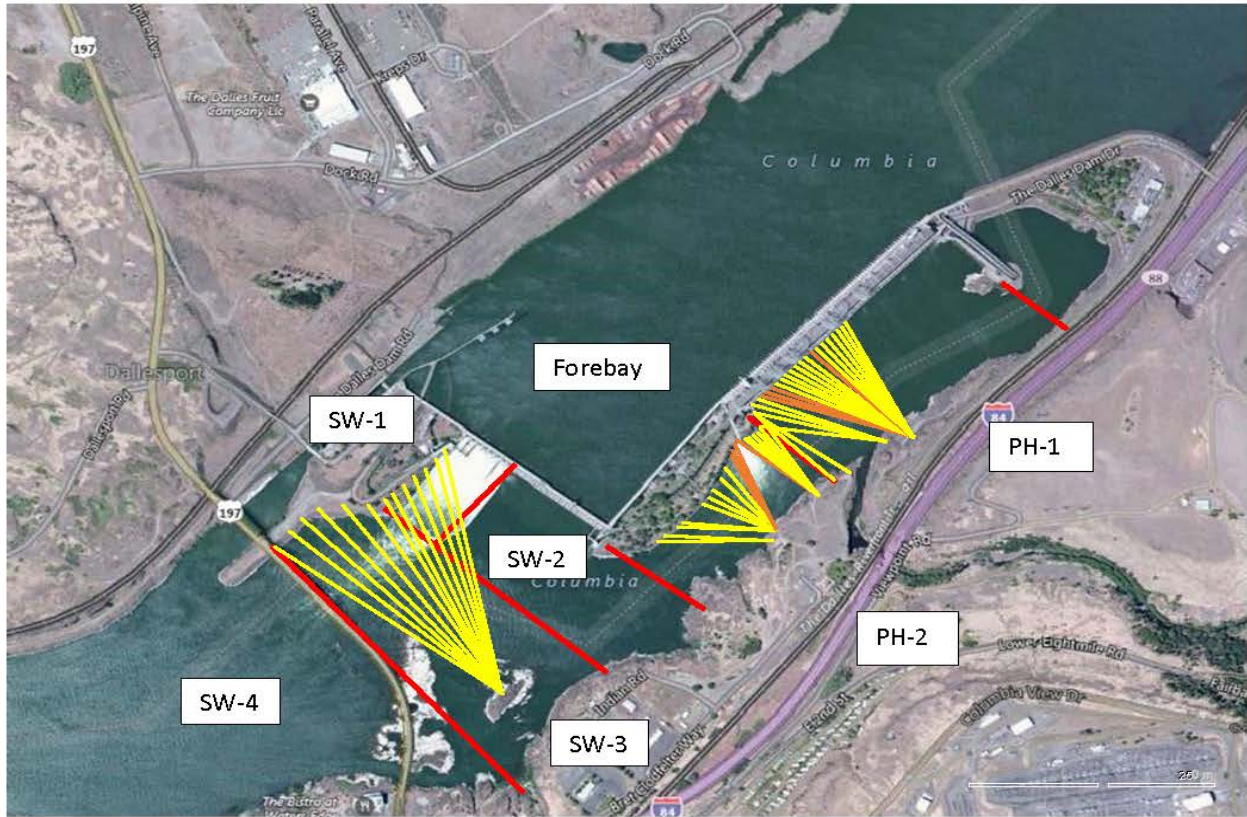
East count station brush out of service, TDE awaiting parts. Requires manual cleaning.
Rebuilding spare gearboxes for entrance and exit weirs.
Collection channel dewatering pumps 3 and 4 rehab continues. Pump 4 requires pump/motor replacement. RTS by 12/1/18.
Planning 154 -157 rehab/weir wheel replace next winter. Wheel material ordered.
Diffuser valve rehab beyond project maintenance capability. Exploring options.
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. Comprehensive spillway assessment review underway.

Research/Construction/Contractors:

Lower Columbia River Forebay Temperature Monitoring – Underway
AWS construction - Commissioning test potentially done with last flow test.
PSMFC weekly sampling completed for the North Wasco County PUD's. New sample collection tank design in review.
PITAGS North and east fishladder data collection at count stations continues.
Fish Counters - Ongoing.
Pikeminnow dam angling- Continues. Bass/walleye bycatch release being discussed at FPOM
ODFW monthly fishway inspections continue. No problems reported.
Lamprey minor mods - Rounded entrance weir caps installed south, west, north entrances. Spare weir completed ~8/1. East weir complete next winter.
Univ of Idaho lamprey radiotelemetry track underway. Night flow reduction for research on improved lamprey passage completed
Lamprey trapping by tribes completed, awaiting final numbers.
Fish unit breaker replace.- Prep work in progress. Installation 12/1/18 - 1/14/19.
Fish unit rehab - Development plan continues. Alternatives in review. Exploring potential use of AWS backup with single fish unit during construction period.
Transformer replacement - Install T8 underway (units 15 and 16). Sequence schedule modified from original

Approved by: Ron Twiner

Operation Project Manager The Dalles Dam



Red lines = avian zones

Yellow lines = current wires

Orange lines = down or missing wires

2018 Piscivorous Bird Counts

F=foraging, NF=non-foraging

Date	Observer	AM/PM	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			
9/23	CEA	AM	FB	0	0	0	34	0	0	0	0	0	0	0	0	0	34	COME sunny, windy OSPREY
			PH1	0	1	12	0	0	0	0	0	0	0	0	0	2	15	
			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	1	2	0	0	0	0	0	0	0	0	0	0	3	
			SW3	0	0	0	21	0	0	0	0	0	0	0	0	0	21	
9/24	bc	PM	FB	0	0	1	2	0	0	0	0	0	0	0	0	0	3	sun, no wind
			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	13	0	0	0	0	0	0	0	0	0	13	
9/25	JWR	AM	FB	0	0	0	9	0	0	0	0	0	0	0	0	0	9	COME
			PH1	0	0	1	1	0	0	0	0	0	0	0	0	0	2	
			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	2	34	0	0	0	0	0	0	0	0	3	39	
9/26	JED	PM	FB	0	0	5	25	0	0	5	0	0	0	1	0	36	GBHE COME Sunny, hot and calm.	
			PH1	1	1	3	22	0	0	0	0	0	0	2	0	29		
			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	0	0	0	0	0	0	0	0	0	0	0	0	0		
			SW3	0	2	0	12	0	0	0	0	0	0	0	0	0		14
9/27	JWR	AM	FB	0	0	0	76	0	0	0	0	0	0	0	0	76		
			PH1	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		
			SW1	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	1		
			SW3	0	0	3	22	0	0	0	0	0	0	0	0	0		25
9/28	JED	PM	FB	0	1	2	19	0	0	6	0	0	0	0	0	28	HOT, SUNNY, CALM	
			PH1	0	0	2	25	0	0	0	0	0	0	0	0	27		
			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	1	0	1	0	0	0	0	0	0	0	0	0	2		
			SW3	2	0	2	27	0	0	0	0	0	0	0	0	0		31
9/29	JED	AM	FB	0	9	2	5	0	0	0	0	0	0	1	0	17-Jan-00	LOON overcast, cool, 2mph GBHE	
			PH1	0	0	5	1	0	0	0	0	0	0	0	0	6-Jan-00		
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0-Jan-00		
			SW1	0	0	0	2	0	0	0	0	0	0	0	0	2-Jan-00		
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0-Jan-00		
			SW3	0	0	1	25	0	0	0	0	0	0	0	1	27-Jan-00		

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

The Dalles East

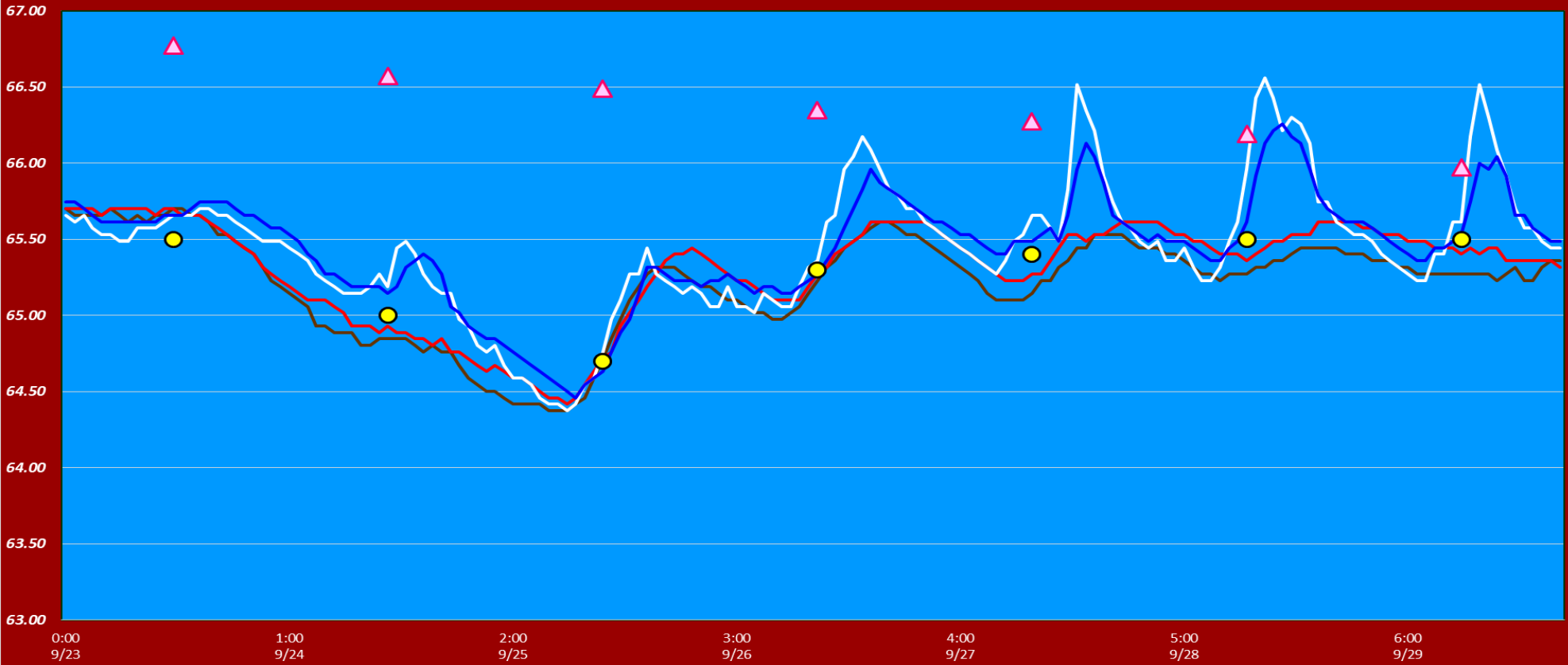
Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
9/23	5157	4156	1001	1608	1261	347	751	698	53	2	0	0	10
9/24	4313	3683	630	1731	1309	422	450	401	49	0	0	0	2
9/25	4211	3424	787	1585	1237	348	542	481	61	0	0	0	4
9/26	4603	3973	630	1426	1114	312	342	320	22	0	0	0	1
9/27	2500	1932	568	1158	900	258	304	276	28	0	0	0	-1
9/28	1764	1380	384	1110	851	259	339	275	64	0	0	0	0
9/29	1101	833	268	813	575	238	188	182	6	1	0	0	0
total	23649	19381	4268	9431	7247	2184	2916	2633	283	3	0	0	16

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
9/23	147	92	55	199	161	38	38	28	10	5	0	0	2
9/24	166	113	53	215	160	55	39	28	11	0	0	0	1
9/25	104	80	24	96	78	18	20	14	6	0	0	0	0
9/26	60	44	16	107	85	22	6	4	2	0	0	0	1
9/27	94	66	28	62	50	12	24	13	11	0	0	0	0
9/28	42	22	20	58	48	10	21	19	2	0	0	0	1
9/29	48	31	17	79	65	14	20	16	4	0	0	0	-1
total	661	448	213	816	647	169	168	122	46	5	0	0	4
% North	2.7	2.3	4.8	8.0	8.2	7.2	5.4	4.4	14.0	62.5	#DIV/0!	#DIV/0!	20.0

The Dalles Dam Adult Fish Ladder(s) River Temperatures

— East Count Station — South Entrance — North Count Station — North Entrance ● Current USGS Daily Average ▲ USGS Daily Average (2007-2017)



USGS: [USGS River Temp September](#)

	Secchi:		Temperatures
9/23	6.0	Sun	65.5
9/24	6.0	Mon	65.0
9/25	5.0	Tue	64.7
9/26	5.0	Wed	65.3
9/27	5.0	Thurs	65.4
9/28	5.0	Fri	65.5
9/29	6.0	Sat	65.5
	5.4	AVG	65.3

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

SCADA INSPECTION
= Out of criteria

Date:	North Ladder			East Ladder										
	North Entrance		Differential	East Entrance			West Entrance			South Entrance				
	Differential	N1 Depth		E1 Depth	E2 Depth	E3 Depth	JP 6	Differential	W1 Depth	W2 Depth	W3 Depth	Differential	S1 Depth	S2 Depth
9/23			1.6		13.0	13.0	12.5	1.4	8.8	8.8		1.4	8.3	8.2
	1.3	10.5	1.5		13.0	13.1	11.0	1.4	8.7	8.7		1.5	8.2	8.3
	1.3	10.5	1.4		13.1	13.2	12.3	1.4	8.7	8.7		1.3	8.3	8.4
9/24			1.5		12.9	12.9	10.5	1.4	8.7	8.7		1.3	8.5	8.5
	1.2	10.5	1.3		13.0	13.0	BC	1.5	8.6	8.5		1.3	8.4	8.3
	1.3	10.5	1.3		13.1	13.2	BC	1.3	8.7	8.7		1.4	8.3	8.4
9/25			1.3		13.5	13.5	10.7	1.2	8.4	8.4		1.1	8.3	8.3
	1.3	10.4	1.5		13.5	13.5	11.5	1.5	8.5	8.5		1.5	8.2	8.2
	1.3	10.7	1.6		13.6	13.6	11.8	1.5	8.6	8.6		1.4	8.4	8.3
9/26			1.3		13.5	13.5	11.2	1.5	8.6	8.6		1.4	8.3	8.3
	1.2	10.6	1.5		13.6	13.6	10.9	1.6	8.3	8.3		1.5	8.2	8.2
	1.4	9.1	1.5		13.5	13.5	11.0	1.4	8.6	8.6		1.4	8.3	8.4
9/27			1.6		13.5	13.5	10.8	1.5	8.6	8.6		1.3	8.4	8.4
	1.4	9.1	1.6		13.5	13.5	10.8	1.5	8.6	8.6		1.4	8.4	8.4
	1.4	9.1	1.5		13.6	13.6	11.1	1.5	8.6	8.6		1.5	8.2	8.2
9/28			1.3		13.0	14.7	11.2	1.5	8.6	8.6		1.4	8.3	8.3
	1.3	9.2	1.4		13.6	13.5	10.8	1.6	8.5	8.4		1.4	8.3	8.2
9/29			1.5		13.5	13.4	10.3	1.5	8.5	8.5		1.4	8.3	8.4
	1.3	9.2	1.7		13.1	13.4	9.7	1.4	8.6	8.6		1.4	8.3	8.2
	1.4	9.2	1.6		13.0	13.5	10.1	1.5	8.5	8.4		1.4	8.3	8.3
AVG:	1.3	9.9	1.5		13.3	13.4	11.0	1.5	8.6	8.6		1.4	8.3	8.3

Fishways are inspected twice daily plus one SCADA inspection.