

The Dalles Dam Fishway Status Report

6/2/2018

Inspection Period: 05/27/2018-06/02/2018

THE DALLES DAM



US Army Corps
of Engineers
Portland District

The Dalles Project-Fisheries
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The Dalles Dam	Inspections	Criteria	Total Number of Inspections:		Temperature:
	Out of Criteria	Limit	Comments	Tailwater levels normal	58.7 °F
Secchi: 2.5 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')		10.7	
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	5	1.0' ± 0.1'	Low forebay level events. Weir 158 is currently at its lower limit. Maintenance adjusting limit.		
Count station differential	0	≤ 0.3'			
153 Weir crest depth	2	1.3' ± 0.1'	1.0', Low forebay level adjustment.		
Junction pool weir JP6	0	0.0			
East entrance differential	0	1.0' - 2.0'		1.6	
Entrance weir E1	0	No criteria			
Entrance weir E2	0	depth (≥ 8')		14.0	
Entrance weir E3	0	depth (≥ 8')		14.0	
Collection channel velocity	0	1.5 - 4 fps	2.14 fps	Range: Bay MU 12, 1.65 fps to MU 19/18/39, 2.53 fps	
Transportation channel velocity	0	1.5 - 4 fps	2.02 fps		
North channel velocity	0	1.5 - 4 fps	1.59 fps		
South channel velocity	0	1.5 - 4 fps	2.51fps		
West entrance differential	0	1.0' - 2.0'		1.5	
Entrance weir W1	0	depth (≥ 8')		9.7	
Entrance weir W2	0	depth (≥ 8')		9.7	
Entrance weir W3	0	No criteria			
South entrance differential	0	1.0' - 2.0'		1.6	
Entrance weir S1	0	depth (≥ 8')		8.6	
Entrance weir S2	0	depth (≥ 8')		8.6	
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', wkly			
Spill volume/pattern	0	None			
Turbine Unit Priority	0	per FPP			
Turbine 1% Efficiency	0	per FPP			

OTHER ISSUES:

Birds and Sea lions:

Large numbers of gulls foraging south of spillwall and downstream of bridge. USDA boat and shore hazing in effect.

Operations

Spillway open for fish passage. Refer to spill tab.

North and east fishways in full operation. East ladder adjusted to 1.3' for shad passage.

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

Current Outages;

MU5 forced OOS for gov oil problem. RTS 6/21/2018

MU15 forced OOS transformer replacement. RTS 8/6/2018

MU16 forced OOS transformer replacement. RTS 6/29/2018,

Maintenance

Adjusting automation timing of weir 159 due to rapid forebay changes

Rebuilding spare gearboxes for entrance and exit weirs.

East exit oil boom - new plan to connection to dam face with no anchor placement. Install planned Aug7.

Collection channel dewatering pumps 3 and 4 removed. Pump 4 requires pump/motor replacement. Plan to cycle through 2 pumps per year.

Wheels to be replaced on N1 spare weir, due to excessive wear. Closer guide inspection next winter.

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

Planning start of 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:

Tina Lundell and crew completed installation of forebay temperature strings for the "Lower Columbia River Forebay Temperature Monitoring – Phase 1 on 5/22

AWS construction - Commissioning full flow test failure Aug7, FPOM approved.

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 started first week of May. 41 caught week of may 28. Total 261 caught YTD

Non native bycatch released by WDFW crew. COE looking into retaining all by catch for diet analysis. In FPOM review.

ODFW resumed monthly fishway inspections. 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 on 6/4 and 6/5 as part of research for improved lamprey passage.

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

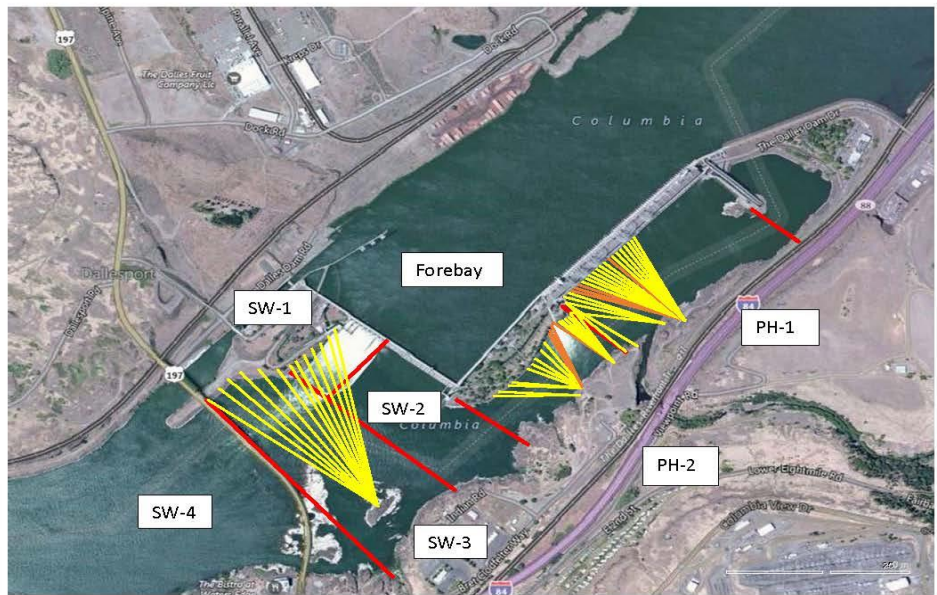
Fish unit breaker replace - Prep work in progress. Installation delayed to next winter outage.

Fish unit rehab - Development plan continues. Alternatives reviewed. Likely selection of increased flow Kaplan units.

Transformer replacement - Install started with T8 (units 15 and 16).

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

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		
5/27	JED	PM	FB	0	0	2	24	0	0	0	0	0	0	0	0	26	All in east half, 2 blue heron. Sunny, light wind, warm
			PH1	0	0	11	1	0	0	0	0	1	0	0	2	15	
			PH2	6	0	0	3	0	0	0	0	0	0	0	0	9	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	60	0	0	1	0	0	0	0	0	0	0	0	61	
			SW3	10	0	0	0	0	0	0	0	0	0	0	0	10	
			SW4	20	0	0	0	0	0	0	0	0	0	0	0	20	
5/28	JED	AM	FB	0	0	0	36	0	0	0	0	0	0	0	0	36	Osprey on east ladder 180. All east. high wind, sunny, warm.
			PH1	0	0	6	9	0	0	0	0	1	0	0	1	17	
			PH2	3	0	0	3	0	0	0	0	0	0	0	0	6	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	10	0	0	1	0	0	0	0	0	0	0	0	11	
			SW3	3	6	0	1	0	0	0	0	0	0	0	0	10	
			SW4	3	60	0	0	0	0	0	0	0	0	0	0	63	
5/29	JED	PM	FB	0	0	0	47	0	0	0	0	0	0	0	0	47	All east
			PH1	0	0	0	2	0	0	0	0	1	0	0	0	3	
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW1	0	0	0	7	0	0	0	0	0	0	0	0	7	
			SW2	15	0	0	0	0	0	0	0	0	0	0	0	15	
			SW3	2	10	0	0	0	0	0	0	0	0	0	0	12	
			SW4	0	30	0	0	0	0	0	0	0	0	0	0	30	
5/30	JWR	AM	FB	0	0	3	46	0	0	0	0	0	0	0	0	49	
			PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	
			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	5	0	0	0	0	0	0	0	0	0	0	0	5	
			SW3	8	0	0	0	0	0	0	0	0	0	0	0	8	
			SW4	5	179	0	0	0	0	0	0	0	0	0	0	184	
5/31	CEA	PM	FB	0	0	0	38	0	0	0	0	0	0	0	0	38	all PH1a sunny, windy
			PH1	0	0	9	0	0	0	0	0	0	0	0	0	9	
			PH2	3	0	0	0	0	0	0	0	0	0	0	0	3	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	8	0	0	0	0	0	0	0	0	0	0	0	8	
			SW3	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW4	0	150	0	0	0	0	0	0	0	0	0	0	150	
6/1	CEA	AM	FB	0	0	0	49	0	0	1	0	0	0	0	0	50	all PH1a sunny, windy
			PH1	0	0	5	3	0	0	0	0	0	0	0	0	8	
			PH2	5	0	1	0	0	0	0	0	0	0	0	0	6	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	8	0	0	0	0	0	0	0	0	0	0	0	8	
			SW3	4	12	0	0	0	0	0	0	0	0	0	0	16	
			SW4	27	200	0	0	0	0	0	0	0	4	0	0	231	
6/2	JED	PM	FB	0	6	1	37	0	0	0	0	0	0	0	44	osprey and blhe. All east. warm, sunny and calm	
			PH1	0	0	3	12	0	0	0	0	0	0	2	0		17
			PH2	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
			SW2	20	0	1	0	0	0	0	0	0	0	0	0		21
			SW3	3	6	0	0	0	0	0	0	0	0	0	0		9
			SW4	15	0	0	0	0	0	0	0	0	0	0	0		15

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
5/27	1954	1758	196	1	0	1	0	0	0	0	0	0	0
5/28	1628	1528	100	1	1	0	0	0	0	2	0	0	2
5/29	1473	1373	100	2	0	2	0	0	0	0	0	0	5
5/30	1002	944	58	0	0	0	0	0	0	0	0	0	1
5/31	1158	1088	70	1	0	1	0	0	0	2	0	0	2
6/1	1133	1061	72	2	2	0	0	0	0	5	0	0	0
6/2	1018	926	92	7	5	2	0	0	0	12	0	0	4
total	9366	8678	688	14	8	6	0	0	0	21	0	0	14

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
5/27	53	53	0	0	0	0	0	0	0	0	0	0	0
5/28	30	30	0	0	0	0	0	0	0	0	0	0	1
5/29	18	18	0	0	0	0	0	0	0	0	0	0	0
5/30	7	7	0	0	0	0	0	0	0	0	0	0	0
5/31	28	28	0	0	0	0	0	0	0	0	0	0	0
6/1	1	1	0	0	0	0	0	0	0	0	0	0	0
6/2	1	1	0	0	0	0	0	0	0	0	0	0	0
total	138	138	0	0	0	0	0	0	0	0	0	0	1
% North	1.5	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7

FISH COUNT

	Secchi:		USGS: Temperatures
5/27	2.5	Sun	58.3
5/28	2.5	Mon	58.6
5/29	2.0	Tue	58.7
5/30	2.0	Wed	58.7
5/31	2.5	Thurs	59.0
6/1	2.5	Fri	59.0
6/2	2.5	Sat	59.3
	2.4	AVG	58.8

USGS: [USGS river temp May](#)
[USGS river temp June](#)

High water=no scada readings

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

= 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
5/27	SCADA		1.8		14.1	14.0	21.4	1.6	9.8	9.9				
	1.2	11.0	1.6		13.4	13.4	21.1	1.3	9.3	9.3		1.5	9.3	9.4
	1.4	9.0	1.6		14.0	14.0	21.6	1.8	9.7	9.7		1.6	8.7	8.7
5/28	SCADA		1.5		13.7	13.8	21.1	1.7	9.7	9.7				
	1.2	11.0	1.3		14.0	14.1	22.3	1.5	9.7	9.7		1.2	9.2	9.2
	1.4	10.9	1.7		14.0	14.0	21.2	1.6	9.4	9.4		1.6	8.6	8.5
5/29	SCADA		1.8		13.9	14.1	20.4	1.5	9.8	9.8				
	1.3	10.9	1.5		14.0	14.0	20.7	1.5	9.7	9.7		1.7	8.6	8.6
	1.2	11.0	1.6		14.0	14.0	20.2	1.6	9.8	9.8		1.6	8.8	8.8
5/30	SCADA		1.7		14.2	14.2	21.2	1.7	9.7	9.7		1.4	8.4	8.5
	1.3	11.0	1.8		14.0	14.0	21.1	1.7	9.7	9.7		1.7	8.2	8.2
	1.3	10.8	1.4		14.1	14.0	22.4	1.5	9.5	9.5		1.5	9.5	9.5
5/31	SCADA		1.6		13.9	13.9	20.2	1.6	9.7	9.7		1.4	8.2	8.2
	1.3	11.0	1.7		14.0	14.0	18.2	1.4	9.7	9.7		1.6	8.4	8.4
	1.0	10.9	1.6		14.0	14.1	19.2	1.4	9.6	9.6		1.8	8.1	8.1
6/1	SCADA		1.6	13.9	14.0	17.3	1.4	9.7	9.7	1.7	8.1	8.1		
	1.2	10.9	1.5	13.9	13.9	17.0	1.5	9.6	9.6	1.5	8.2	8.2		
	1.2	10.9	1.5	14.1	13.8	17.1	1.3	9.8	9.8	1.6	8.4	8.4		
6/2	SCADA		1.7	14.1	14.0	18.9	1.4	9.6	9.6	1.6	8.4	8.4		
	1.2	9.0	1.7	14.0	14.0	18.4	1.6	9.6	9.6	1.6	8.5	8.5		
	1.3	11.0	1.5	13.9	14.0	19.9	1.5	9.7	9.7	1.9	8.4	8.5		
AVG:	1.3	10.7	1.6		13.962	13.967	20.0	1.5	9.7	9.7		1.6	8.6	8.6

Fishways are inspected twice daily plus one SCADA inspection.



Spillway forebay - A place we don't normally see pleasure craft.
Boat lost control May 31 ~1600hr, Entered Boat Restricted Zone and contacted spillgates.
Emergency spillway closure for approximately 20 minutes.
Project resources quickly responded, pulling boat out BRZ within minutes.