

The Dalles Dam Fishway Status Report

7/21/2018

Inspection Period: 7/15/2018-7/20/2018

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:	69.2 °F
			Comments	conditions ok	Secchi:	5.1 feet
NORTH FISHWAY						
Exit differential	0	≤ 0.5'				
Count station differential	0	≤ 0.3'				
Weir crest depth	0	1.0' ± 0.1'			Decreased from 1.3' to 1.0'. Due to end of shad run.	
Entrance differential	0	1.0' - 2.0'		1.4		
Entrance weir N1	0	depth (≥ 8')		10.8		
Entrance weir N2	0	Closed				
PUD Intake differential	0	≤ 0.5'		0		
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'			Water depth over ladder weirs reduced due to end of shad run.	
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')		12.8		
Entrance weir E3	0	depth (≥ 8')		12.7		
Collection channel velocity	0	1.5 - 4 fps	2.15 fps	Range: MU 22, 3.91 fps to MU4, 1.48 fps		
Transportation channel velocity	0	1.5 - 4 fps	NA fps			
North channel velocity	0	1.5 - 4 fps	1.81 fps			
South channel velocity	0	1.5 - 4 fps	3.12 fps			
West entrance differential	0	1.0' - 2.0'		1.5		
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'		1.4		
Entrance weir S1	0	depth (≥ 8')		8.3		
Entrance weir S2	0	depth (≥ 8')		8.3		
JUVENILE PASSAGE						
Sluicgate operation	0	Units 1, 21	1-1,1-2, 1-3,8-1,8-3, 18-2 and endgate open			
Turbine trashrack drawdown	0	<1.5', biwkly	Small numbers of juvenile salmon and mature shad present in gatewells.			
Spill volume/pattern	0	None				
Turbine Unit Priority	0	per FPP				
Turbine 1% Efficiency	0	per FPP				

OTHER ISSUES:

Birds and Sea lions:

USDA shore hazing continues, boat hazing finished. Approx 250 gulls on islands downstream with small numbers feeding. Few pelicans appear remain in area.

USDA planning site visit 7/19 for installation of additional spillway avian lines

California Sea Lion hazed away from sluiceway discharge plume on 7/19 at 11am.

Inspection Period: 7/15/2018-7/21/2018

North and east adult fishways in full operation. North and east ladder adjusted to 1.0' as shad passage diminished.

Night flow reduction at east fishway entrances for lamprey research continues. Fsh unit flow reduction no longer necessary. Twelve of 19 test nights completed.

Sluiceway open with 6 sluiceway operation (1, 8 and 18)

Current Outages;

MU5 forced OOS for gov oil problem. RTS 1/21/2018

MU15 forced OOS transformer replacement. RTS 10/01/2018

MU16 forced OOS transformer replacement. RTS 6/29/2019

MU 19 OOS for overhaul. RTS 9/7/2018

MU20 OOS for annual. RTS 9/7/2018

Maintenance

Rebuilding spare gearboxes for entrance and exit weirs.

East exit oil boom - Fabrication underway. Install Aug7. Low forebay requested.

Collection channel dewatering pumps 3 and 4 rehab in progress. Pump 4 requires pump/motor replacement.

Wheel replacement on N1 spare weir in progress.

Planning 154 -157 rehab/weir wheel replace next winter. Wheel material ordered.

Planning start on diffuser valve rehab next winter. Multiple year job.

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. Plan for comprehensive spillway assessment.

Research/Construction/Contractors:

Lower Columbia River Forebay Temperature Monitoring – Underway

AWS construction - Full flow test night of Aug6. Commissioning test date TBD.

PSMFC weekly sampling completed for the North Wasco County PUD's. No concerns. New sample collection tank design in review.

PITAGS North and east fishladder data collection at count stations continues.

Fish Counters - Ongoing.

Pikeminnow dam angling- Week 28 7/16-7/22 50 caught, 1,395 YTD

Non native (bass and walleye) bycatch release by WDFW continues. FPOM discussion continues.

ODFW monthly fishway inspections continue. No problems reported.

Lamprey minor mods - Rounded entrance weir caps installed south, west, north entrances. Spare weir to be completed this FY. East weir complete next winter.

Univ of Idaho lamprey radiotelemetry track underway. Night flow reduction done for research on improved lamprey passage.

Lamprey trapping by tribes to continue at east count station within picket leads. Catch target 1056 lamprey per tribe.

Fish unit breaker replace.- Prep work in progress. Installation delayed to next winter outage.

Fish unit rehab - Development plan continues. Alternatives in review. Investigating fishway criteria implications expected 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

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		
7/15	CEA	AM	FB	28	0	6	86	0	0	0	0	0	0	0	0	120	1 GBHE, 1 Osprey sunny, calm, warm hazing
			PH1	0	0	1	4	0	0	0	0	0	0	0	2	7	
			PH2	0	0	1	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	0	0	2	0	0	0	0	0	0	0	0	0	2	
			SW3	12	42	0	0	0	0	0	0	9	15	0	0	78	
7/16	JWR	PM	FB	0	16	4	67	0	0	0	0	0	0	0	0	87	no pelicans
			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	0	0	0	0	0	0	0	0	0	0	0	
			SW3	1	10	0	0	0	0	0	0	0	0	0	0	11	
7/17	JWR	AM	FB	0	20	4	76	0	0	0	0	0	0	0	0	100	sunny, warm, calm
			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	0	0	0	0	0	0	0	0	0	0	0	
			SW3	1	7	0	0	0	0	0	0	10	0	0	0	18	
7/18	JED	PM	FB	15	0	5	53	0	0	0	0	0	0	0	0	73	sunny, warm, windy
			PH1	0	0	3	0	0	0	0	0	0	0	0	0	3	
			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	15	0	2	0	0	0	0	0	0	0	0	0	17	
7/19	JED	AM	FB	2	0	1	52	0	0	0	0	0	0	0	0	55	Foraging DCCO at north exit. sunny, warm, windy
			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	0	0	0	0	0	0	0	0	0	0	0	
			SW3	25	4	3	0	0	0	0	0	0	0	0	0	32	
7/20	JED	PM	FB	0	0	10	47	0	0	0	0	0	0	0	0	57	3 at north exit, 10 at east sunny, warm, windy
			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	0	0	0	0	0	0	0	0	0	0	0	
			SW3	5	20	7	0	0	0	0	0	0	0	0	0	32	
7/21	JED	AM	FB	0	0	2	72	0	0	0	0	0	0	0	0	74	3 GBHE in east ladder.AM east sunny, warm, breezy
			PH1	0	0	2	0	0	0	0	0	0	0	0	0	2	
			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	2	0	0	0	0	0	0	0	0	0	0	0	2	
			SW3	21	30	1	3	0	0	0	0	1	0	0	0	56	
SW4	10	400	0	0	0	0	0	0	0	40	0	0	450				

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
7/15/18	366	338	28	298	158	140	0	0	0	352	0	0	49
7/16/18	432	385	47	357	218	139	0	0	0	382	0	0	102
7/17/18	320	295	25	318	173	145	0	0	0	230	0	0	89
7/18/18	276	251	25	233	112	121	0	0	0	215	0	0	101
7/19/18	246	215	31	304	182	122	0	0	0	173	0	0	32
7/20/18	193	173	20	251	125	126	0	0	0	140	0	0	95
7/21/18	167	150	17	206	138	68	0	0	0	133	0	0	50
total	2000	1807	193	1967	1106	861	0	0	0	1625	0	0	518

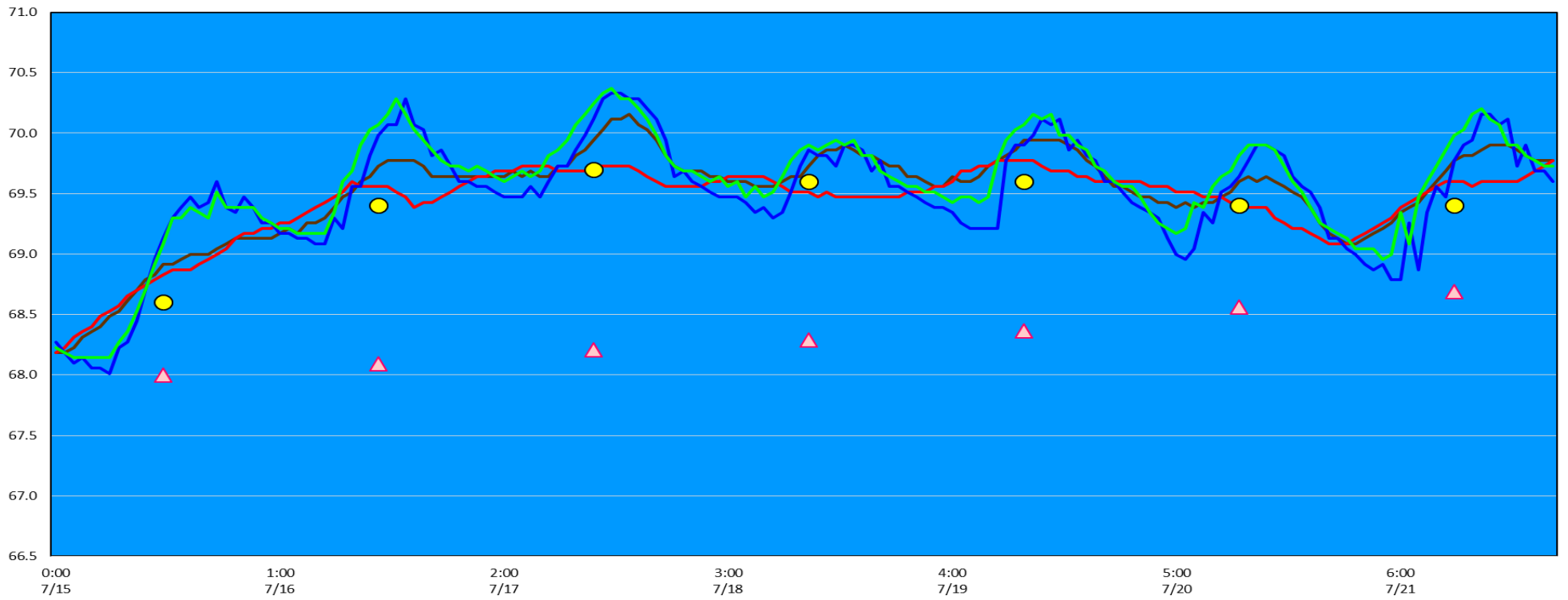
The Dalles North

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
7/15/18	120	104	16	138	68	70	0	0	0	382	0	0	52
7/16/18	92	88	4	86	31	55	0	0	0	150	0	0	42
7/17/18	79	77	2	92	36	56	0	0	0	151	0	0	40
7/18/18	128	124	4	157	89	68	0	0	0	198	0	0	30
7/19/18	68	66	2	131	72	59	0	0	0	186	0	0	74
7/20/18	81	67	14	111	58	53	0	0	0	151	0	0	70
7/21/18	75	73	2	117	49	68	0	0	0	109	0	0	35
total	643	599	44	832	403	429	0	0	0	1327	0	0	343
% North	24.3	24.9	18.6	29.7	26.7	33.3	0.0	0.0	0.0	45.0	0.0	0.0	39.8

Fish Counts

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 July](#)

	Secchi:		Temperatures
7/15	5.5	Sun	68.6
7/16	5.0	Mon	69.4
7/17	5.0	Tue	69.7
7/18	5.0	Wed	69.6
7/19	4.0	Thurs	69.6
7/20	5.5	Fri	69.4
7/21	6.0	Sat	69.4
	5.1	AVG	69.4

Lamprey study= reduced velocity overnight

SCADA INSPECTION

= Out of criteria

The Dalles Dam Daily Readings and Averages for

Temperatures, Secchi, Entrances, and Spill

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		
7/15			1.2		13.1	13.1	9.8	1.3	8.4	8.4		1.3	8.3	8.3		
	1.5	9.6	1.3		12.5	12.4	10.1	1.4	8.2	8.2		1.4	8.2	8.2		
	1.4	10.8	1.5		12.6	12.5	10.6	1.5	8.3	8.3		1.4	8.3	8.3		
7/16			1.6		12.5	12.5	10.4	1.4	8.4	8.4		1.3	8.30	8.3		
	1.3	10.8	1.6		12.6	12.6	11.5	1.6	8.6	8.6		1.4	8.4	8.4		
	1.4	10.7	1.5		12.5	12.5	10.9	1.5	8.3	8.3		1.4	8.2	8.2		
7/17			1.1		12.6	12.6	9.4	1.3	8.4	8.4		1.3	8.3	8.3		
	1.3	11.0	1.5		12.4	12.4	9.2	1.4	8.3	8.3		1.3	8.3	8.3		
	1.4	11.0	1.7		12.6	12.5	12.3	1.6	8.3	8.3		1.5	8.3	8.3		
7/18																
	1.3	10.9	1.6		12.3	12.3	10.2	1.4	8.4	8.4		1.4	8.2	8.2		
	1.4	10.9	1.5		12.6	12.6	10.3	1.4	8.6	8.6		1.4	8.3	8.3		
7/19			1.8		12.5	12.5	11.3	1.6	8.4	8.4		1.4	8.4	8.4		
	1.4	11.0	1.6		13.0	13.0	11.7	1.5	8.6	8.6		1.4	8.3	8.4		
	1.3	11.1	1.5		13.0	13.0	11.9	1.5	8.5	8.5		1.5	8.3	8.3		
7/20			1.2	13.1	13.1	10.3	1.4	8.5	8.5	1.3	8.4	8.4				
	1.3	10.9	1.5	13.0	13.0	10.2	1.4	8.6	8.6	1.4	8.4	8.4				
	1.3	11.0	1.5	13.0	13.2	11.3	1.5	8.6	8.6	1.5	8.3	8.4				
7/21			1.6	13.1	13.1	11.4	1.5	8.6	8.6	1.4	8.3	8.3				
	1.4	11.0	1.6	13.0	13.0	11.7	1.5	8.5	8.5	1.4	8.3	8.3				
	1.3	10.9	1.6	13.0	13.0	12.1	1.5	8.6	8.6	1.5	8.3	8.3				
AVG:	1.4	10.8	1.5		12.75	12.75	10.8	1.5	8.5	8.5		1.4	8.3	8.3		

Fishways are inspected twice daily plus one SCADA inspection.