

The Dalles Dam Fishway Status Report

7/29/2018

Inspection Period: 7/22/2018-7/28/2018

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: Comments	Temperature: Secchi:
			21 conditions ok	70.8 °F 5.5 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')	10.9	
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'		
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')	12.5	
Entrance weir E3	0	depth (≥ 8')	12.5	
Collection channel velocity	0	1.5 - 4 fps	2.28 fps	Range: MU 2, 2.69 fps to MU12, 2 fps
Transportation channel velocity	0	1.5 - 4 fps	2.68 fps	
North channel velocity	0	1.5 - 4 fps	2.6 fps	
South channel velocity	0	1.5 - 4 fps	3.99 fps	
West entrance differential	0	1.0' - 2.0'	1.3	
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'	1.3	
Entrance weir S1	0	depth (≥ 8')	8.5	
Entrance weir S2	0	depth (≥ 8')	8.5	
JUVENILE PASSAGE				
Sluicelgate 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. Lighter numbers of gulls and pelicans present and foraging. Juvenile gulls becoming the majority
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.

Fishway operations

North and east adult fishways in full operation
Night flow reduction at east fishway entrances for lamprey research continues. 13 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

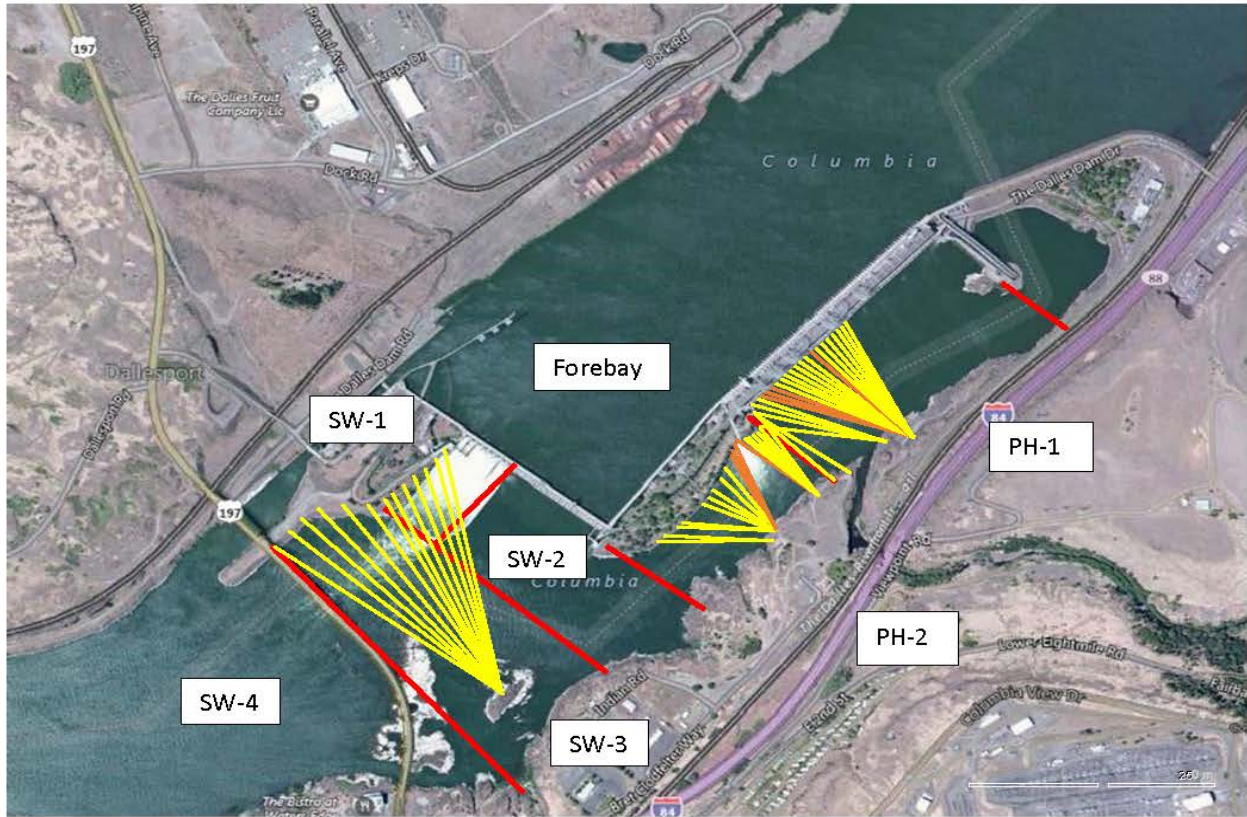
Maintenance

East count station brush oos, TDE to repair. Hand brush in meantime
Rebuilding spare gearboxes for entrance and exit weirs.
East exit oil boom - Fabrication underway. Install Aug7. Forebay level OK'd for 157.0' via RCC.
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 Aug 6. 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 30 7/23-7/29 58 caught, 1,453 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



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				
7/22	JED	PM	FB	3	15	6	151	0	0	0	0	0	0	0	0	0	175	GBHE sunny, warm, calm	
			PH1	0	0	0	0	0	0	0	0	0	0	0	2	0	2		
			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	1	0	6	0	0	0	0	0	0	0	0	0	0		7
SW4	0	145	0	4	0	0	0	0	0	11	53	0	0	0	213				
7/23	BC	AM	FB	0	0	7	35	0	0	0	0	0	0	0	0	0	42	sun calm hot sweaty	
			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	6	16	1	0	0	0	0	0	0	5	0	0	0	28		
SW4	0	0	0	0	0	0	0	0	0	0	9	0	0	9					
7/24	CEA	PM	FB	33	0	3	43	0	0	0	0	0	0	0	0	0	79	low bird activity sunny, hot, breezy	
			PH1	0	0	2	1	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		
			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		
SW4	0	0	2	4	0	0	0	0	0	0	0	0	0	0	6				
7/25	JWR	AM	FB	0	0	2	64	0	0	0	0	0	0	0	0	0	66	157 DCCO NF at 2000 W3 10 Pelicans NF at 2000 W4	
			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	7	2	1	0	0	0	0	0	0	10	3	0	0	23		
SW4	12	144	0	0	0	0	0	0	0	0	7	0	0	163					
7/26	JED	PM	FB	3	0	26	70	0	0	0	0	0	0	0	0	0	99	count taken at 1830 SUNNY, COOL, light wind no pelicans at 1830	
			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		
SW4	3	20	0	0	0	0	0	0	0	0	0	0	0	23					
7/27	JED	AM	FB	11	0	11	91	0	0	0	0	0	0	0	0	0	113	sunny, warm, light wind	
			PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			PH2	0	0	1	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	0		
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			SW3	2	0	4	0	0	0	0	0	0	18	0	0	0	24		
SW4	0	260	0	0	0	0	0	0	0	15	62	0	0	337					
7/28	CEA	PM	FB	5	6	2	61	0	0	0	0	0	0	0	0	74	sunny, hot, breezy low bird activity		
			PH1	0	0	7	5	0	0	0	0	0	0	0	0	0		12	
			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	1	0	0	0	0	0	0	0	0	0	0		1	
			SW3	0	0	0	0	0	0	0	0	0	0	0	0	0		0	
SW4	10	25	0	0	0	0	0	0	0	4	44	0	0	83					

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
7/22/18	243	217	26	254	130	124	0	0	0	88	0	0	48
7/23/18	330	283	47	287	196	91	0	0	0	156	0	0	76
7/24/18	309	265	44	323	162	161	0	0	0	236	0	0	150
7/25/18	285	248	37	268	140	128	0	0	0	170	0	0	200
7/26/18	273	251	22	196	102	94	0	0	0	151	0	0	59
7/27/18	191	160	31	229	113	116	0	0	0	90	0	0	92
7/28/18	188	158	30	258	127	131	0	0	0	97	0	0	134
total	1819	1582	237	1815	970	845	0	0	0	988	0	0	759

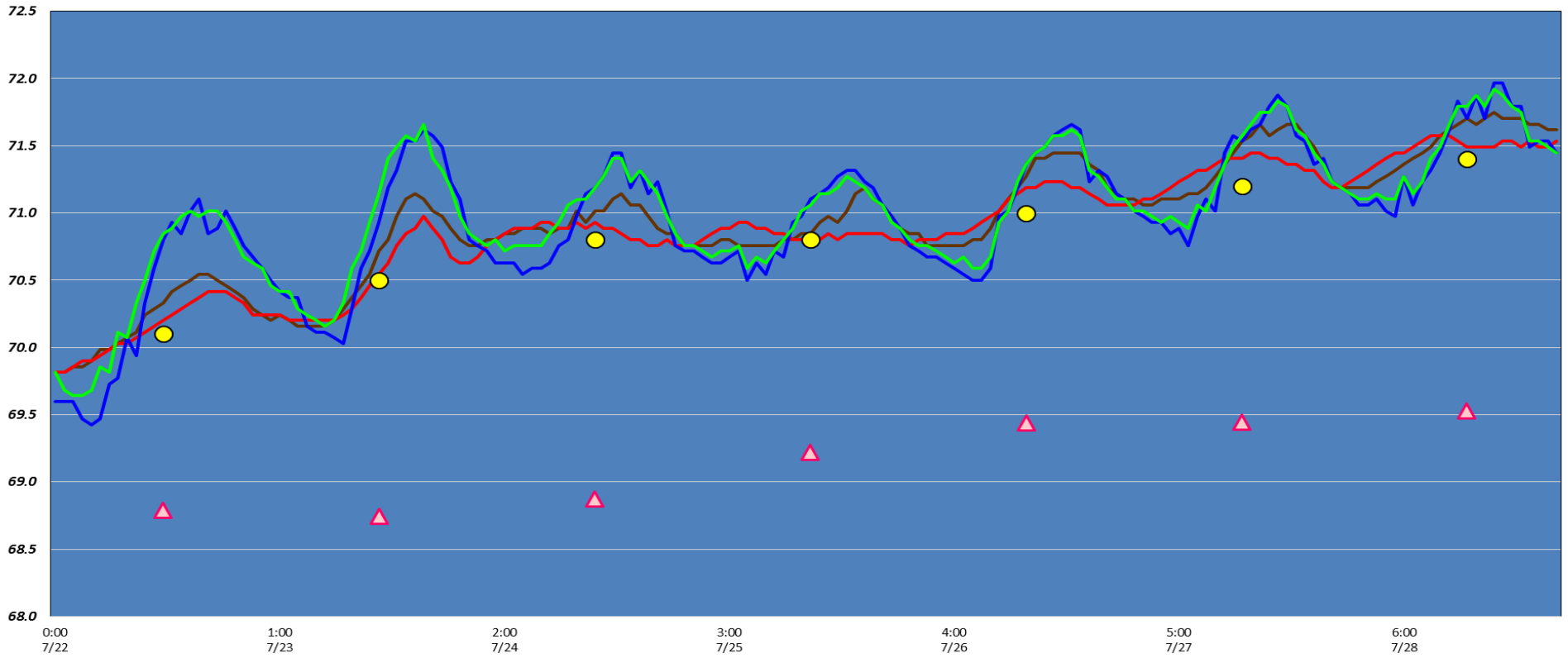
The Dalles North

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
7/22/18	47	41	6	99	49	50	0	0	0	124	0	0	12
7/23/18	76	72	4	105	40	65	0	0	0	97	0	0	12
7/24/18	35	29	6	76	40	36	0	0	0	92	0	0	38
7/25/18	55	54	1	73	31	42	0	0	0	89	0	0	25
7/26/18	34	30	4	65	34	31	0	0	0	56	0	0	24
7/27/18	48	46	2	95	31	64	0	0	0	56	0	0	16
7/28/18	67	62	5	134	50	84	0	0	0	66	0	0	28
total	362	334	28	647	275	372	0	0	0	580	0	0	155
% North	16.6	17.4	10.6	26.3	22.1	30.6	0.0	0.0	0.0	37.0	0.0	0.0	17.0

<http://www.fpc.org/environment/home.asp>

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:	Temperatures
7/22	5.0	Sun	70.1
7/23	5.0	Mon	70.5
7/24	5.0	Tue	70.8
7/25	5.0	Wed	70.8
7/26	5.0	Thurs	71.0
7/27	6.0	Fri	71.2
7/28	6.0	Sat	71.4
	5.3	AVG	70.8

[USGS river temp July](#)

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
7/22			1.6		12.8	12.8	9.5	1.3	8.6	8.6		1.4	8.3	8.3
	1.3	11.0	1.5		12.9	13.0	9.3	1.4	8.6	8.6		1.3	8.2	8.3
	1.2	11.0	1.5		13.0	13.0	9.3	1.3	8.6	8.6		1.4	8.3	8.2
7/23			1.6		12.9	12.3	8.6	1.2	8.5	8.5		1.3	8.4	8.4
	1.2	10.9	1.8		12.9	12.1	8.4	1.1	8.6	8.5		1.3	8.3	8.3
	1.4	11.0	1.4		13.0	13.0	10.8	1.5	8.4	8.6		1.4	8.3	8.4
7/24			1.4		12.9	12.9	9.4	1.3	8.5	8.5		1.4	8.3	8.3
	1.2	11.0	1.4		12.6	12.4	9.3	1.3	8.5	8.4		1.3	8.3	8.3
	1.4	10.9	1.6		12.4	12.4	12.5	1.5	8.6	8.6		1.5	8.3	8.3
7/25			0.7		13.4	13.4	9.8	0.6	9.8	9.8		0.6	11.0	11.0
	1.3	10.9	1.6		11.5	11.5	8.1	1.1	8.4	8.4		1.2	8.3	8.3
	1.4	10.8	1.6		11.5	11.6	10.1	1.4	8.3	8.3		1.3	8.3	8.3
7/26			1.0		12.7	12.7	9.0	0.8	9.0	9.0		0.8	10.4	10.4
	1.3	11.0	1.5		12.0	12.0	9.9	1.3	8.5	8.5		1.3	8.3	8.3
	1.3	11.0	1.6		12.0	12.0	10.1	1.5	8.3	8.3		1.3	8.4	8.4
7/27			1.4		11.9	12.0	11.3	1.2	8.8	8.8		1.4	8.1	8.1
	1.3	10.9	1.5		12.0	12.0	9.0	1.2	8.6	8.6		1.4	8.2	8.2
	1.3	10.9	1.5		12.0	12.0	9.2	1.3	8.3	8.3		1.2	8.4	8.4
7/28			1.4		13.0	13.1	10.9	1.4	8.3	8.3		1.5	8.4	8.4
	1.3	10.8	1.4		13.0	13.1	10.8	1.4	8.2	8.1		1.4	8.3	8.3
	1.4	11.0	1.6		13.1	13.0	11.1	1.4	8.3	8.3		1.4	8.4	8.4
AVG:	1.3	10.9	1.5		12.55	12.49	9.8	1.3	8.6	8.6		1.3	8.5	8.5

Fishways are inspected twice daily plus one SCADA inspection.



Lone pelican in forebay. Approaching seasonal transition