

# The Dalles Dam Fishway Status Report

3/11/2017

Inspection Period: 03/05/2017 - 03/11/2017

THE DALLES DAM



US Army Corps  
of Engineers  
Portland District

*Fishways are inspected once daily during winter*

<b>The Dalles Dam</b>	Inspections Out of Criteria	Criteria Limit	Total Number of Inspections:	14	Temperature:	39.9 °F
			Comments:	Snow conditions subsided	Secchi:	3.4 feet

### NORTH FISHWAY

Exit differential	0	≤ 0.5'	1.3	Power loss to N1 from navlock work
Count station differential	0	≤ 0.3'		
Weir crest depth	0	1.0' ± 0.1'		
Entrance differential	0	1.0' - 2.0'		
Entrance weir N1	2	depth (≥ 8')	9.1	
Entrance weir N2	0	Closed		
PUD Intake differential	0	≤ 0.5'		

### EAST FISHWAY

Exit differential	6	≤ 0.5'	-	East fishway was still dewatered for partial week
Removable weirs 154-157	11	Per forebay	-	155-157 maintenance, east fishway was still dewatered for partial week
Weir 158-159 differential	7	1.0' ± 0.1'	-	East fishway dewatered for partial week. 158 in manual.
Count station differential	6	≤ 0.3'	-	East fishway dewatered for partial week.
Weir crest depth	7	1.0' ± 0.1'	-	East fishway was dewatered for partial week
Junction pool weir JP6	4	depth (≥ 7')	16.0	East fishway was dewatered for partial week
East entrance differential	8	1.0' - 2.0'	1.9	East fishway was dewatered for partial week. Automation problems on startup
Entrance weir E1	4	No criteria	13.9	East fishway was dewatered for partial week
Entrance weir E2	4	depth (≥ 8')	14.2	East fishway was dewatered for partial week
Entrance weir E3	4	depth (≥ 8')	14.1	East fishway was dewatered for partial week
Collection channel velocity	0	1.5 - 4 fps	2.8	East fishway was dewatered for partial week
Transportation channel velocity	0	1.5 - 4 fps	2.4	East fishway was dewatered for partial week
North channel velocity	0	1.5 - 4 fps	2.5	East fishway was dewatered for partial week
South channel velocity	0	1.5 - 4 fps	3.7	East fishway was dewatered for partial week
West entrance differential	5	1.0' - 2.0'	1.6	East fishway was dewatered for partial week
Entrance weir W1	4	depth (≥ 8')	10.0	East fishway was dewatered partial week. W1 weir removed, bulkhead installed.
Entrance weir W2	4	depth (≥ 8')	10.0	East fishway was dewatered for partial week
Entrance weir W3	4	No criteria	-	East fishway was dewatered for partial week. In operation for W1 out.
South entrance differential	5	1.0' - 2.0'	1.3	East fishway was dewatered for partial week
Entrance weir S1	5	depth (≥ 8')	9.0	East fishway was dewatered for partial week
Entrance weir S2	5	depth (≥ 8')	9.0	East fishway was dewatered for partial week

### JUVENILE PASSAGE

Sluiceway operation	0	Units 1, 18	
Turbine trashrack drawdown	0		
spill	0		Spill for high river flows
Turbine 1% Efficiency	0	per FPP	
Turbine Unit Priority	12	per FPP	Too many MU's OOS with too much river flow for proper FPP operation

**Birds/Sea lions:**

Sea lion observed near east fish entrance Mar9. No ID was confirmed.

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

Spillway avian lines repair plan approved. Spillway closure needed for installation. High river flows may jeopardize this action.

**Operations:**

North Fishway in full operation.

East fishway returned Mar7. Troubleshooting numerous exit and entrance weir automation problems resulting in numerous out of criteria.

Sluiceway open to 4 gate operation Mar 1.

**Current Outages;**

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

MU21 out for exciter failure, return Feb23

MU3 out for governor oil level failure, return Feb24

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

**Maintenance:**

Trouble shooting several east exit and entrance automation problems.

159 weir west side ~4" higher than east. Maintenance notified and corrected.

Entrance W1 bulkhead installed. Weir W1 wheels replaced with new plastic wheels. To be installed next week. W3 operating in its place.

New east exit weir electrical panel FCQ7 installation on hold awaiting funding. Approx 50% completed.

East ladder expansion joint leaking on water up. Will likely seal as temperatures increase.

*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 and Unfunded Requirement list.

**Research/Construction/Contractors:**

Lamprey minor mods - Tribal lamprey trap hoist and rounded entrance weir caps designs underway. To fab in-house 2017. Install winter 2017/'18.

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 pouring underway.

Excavation 10' valve room possible occur end of March, FPOM approved. Steel frame for forebay block guides possible install, FPOM coordinating.

Railroad track removal - West powerhouse tailrace deck ~100' track removed/grouted. Intake deck started units 4-7. Toe resume next winter.

Tailrace crane rehab - Work resumed. Completion hopeful in March. Detrimental effect to unit outage/maintenance schedule.

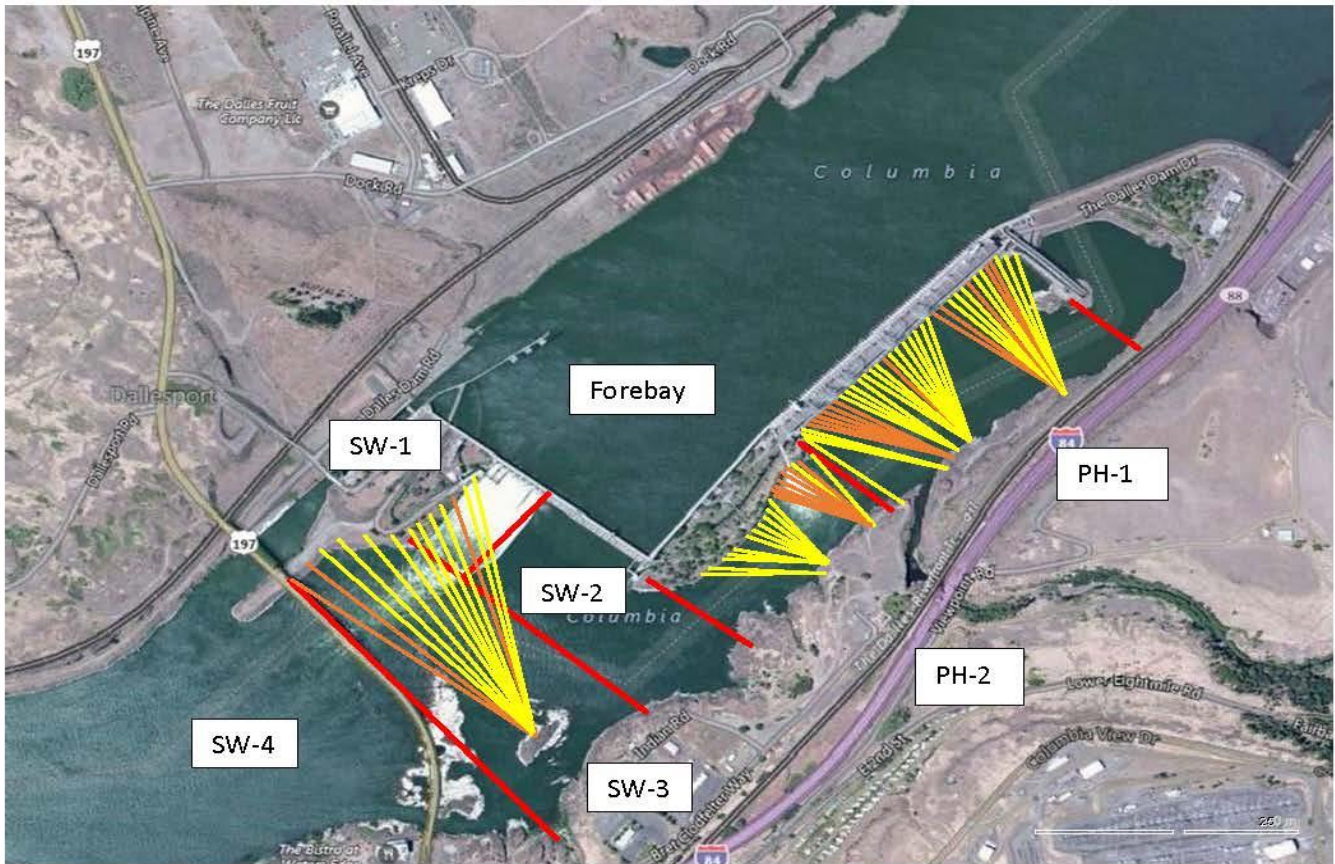
Fish unit breaker replace.- Work start fall 2017. Switch over Jan 2018.

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

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

Approved by: Ron Twiner

Operation Project Manager The Dalles Dam



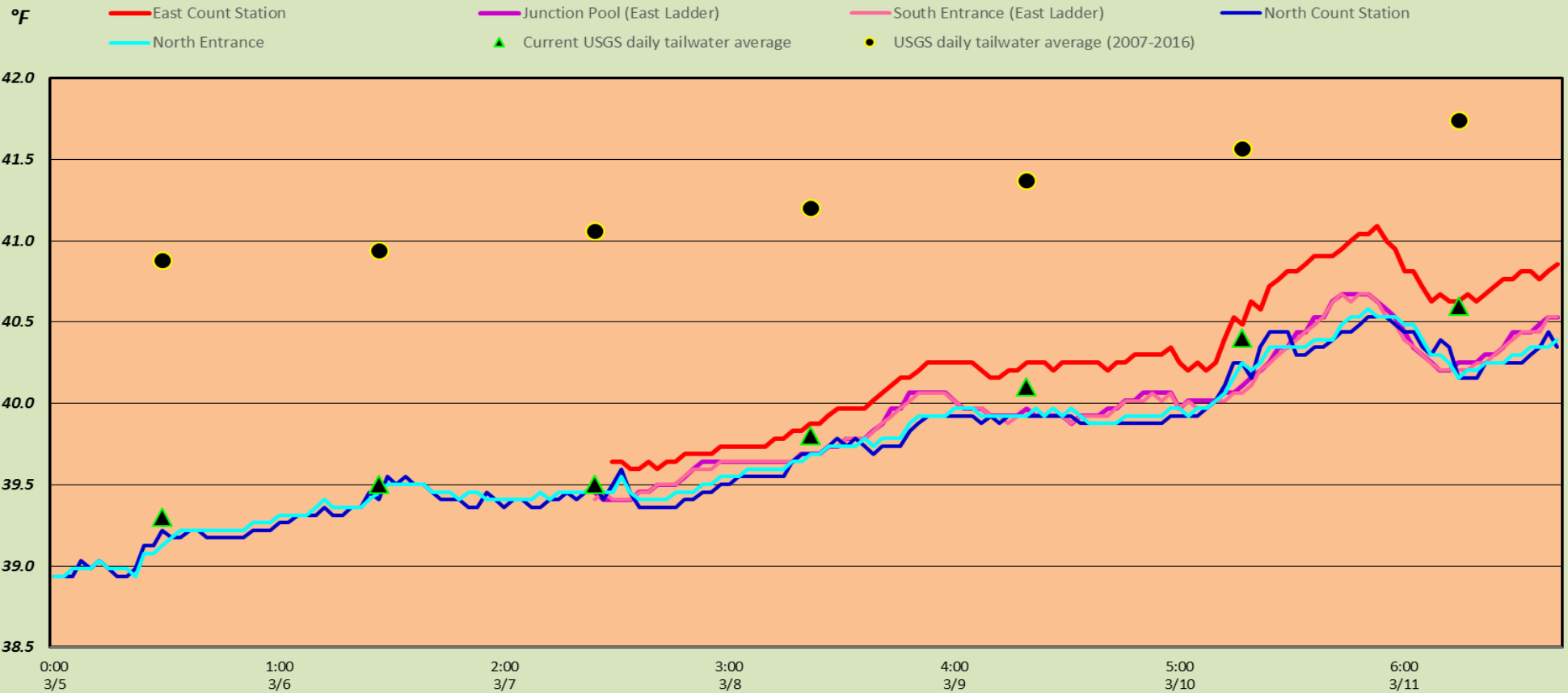
Red lines = avian zones

Yellow lines = current wires

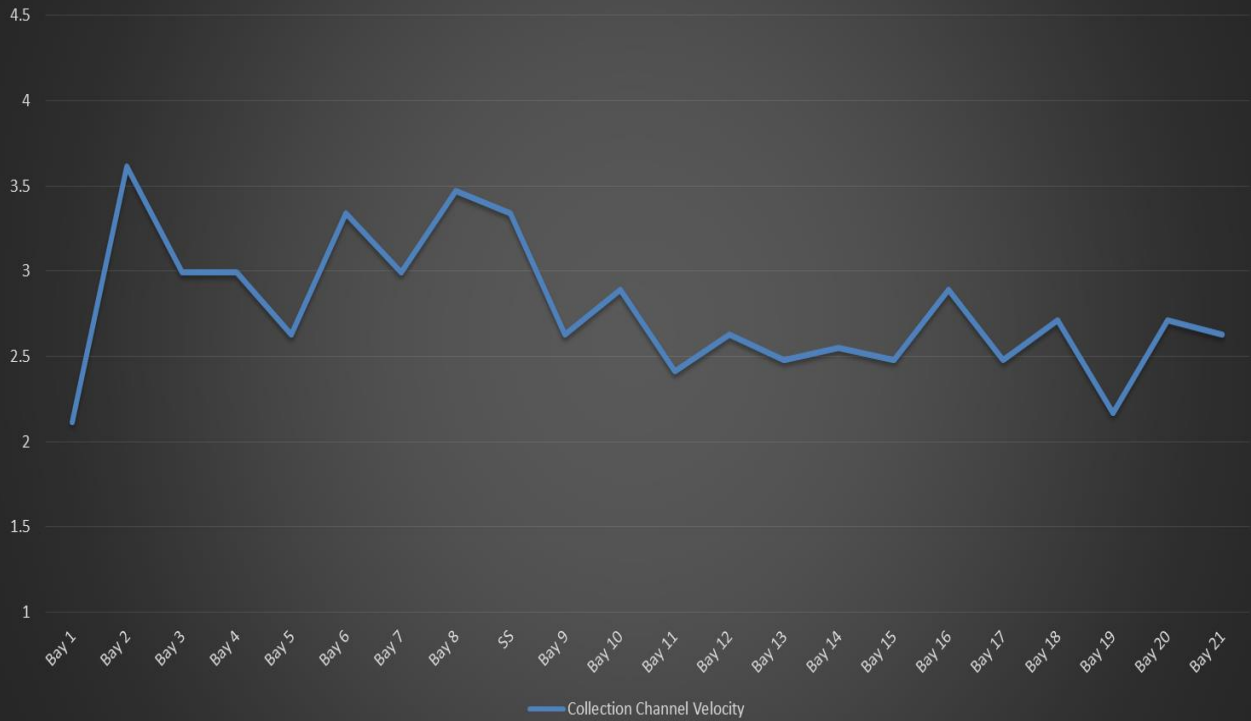
Orange lines = down or missing wires



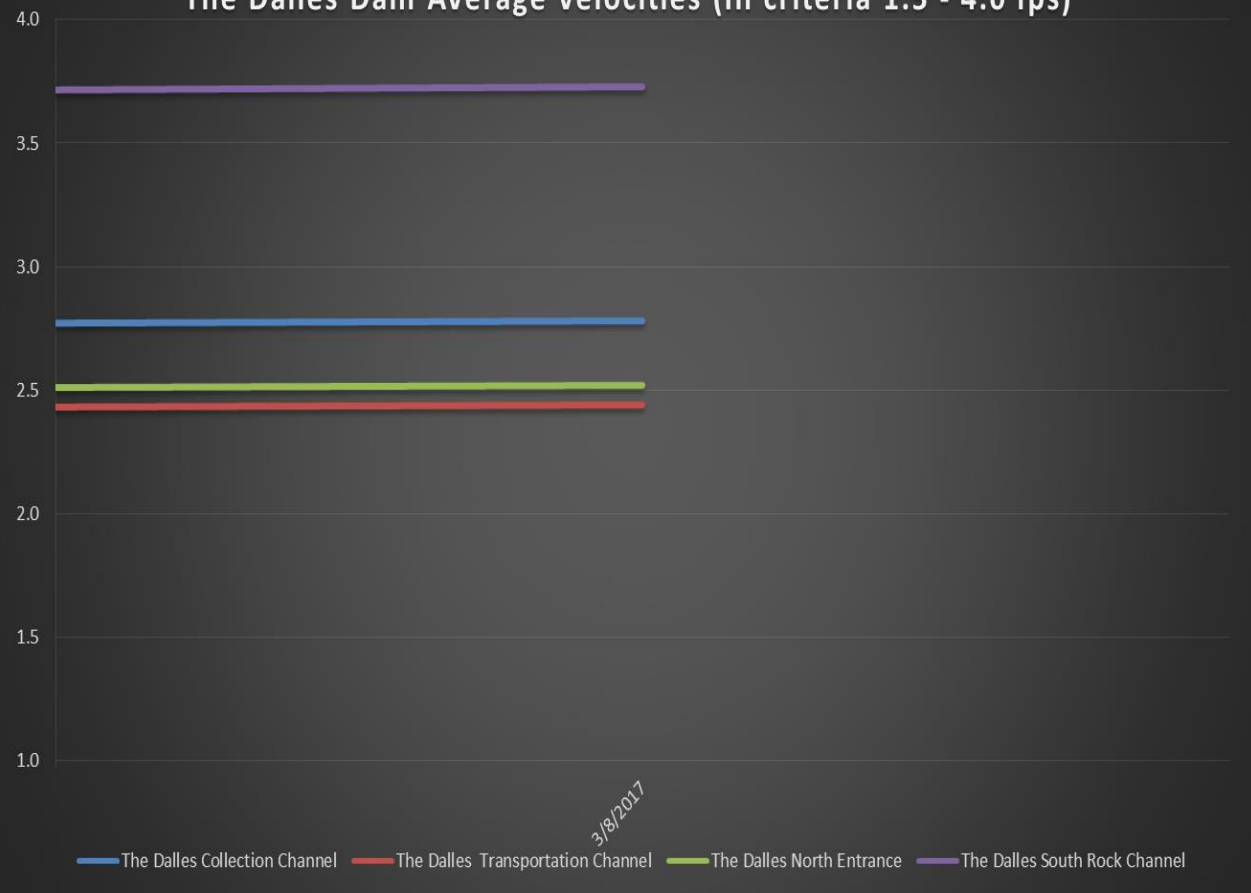
# The Dalles Dam Adult Fish Ladder(s) River/Water Temperatures



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)



		USGS:	<a href="http://www.nwd-wc.usace.army.mil/tm/documents/ops/temp/201701.lcol.html">http://www.nwd-wc.usace.army.mil/tm/documents/ops/temp/201701.lcol.html</a>
Secchi:		Temperatures	
3/5	3.5	Sun	39.3
3/6	3.5	Mon	39.5
3/7	3.0	Tue	39.5
3/8	3.0	Wed	39.8
3/9	3.0	Thurs	40.1
3/10	4.0	Fri	40.4
3/11	4.0	Sat	40.6
	<b>3.4</b>	<b>AVG</b>	<b>39.9</b>

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

= Out of criteria

Date:	North Ladder							East Ladder					South Entrance			Spill
	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		
3/5																
3/6	1.2	9.9														
	1.2	10.0														
3/7	1.3	9.9	4.2	12.9	13.3	12.9	13.6	0.2	8.3	8.3		0.4	7.5	7.1		
	1.3	9.8	1.6	13.6	14.0	13.6	14.3	1.7	9.1	9.1		1.8	8.4	8.4		
3/8																
	1.3	9.9	2.9	14.5	14.5	14.5	15.0	1.5	9.5	10.0		1.6	8.1	8.1		
3/9	1.3	10.0	2.5	14.4	14.4	14.4	15.4	1.6	9.9	9.9		1.6	8.3	8.3		
	1.3	9.9	2.7	14.5	14.5	14.4	15.2	1.6	10.1	10.1		1.5	8.2	8.2		
3/10			1.2	14.5	14.4	14.4	16.7	1.8	10.0	10.0		1.4	9.5	9.5		
	1.3	9.8	1.4	14.5	14.4	14.4	16.5	1.8	10.0	10.0		1.4	9.2	9.2		
	1.3	9.9	1.3	14.5	14.4	14.4	16.6	1.9	10.0	10.0		1.3	9.3	9.3		
3/11			1.1	14.7	14.7	14.7	16.7	1.8	10.1	10.1		1.4	9.5	9.5		
	1.3	9.9	1.0	14.6	14.5	14.6	17.9	1.8	11.0	11.0		1.1	10.7	10.8		
	1.3	9.9	1.3	10.1	13.1	13.1	18.0	1.6	12.2	12.0		1.3	10.6	10.6		
	<b>1.3</b>	<b>9.9</b>	<b>1.9</b>	<b>13.9</b>	<b>14.2</b>	<b>14.1</b>	<b>16.0</b>	<b>1.6</b>	<b>10.0</b>	<b>10.0</b>		<b>1.3</b>	<b>9.0</b>	<b>9.0</b>		



View towards east fishway exit from dive work platform. Requested boom gap correction.





Concrete placement for 7' valve room.