

The Dalles Dam Fishway Status Report

3/30/2017

Inspection Period: 03/19/2017-03/25/2017

THE DALLES DAM



US Army Corps
of Engineers
Portland District

The Dalles Project-Fisheries
P.O. Box 564
The Dalles, OR 97058-9998
Phone: 541-506-3800

Fishways are inspected twice daily plus one SCADA inspection

The Dalles Dam	Inspections Out of Criteria	Criteria Limit	Total Number of Inspections: 21		Temperature: 43.7 °F
			Comments		Secchi: 1.9 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')	10.2		
Entrance weir N2	0	Closed			
PUD Intake differential	0	≤ 0.5'			
EAST FISHWAY					
Exit differential	0	≤ 0.5'			
Removable weirs 154-157	1	Per forebay	Auto adjusts 1' increments Work cleaning circuit boxes performed.		
Weir 158-159 differential	1	1.0' ± 0.1'	158 callibrated and adjusted.		
Count station differential	0	≤ 0.3'	Picket leads raked as needed.		
Weir crest depth	0	1.0' ± 0.1'			
Junction pool weir JP6	0	depth (≥ 7')	16.0		
East entrance differential	0	1.0' - 2.0'	1.5		
Entrance weir E1	0	No criteria	7.2	No criteria for E1	
Entrance weir E2	0	depth (≥ 8')	11.4		
Entrance weir E3	0	depth (≥ 8')	11.4		
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	1	1.0' - 2.0'	1.7		
Entrance weir W1	0	depth (≥ 8')	0.0	W1 weir out of service. Bulkhead installed. W3 in service in to replace W1.	
Entrance weir W2	0	depth (≥ 8')	14.4		
Entrance weir W3	0	depth (>8')	Closed		
South entrance differential	0	1.0' - 2.0'	1.5		
Entrance weir S1	0	depth (≥ 8')	9.3		
Entrance weir S2	0	depth (≥ 8')	9.3		
JUVENILE PASSAGE					
Sluiceway operation	0	Units 1, 8, 18			
Turbine trashrack drawdown	0	<1.5', wkly	range: 0.1-0.8'		
Spill volume/pattern					
Turbine Unit Priority	14	per FPP	MU 2, 3, 9, 12, 13, 14, 15, 16, 21 out of service		
Turbine 1% Efficiency	NA	per FPP	Out of fish passage season		

OTHER ISSUES:

Birds/Sea lions:

No sea lion observations. Low bird numbers continue.

Bird observation data collected once daily. Refer to Avian Zone map and bird count.

Spillway avian lines repair Apr4 cancelled due to high flow. Spillway cannot be closed. Work postponed until September after fish spill.

Operations:

North and east fishways in full operation.

Sluiceway open with 4 gate operation. Six gate operation will start Apr 1.

Spillway open with involuntary spill. All available spillgates open.

Current Outages;

T8 (MU15 & MU16) out due to transformer failure. Transformer replacement spring 2018.

MU21 out for exciter failure, return Feb23

MU3 out for governor oil level failure

Awaiting tailrace crane completion to resume turbine maintenance schedule. ETR end of March.

Maintenance:

East exit weir auto problems from last week repaired/corrected.

Entrance W1 bulkhead installed. Weir W1 wheels replaced with new plastic wheels. To be installed after tailrace crane completion. W3 operating in its place.

East exit weir electrical panel FCQ7 installation/design resuming with some available funds. Approx 50% completed.

Other repair maintenance plans; 154 -157 rehab/weir wheel replace, diffuser valve overhaul (rehab or decommission).

Fish related /non-fish funded items; Spillway crane and spillgate 9, both awaiting funding.

All spillway items on Critical Infrastructure list.

Research/Construction/Contractors:

Lamprey minor mods - Rounded entrance weir caps prints recieved. Project maintenance purchasing material. Triba lamprey trap hoist design continues.

North fishladder rehab/rock wall stabilizing - Awaiting funding. Possible 2018/19.

East fishladder AWS emergency backup - Forebay diving night work continues through March. Junction pool 7' pipe valve room concrete continues.

7' pipe and part of 10' installed. Steel frame in forebay (FPOM approved) delayed to next inwater work period. Valve room demo likley delayed .

Potential delays to forebay level slab concrete pour. Forms to be left in place until next in water work period.

Railroad track removal - West powerhouse tailrace deck ~100' track. Remaining tailrace deck to resume next winter. Intake deck at units 4-7 continues.

Rail removal work at unit 1 to start week of Apr3. Unit 1 open gates to be moved to east units >100' from work area.

Tailrace crane rehab - Work resumed. Nearing completion. Unit outage/maintenance schedule to begin week of Apr3.

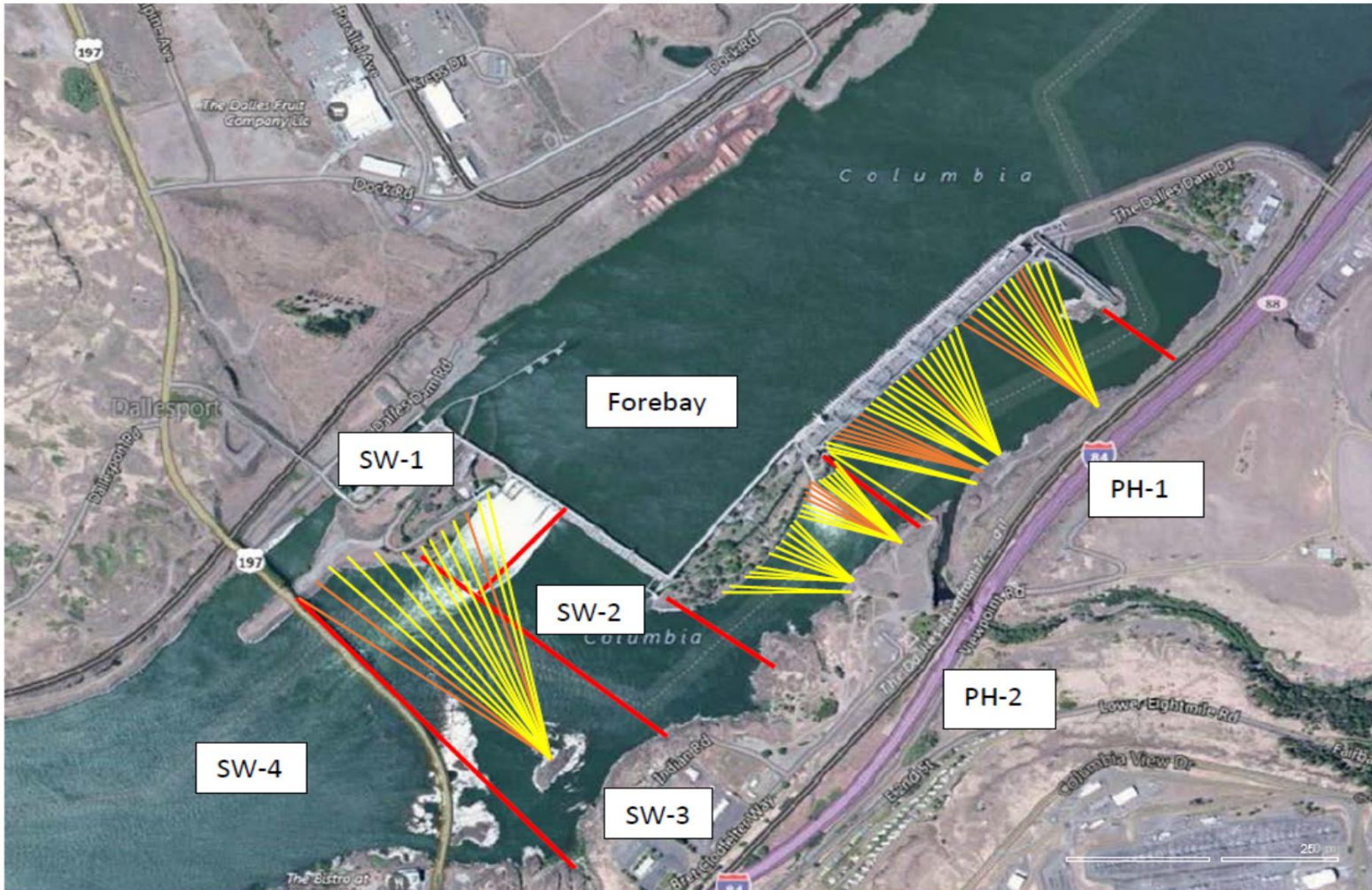
Fish unit breaker replace. - Field measurements moved from end March to Apr10-12. FPOM approved. Manufacture over summer. Install fall 2017. Switch to new breakers Jan 2018.

Fish unit rehab - Weekly coordination meetings. Phase 1A report Jan 2018. Award 2020. Completion 2022. Possible increase flow capacity for redundancy.

Transformer replacement - Install start May 2018. Coordinated through FPOM.

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

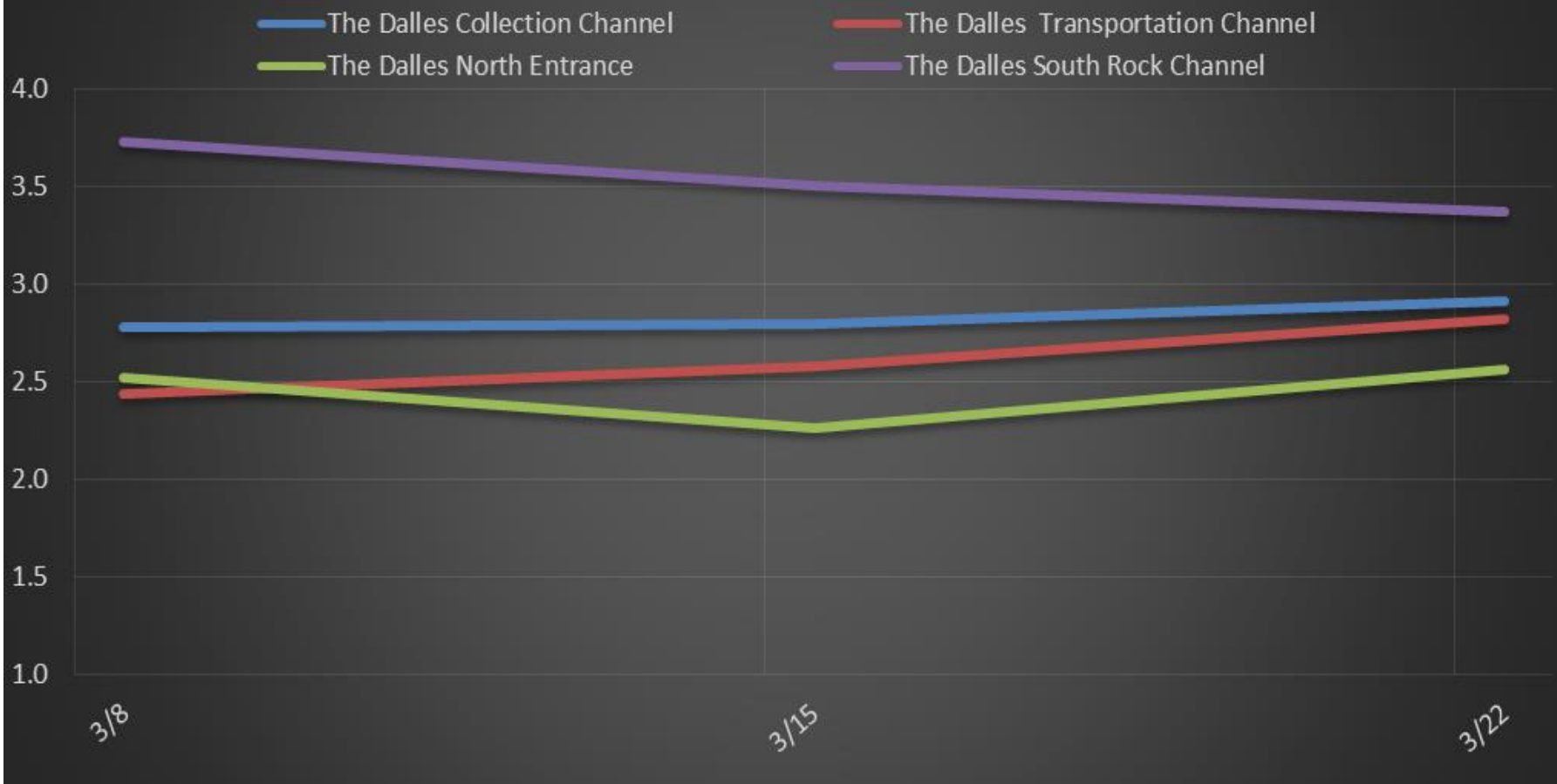
F=foraging, NF=non-foraging																			
Date	observer	Time (24 hr)	Zone	Gull		Cormorant		Caspian tern		Grebe		Pelican		Other		Total birds in zone	Notes		
				F	NF	F	NF	F	NF	F	NF	F	NF	F	NF				
3/19	JWR	AM	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	6	0	0	0	0	0	0	0	0	0	0	6	
			SW4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3/20	JWR	PM	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			PH1	0	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	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	0	0	11	0	0	0	0	0	0	0	0	0	0	11	
			SW4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3/21	GJF	AM	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			PH2	0	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	0	
			SW2	0	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	0	
			SW4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
3/22	GJF	PM	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			PH1	0	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	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3/23	GJF	AM	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			PH1	0	1	0	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	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
3/24	GJF	PM	FB	0	0	0	1	0	0	0	0	0	0	0	0	1			
			PH1	0	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	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3/25	GJF	AM	FB	0	0	0	0	0	0	0	0	0	0	0	1	1			
			PH1	0	0	0	1	0	0	0	0	0	0	0	0	1			
			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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

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

The Dalles Dam Collection Channel Velocities (In Criteria 1.5 - 4.0 fps)

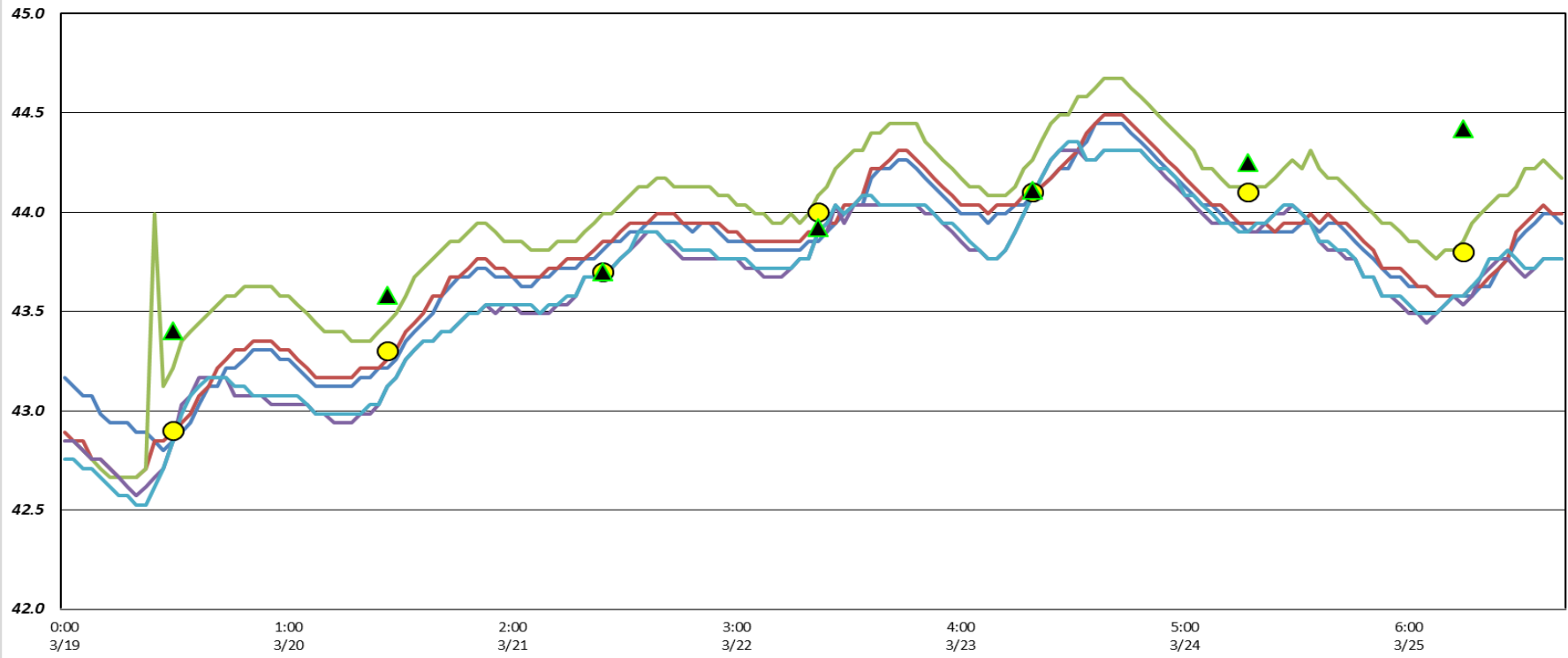


The Dalles Dam Average Velocities (In criteria 1.5 - 4.0 fps)



The Dalles Dam Adult Fish Ladder/River Temperatures

- East Count Station
- Junction Pool (East Ladder)
- South Entrance (East Ladder)
- North Count Station
- North Entrance
- Current USGS daily tailwater average
- ▲ USGS daily tailwater average (2007-2016)



USGS: <http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201703.lcol.html>

Secchi:		Temperatures
3/19	2.5	Sun 42.9
3/20	2.5	Mon 43.3
3/21	1.0	Tue 43.7
3/22	2.5	Wed 44.0
3/23	1.0	Thurs 44.1
3/24	1.0	Fri 44.1
3/25	2.5	Sat 43.8
	1.9	AVG 43.7

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

= Out of criteria

		North Ladder						East Ladder								
		North Entrance		East Entrance				West Entrance			South Entrance					
Date:	Differential	N1 Depth	Differential	E1 Depth	E2 Depth	E3 Depth	JP 6	Differential	W1 Depth	W2 Depth	W3 Depth	Differential	S1 Depth	S2 Depth		
3/19			1.5	6.4	11.4	11.4	12.5	1.6		14.4	14.4	1.4	9.3	9.3	N / A	
	1.3	10.2	1.6	6.6	11.6	11.6	12.3	1.4		14.6	14.5	1.4	9.4	9.4		
	1.3	10.3	1.6	6.5	11.5	11.5	13.6	1.7		14.5	14.5	1.5	9.3	9.3		
3/20			1.6	6.5	11.5	11.5	15.8	1.5		14.5	14.5	1.4	9.3	9.3	N / A	
	1.3	10.2	1.6	7.0	11.5	11.5	12.3	1.6		14.0	14.0	1.5	9.0	9.0		
	1.3	10.2	1.6	7.0	11.5	11.5	12.3	1.5		14.1	14.1	1.5	9.0	9.0		
3/21			1.2	9.7	11.5	11.6	17.8	1.7		14.5	14.5	1.4	10.0	9.9	N / A	
	1.3	10.2	1.4	7.5	11.5	11.6	14.7	1.8		14.5	14.6	1.4	10.1	10.2		
	1.3	10.2	1.4	7.5	11.5	11.4	14.7	1.8		14.4	14.5	1.5	10.0	10.1		
3/22			1.5	7.4	11.8	11.8	17.7	1.7		14.4	14.5	1.5	9.9	9.9	N / A	
	1.4	10.2	1.5	6.8	11.4	11.4	13.7	1.7		14.5	14.4	1.6	9.3	9.3		
	1.4	10.2	1.6	7.0	11.4	11.4	18.1	1.9		14.7	14.6	1.7	9.2	9.2		
3/23			1.5	8.2	11.5	11.5	12.6	1.7		13.6	13.6	1.2	10.6	11.1	N / A	
	1.4	10.1	1.5	7.9	11.4	11.5	18.3	1.8		14.6	14.6	1.7	9.7	9.7		
	1.3	10.3	1.7	6.9	11.4	11.4	19.5	1.9		14.4	14.4	1.3	9.7	9.7		
3/24			1.5	7.1	11.5	11.6	18.4	2.0		14.5	14.5	1.4	8.2	8.1	N / A	
	1.2	10.3	1.5	7.1	11.5	11.6	18.4	1.9		14.6	14.6	1.4	9.7	9.7		
	1.3	10.2	1.5	7.9	11.5	11.4	18.0	1.8		14.4	14.4	1.8	9.7	9.7		
3/25			1.4	6.9	11.5	11.5	18.3	1.9		14.3	14.3	1.6	8.0	8.0	N / A	
	1.2	10.4	1.4	6.9	11.5	11.5	18.3	1.9		14.7	14.7	1.5	8.1	8.1		
	1.2	10.4	1.5	7.1	9.7	9.7	19.6	1.4		14.9	15.0	1.5	8.1	8.1		
AVG:	1.3	10.2	1.5	7.2	11.4	11.4	16.0	1.7		14.4	14.4	1.5	9.3	9.3		

Fishways are inspected twice daily plus one SCADA inspection.



Bigger crane for bigger pipe.



No - this is not Oroville dam.