

The Dalles Dam Fishway Status Report

12/12/2017

Inspection Period: 12/03/2017-12/9/2017

THE DALLES DAM



The Dalles Project-Fisheries
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Fishways are inspected twice daily plus one SCADA inspection

The Dalles Dam	Inspections Out of Criteria	Criteria Limit	Total Number of Inspections: Comments	6	Temperature: Secchi:	47.5 °F 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'	1.3			
Entrance weir N1	0	depth (≥ 8')	8.9			
Entrance weir N2	0	Closed				
PUD Intake differential	0	≤ 0.5'				
EAST FISHWAY Out of service Dec1						
Exit differential	0	≤ 0.5'				
Removable weirs 154-157	0	Per forebay	Gearbox rehab start on 155 and 156			
Weir 158-159 differential	0	1.0' ± 0.1'	Gearbox rehab start on 158			
Count station differential	0	≤ 0.3'				
Weir crest depth	0	1.0' ± 0.1'				
Junction pool weir JP6	0	0.0				
East entrance differential	0	1.0' - 2.0'				
Entrance weir E1	0	No criteria				
Entrance weir E2	0	depth (≥ 8')				
Entrance weir E3	0	depth (≥ 8')				
Collection channel velocity	0	1.5 - 4 fps				
Transportation channel velocity	0	1.5 - 4 fps				
North channel velocity	0	1.5 - 4 fps				
South channel velocity	0	1.5 - 4 fps				
West entrance differential	0	1.0' - 2.0'				
Entrance weir W1	0	depth (≥ 8')	Weir removed for caps and rehab			
Entrance weir W2	0	depth (≥ 8')	Weir removed for caps and rehab			
Entrance weir W3	0	No criteria	Weir removed for caps and rehab			
South entrance differential	0	1.0' - 2.0'				
Entrance weir S1	0	depth (≥ 8')				
Entrance weir S2	0	depth (≥ 8')				
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	6	per FPP	MU 13-16 oos			
Turbine 1% Efficiency	0	per FPP				

OTHER ISSUES:

Birds/Sea lions:

Sea Lion spotted a few times during the past two weeks, gulls, mergansers, and cormorants on project, a few more eagles have shown up
Avian Work Group study results show high predation rates on listed species by Miller Island gulls.(Ref; Grant County PUD/Priest Rapids Coordinating Committee)

Operations

North fishway in full operation.

Sluiceway open 6 gates (units 1, 8 and 18) to 4 gates (unit 1 and 18) on 12/2.

Current Outages;

T8 (MU15 & MU16) out for transformer failure. Transformer replacement 7/5/18.

MU17 out for overhaul. Return 12/14/17.

MU14 out for disconnect maint. Return 12/8/17

MU13 out for overhaul. Return 12/8/17

Fish unit 1 and 2 off 0001 Dec 1 for annual fishway outage. East fishladder dewatered Dec 1.

East fishway attempt dewater below tailwater Dec 2. Levels did not drop for safe fish recovery. Dewatering below tailwater completed Dec 4. Eight large sturgeon, 6 small sturgeon, 75 lamprey and 1 chinook removed/released to river. Five lamprey lost under south grating and 3 pinched in channel weir. MOC provided to FPOM.

Maintenance;

East exit weir electrical panel FCQ7 partially installed. Further install awaiting design and CADD drawings.

Entrance weir cap fab completed by moorings. Install to start next week on south and west weirs.

East exit oil boom installation by AWS contract this winter. Scope in review.

Fish lock upper and lower bulkhead replacement with concrete for improved isolation and fishladder protection. Scope in review.

Fishway dewater work list; Diffuser valve rehab scope, dewater pump rehab, south weir rehab, Weir caps (lamprey), east exit weir 155,156,158 gearbox rehab

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. Charter in place for comprehensive spillway assessment.

Research/Construction/Contractors:

Fish Counters - Normandau counters on site through Oct 31. Video review counting through the winter.

Pikeminnow dam angling - Done for season with a total catch at 1776. Highest invasive walleye by-catches do date being released. Concern brought to FPOM.

AWS construction - Extensions Oct/Nov night work and mid Nov day work FPOM approved. Dive day Nov 13 per FPOM approval. Commissioning testing Mar 31.

Lamprey minor mods - Rounded entrance weir cap parts for all entrances recieved. Moorings fabricating. Tribal lamprey trap hoist design pending.

Railroad track removal - Tailrace deck start Nov nights (FPOM approved)

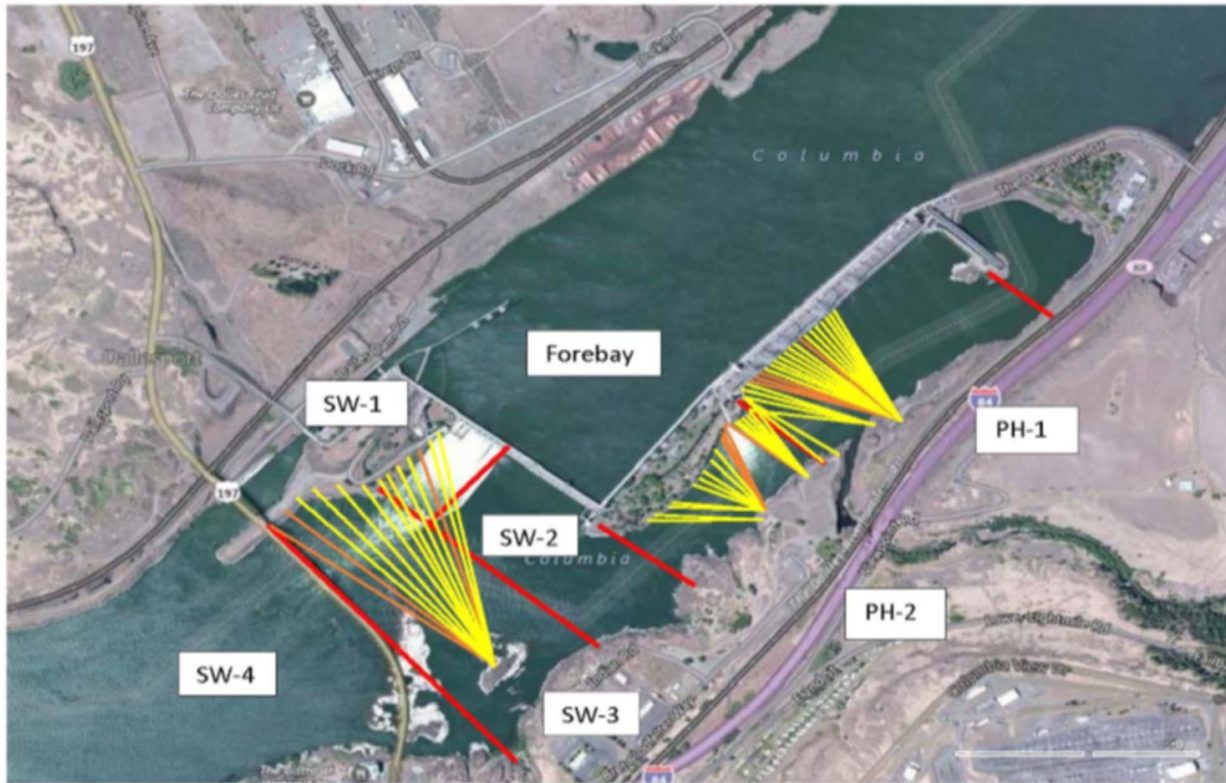
Fish unit breaker replace.- Start behind schedule. Demo start Dec4. Completion Feb18, 2018. Two weeks commission testing required.

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

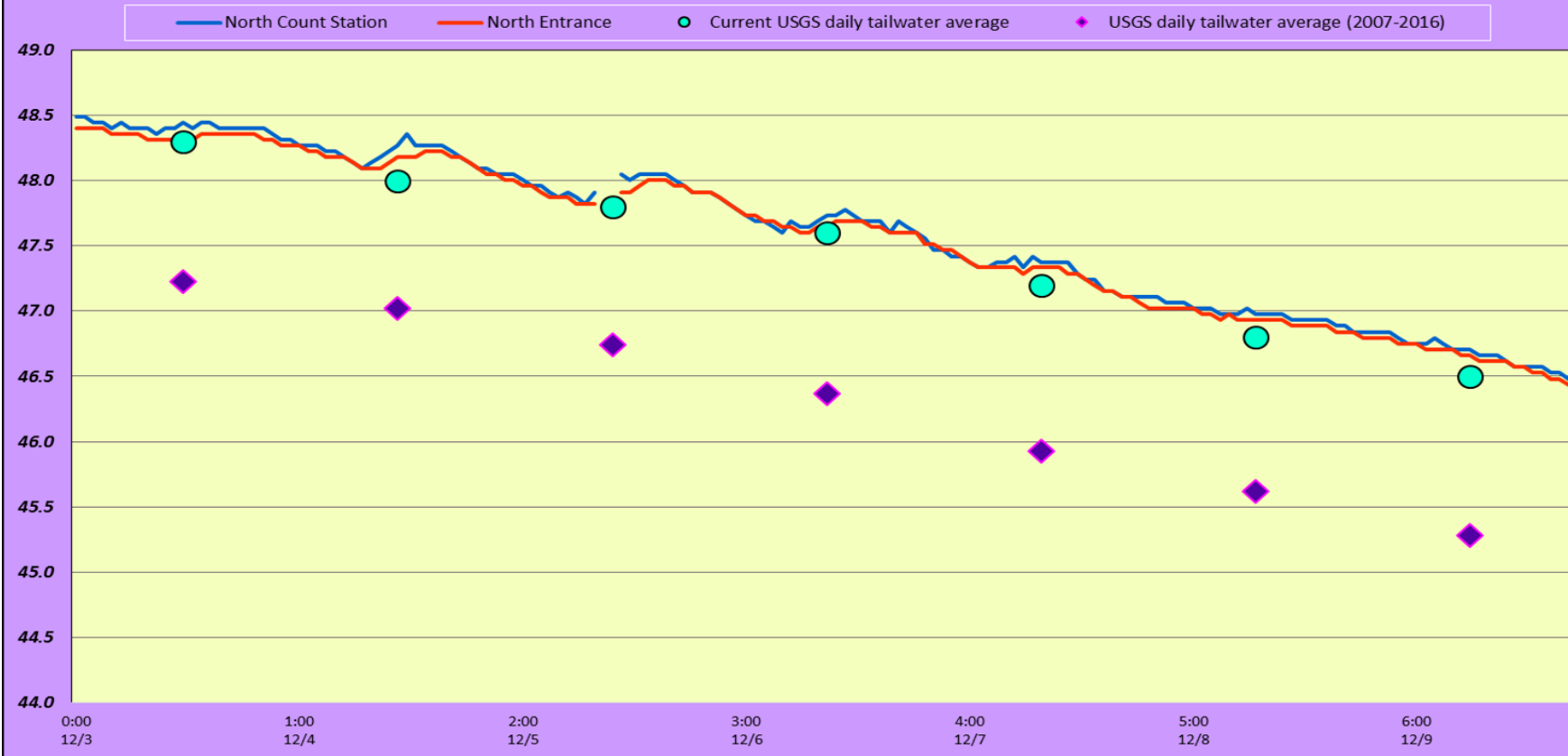
Date	observer	time	Zone	Gull		Cormorant		Caspian tern		Grebe		Pelican		Other		Total birds in	Notes
				F	NF	F	NF	F	NF	F	NF	F	NF	F	NF		
12/3	JWR	PM	FB	0	2	0	0	0	0	0	27	0	0	0	0	29	COME
			PH1	5	13	0	16	0	0	0	0	0	0	3	30	67	
			PH2	2	0	0	0	0	0	0	0	0	0	0	0	2	
			SW1	0	76	1	0	0	0	0	0	0	0	0	0	77	
			SW2	0	0	2	0	0	0	0	0	0	0	0	0	2	
			SW3	0	35	0	24	0	0	0	0	0	0	0	0	59	
			SW4	0	89	0	4	0	0	0	0	0	0	0	0	93	
12/4	<i>East Ladder Dewater</i>																
12/5	JWR	PM	FB	0	12	1	0	0	0	0	26	0	0	0	0	39	COME
			PH1	9	14	0	22	0	0	0	0	0	0	7	17	69	
			PH2	4	0	0	0	0	0	0	0	0	0	0	0	4	
			SW1	0	51	0	0	0	0	0	0	0	0	0	0	51	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	0	10	2	23	0	0	0	0	0	0	0	0	35	
			SW4	0	158	0	10	0	0	0	0	0	0	0	0	168	
12/6	JWR	AM	FB	0	26	2	0	0	0	0	30	0	0	0	0	58	COME
			PH1	14	8	0	19	0	0	0	0	0	0	5	29	75	
			PH2	1	0	0	0	0	0	0	0	0	0	0	0	1	
			SW1	41	0	1	0	0	0	0	0	0	0	0	0	42	
			SW2	0	0	1	0	0	0	0	0	0	0	0	0	1	
			SW3	0	27	4	35	0	0	0	0	0	0	0	0	66	
			SW4	0	101	0	16	0	0	0	0	0	0	0	0	117	
12/7	bc	PM	FB	0	0	2	0	0	0	0	6	0	0	0	0	8	on spillwall
			PH1	26	0	13	0	0	0	0	0	0	0	0	0	39	
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW1	0	36	0	0	0	0	0	0	0	0	0	0	36	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	0	95	0	16	0	0	0	0	0	0	0	0	111	
			SW4	0	0	0	0	0	0	0	0	0	0	0	0	0	
12/8	JWR	AM	FB	0	1	4	0	0	0	0	23	0	0	0	0	28	COME
			PH1	15	0	1	20	0	0	0	0	0	0	3	20	59	
			PH2	0	3	0	0	0	0	0	0	0	0	0	0	3	
			SW1	0	24	0	0	0	0	0	0	0	0	0	0	24	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	0	0	0	40	0	0	0	0	0	0	0	0	40	
			SW4	0	68	0	7	0	0	0	0	0	0	0	0	75	
12/9	JWR	PM	FB	0	5	0	5	0	0	0	9	0	0	0	0	19	COME
			PH1	8	11	2	10	0	0	0	0	0	0	1	24	56	
			PH2	2	0	0	0	0	0	0	0	0	0	0	0	2	
			SW1	0	15	0	0	0	0	0	0	0	0	0	0	15	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	0	17	2	27	0	0	0	0	0	0	0	0	46	
			SW4	0	65	0	0	0	0	0	0	0	0	0	0	65	

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

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
12/3	12	11	1	3	2	1	0	0	0	0	0	0	0
12/4	17	14	3	5	3	2	2	2	0	0	0	0	0
12/5	3	3	0	3	2	1	1	1	0	0	0	0	0
12/6	7	7	0	8	6	2	0	0	0	0	0	0	0
12/7	3	1	2	1	1	0	1	1	0	0	0	0	0
12/8	2	2	0	5	4	1	1	1	0	0	0	0	0
12/9													
total	44	38	6	25	18	7	5	5	0	0	0	0	0

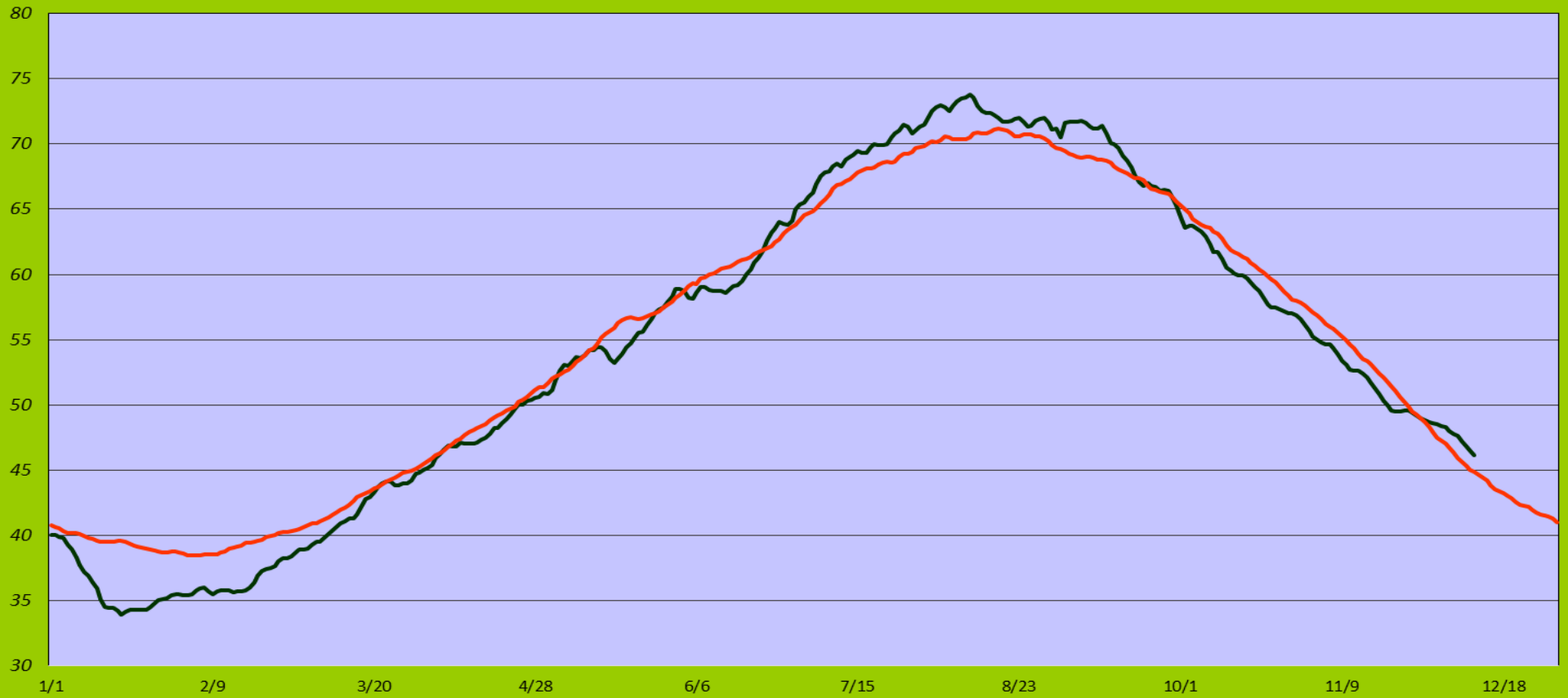
The Dalles North Fish Ladder River/Water Temperatures



—USGS 2017

—USGS daily tailwater average (2007-2016)

°F



USGS: http://pweb.crohms.org/tmt/documents/ops/temp/201712_lcol.html

Secchi:		Temperatures
5.0	Sun	48.3
5.0	Mon	48.0
5.0	Tue	47.8
5.0	Wed	47.6
5.0	Thurs	47.2
5.0	Fri	46.8
5.0	Sat	46.5
5.0	AVG	47.5

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
12/3	1.3	9.0	<i>East Ladder dewatered for winter</i>											
12/4	Dewater east ladder below Tailwater													
12/5	1.3	8.9												
12/6	1.2	8.9												
12/7	1.5	8.7												
12/8	1.4	8.8												
12/9	1.2	9.2												
AVG:	1.3	8.9												

Fishways are inspected twice daily plus one SCADA inspection.



Stacking AWS blocks in forebay



Removing of of 6 large sturgeon from south entrance pool during fishway dewatering.