

# The Dalles Dam Fishway Status Report

03/24/19

Inspection Period: March 17 - March 23, 2019

## THE DALLES DAM



US Army Corps  
of Engineers  
Portland District

The Dalles Project-Fisheries  
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The Dalles Dam	Inspections OOC	Criteria Limit	Total Number of Inspections: 21	Temperature: 39.8 °F
Comments: Spilling attraction flow to north ladder				
Secchi: 4.9 feet				
<b>NORTH FISHWAY</b>				
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'	1.4	
Entrance weir N1	0	depth (≥ 8')	9.1	Gates 1,7,8 open for a total 15.1Kcfs from 0600 to 1800; closed 3/21 with AWS start-up
Entrance weir N2	0	Closed		
PUD Intake differential	0	≤ 0.5'		
<b>EAST FISHWAY - Fish units off, AWS backup system forced closed</b>				
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	1	1.1' ± 0.1'	1.0' preferred but 1.1' allowed for necessity.	
Junction pool weir JP6	0	0.0		
East entrance differential	14	1.0' - 2.0'	No attraction flow until 3/21 pm	
Entrance weir E1	closed	No criteria		
Entrance weir E2	14	depth (≥ 8')	No attraction flow and gate closed until 3/21 pm	
Entrance weir E3	14	depth (≥ 8')	No attraction flow until 3/21 pm	
Collection channel velocity	closed	1.5 - 4 fps	minimal flow	
Transportation channel velocity	closed	1.5 - 4 fps	minimal flow	
North channel velocity	0	1.5 - 4 fps	2.33 fps on 3/22/2019	
South channel velocity	closed	1.5 - 4 fps	minimal flow	
West entrance differential	21	1.0' - 2.0'		
Entrance weir W1	21	depth (≥ 8')		
Entrance weir W2	21	depth (≥ 8')		
Entrance weir W3	closed	No criteria		
South entrance differential	21	1.0' - 2.0'		
Entrance weir S1	21	depth (≥ 8')		
Entrance weir S2	21	depth (≥ 8')		
<b>FISHLADDER FLOW ONLY Gates W1,2,3 and S1,2 closed</b>				
<b>JUVENILE PASSAGE</b>				
Sluicelgate operation	0	Units 3, 18	Unit 1 OOS until 3/20; unit 3-2,3 and 18-1,2 gates open. Starting 3/20, unit 1 gates 2,3 open, unit 3 gates closed.	
Turbine trashrack drawdown	0	<1.5', biwkly		
Spill volume/pattern	0	None	Gates 1,7,8 open for a total 15.1Kcfs from 0600 to 1800; closed 3/21 with AWS start-up	
Turbine Unit Priority	14	per FPP	Unit 1 returned to sevice 3/20	
Turbine 1% Efficiency	0	per FPP		

## OTHER ISSUES:

### **Predators;**

USDA contract in progress. Training Apr 9 and 10 at The Dalles. Adding green laser to toolbox for gull hazing.

Ongoing FPOM discussions concerning bass/walleye release by pikeminnow dam angling crew. No resolution in sight.

Inspection Period: March 17 - March 23, 2019

### **Operation:**

North fish ladder in full service since Feb7.

East fishladder in service with ladder flow only. Fish Unit breaker replacement extended to Apr3. AWS backup system attempted to open Feb28, but closed due to valve vibration issues. AWS awaiting bolt repair. FPOM meeting results; Spill 15kcf for north attraction. Full open Slucieway per Fish Passage Plan.

### **Current Outages;**

FU1 and FU2 OOS for annual/overhaul maintenance and breaker replace. RTS est 4/3/2019.

MU5 forced OOS blade seals and T3 transformer replace. RTS 7/12/2019.

MU6 OOS annual and T3 transformer replace. RTS 7/12/2019.

MU13 OOS OOS annual. RTS 3/29/2019

MU14 OOS overhaul. RTS 3/29/2019

MU16 OOS exciter replace. RTS 3/28/2019.

MU19 and MU20 forced OOS transformer acetylene production. RTS 10/24/2019

### **Maintenance**

Calibrations: Gates W3, E2 out of calibration criteria. Control notified.

Collection channel dewatering pumps 5 and 6 removed for rehab. Reinstall prior to next winter.

Fishway automation assembly starts in April. Install winter of 2019/20

Diffuser valve status evaluation ongoing. Planning underway for rehab.

Contract for goats to remove vegetation on top side of north ladder in March. Contracting support cost more than the goats.

Fish related /non-fish funded items; Spillway assessment underway. Spillway crane replace and spillgate 9 repair included.

All spillway items on Critical Infrastructure. Spillgate 9 on large cap list, projected for 2022. Comprehensive spillway assessment review underway.

### **Research/Construction/Contractors:**

Bathymetry of spillwall and spill basin completed. District dive/ROV personnel inspected spill basin w/ ROV unit (12/11), awaiting results

FFU and fisheries staff video monitoring for east and north count stations. Mar1 - 19; East 44 steelhead, 4 chinook / North 21 steelhead, 0 chinook.

*AWS construction* - Vibration issues of 10' valve on start up Feb 28 forced emergency closure. Bulkheads installed. Team evaluating bolt problems for resolution.

AWS Follow on construction items to be addressed through summer.

PSMFC weekly sampling for North Wasco County PUD resumes Apr1. New sample collection tank installation postponed to winter 2019/20.

PITAGS North and east fishladder data collection at count stations continues. PIT tagged 15 mile creek steelhead; 39 of 43 steelhead passed over The Dalles Dam.

*Fish Counters* - Official counting starts 4/1/19 via video until contractor issues resolved. Fish Field Unit providing video support.

*Pikeminnow dam angling* - Resumes next spring. Preparation underway.

ODFW monthly fishway inspections concluded 10/16. Awaiting annual report.

*Lamprey minor mods* - Site visit for potential LPS planning.

Univ of Idaho lamprey radiotelemetry - Second season of lamprey passage night flow reduction test to resume in May.

Tribal lamprey trapping - Project to construct single lift hoist mechanism prior to next trapping season.

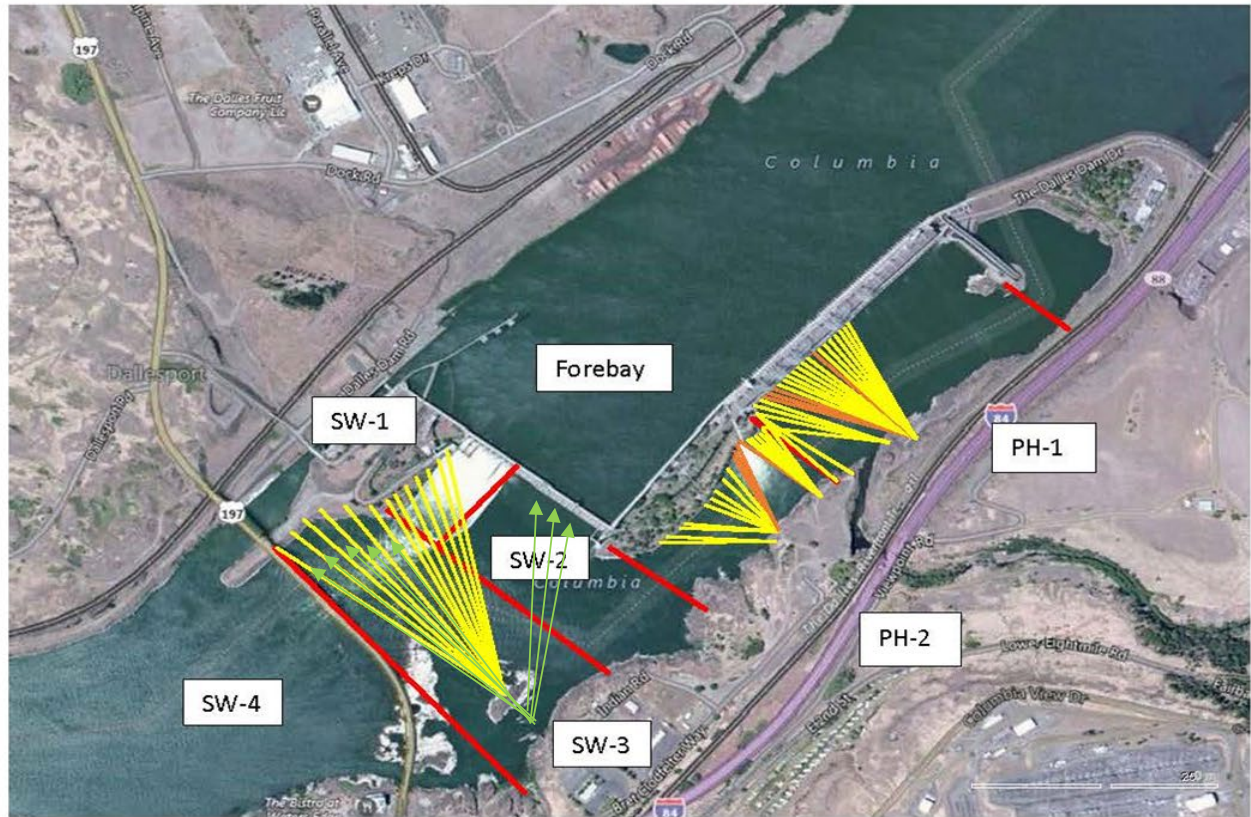
*Fish unit breaker replace* - Schedule completion now Apr3. (schedule slip from Jan15)

*Fish unit rehab* - Design on hold until further notice.

*Transformer replacement* - Install T3 underway

Approved by: Mike Colesar acting for Ron Twiner


Operation Project Manager The Dalles Dam



Red lines = avian zones

Yellow lines = current wires

Orange lines = down or missing wires


Additional avian lines installed 9/2018

## 2019 Piscivorous Bird Counts

F=foraging, NF=non-foraging

Date	Observer	AM/PM	Zone	Gull		Cormorant		Caspian tern		Grebe		White Pelican		Other		Total birds in zone	Notes	
				F	NF	F	NF	F	NF	F	NF	F	NF	F	NF			
3/17/19	JED	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	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	
3/18/19	JED	PM	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			PH1	1	10	0	0	0	0	3	0	0	0	0	0	0	14	
			PH2	0	0	0	0	0	0	0	0	0	0	0	2	0	2	TUVU
			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	12	0	0	0	0	0	0	0	0	0	12	
3/19/19	JED	AM	FB	0	0	0	0	0	0	0	0	0	0	1	1	2	TUVU, GBHE	
			PH1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	BAEA sun, calm, 32F
			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	13	0	0	0	0	0	0	0	0	1	14	COME
3/20/19	JED	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	2	0	4	COME	
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	sun, calm 60F
			SW1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	0	0	0	18	0	0	0	0	0	0	0	1	0	19	COME
3/21/19	JED	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	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	
3/22/19	CEA	PM	FB	0	0	0	0	0	0	1	0	0	0	0	0	1	Pied-billed grebe	
			PH1	0	0	1	0	0	0	0	0	0	0	0	0	1	PH1east	
			PH2	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	1	0	12	0	0	0	0	0	0	0	0	0	13	
3/23/19	CEA	AM	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	2	all PH1east	
			PH2	0	0	0	0	0	0	0	0	0	0	0	1	1	BAEA	
			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	11	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				

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

	Secchi:		USGS: Temperatures
3/17	5.0	Sun	38.5
3/18	5.0	Mon	38.8
3/19	5.0	Tue	39.2
3/20	5.0	Wed	39.6
3/21	5.0	Thurs	40.3
3/22	5.0	Fri	40.8
3/23	4.0	Sat	41.3
	4.9	AVG	39.8

[USGS river temp MARCH.](#)

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

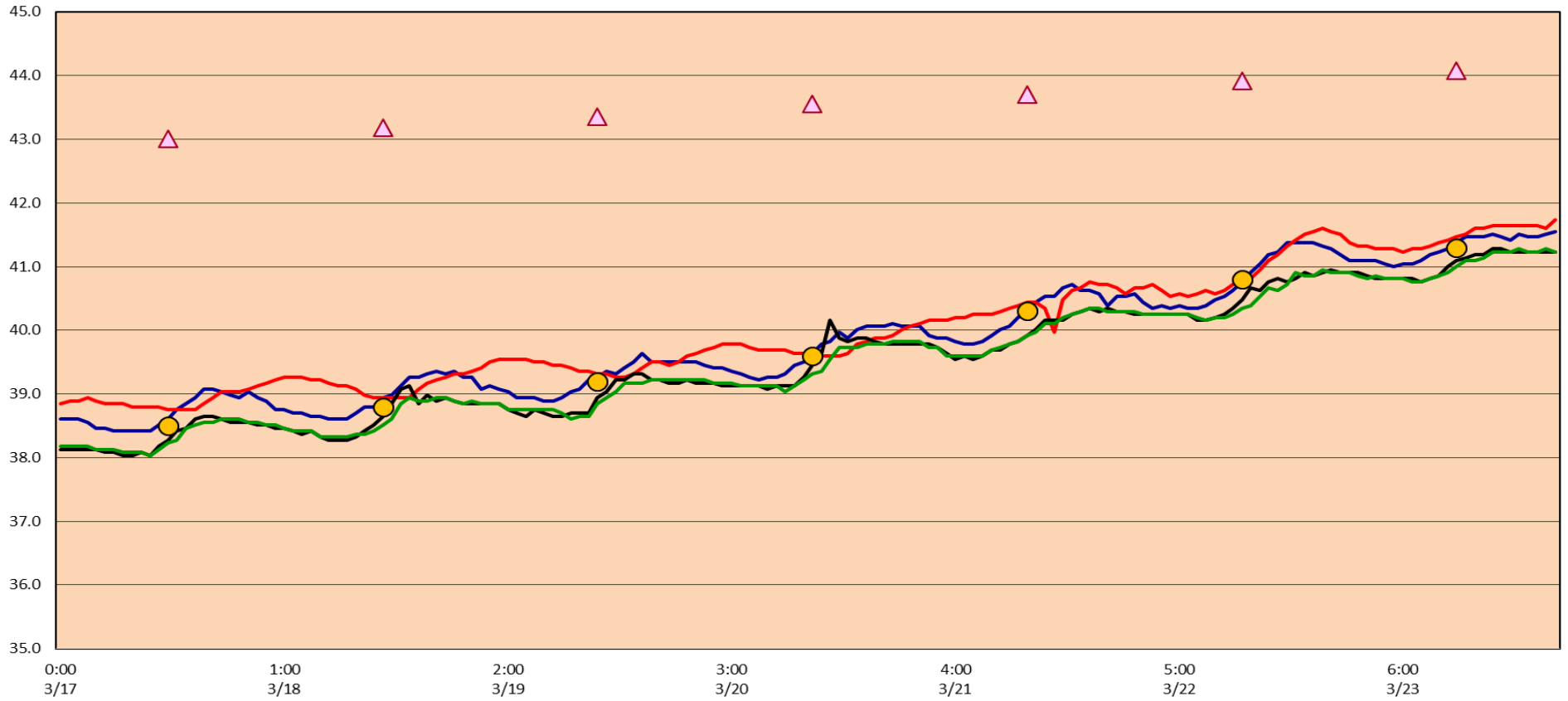
SCADA INSPECTION  
= Out of criteria

Date:	North Ladder			East Ladder												
	North Entrance		Differential	East Entrance- open				West Entrance- closed			South Entrance- closed					
	Differential	N1 Depth		E1 Depth	E2 Depth	E3 Depth	JP 6	Differential	W1 Depth	W2 Depth	W3 Depth	Differential	S1 Depth	S2 Depth		
3/17			0.2	No Criteria	closed	6.5	9.7				No Criteria					
	1.3	8.8	0.2		closed	6.5	9.1									
	1.3	8.8	0.2		closed	6.5	9.3									
3/18			0.2			closed	6.4	10.7								
	1.3	9.1	0.2		closed	6.4	10.7									
	1.3	9.1	0.2		closed	6.5	9.7									
3/19			0.2			closed	6.4	11.5								
	1.4	9.0	0.2		closed	6.5	10.6									
	1.4	9.0	0.2		closed	6.5	11.3									
3/20			0.2			closed	6.5	11.4								
	1.4	9.0	0.2		closed	6.5	10.9									
	1.4	9.2	0.2		closed	6.6	11.0									
3/21			0.2		closed	6.7	12.8									
	1.4	9.0	0.2	closed	6.4	12.3										
	1.3	9.4	1.8	9.0	9.0	11.5										
3/22			1.9		9.5	9.6	12.1									
	1.4	9.4	1.5	10.1	10.1	12.2										
	1.4	9.4	1.6	10.0	9.9	12.4										
3/23			1.7		10.0	10.0	13.1									
	1.5	9.4	1.5	10.2	10.2	13.5										
	1.4	9.3	1.7	10.0	10.1	12.3										
<b>AVG:</b>	<b>1.4</b>	<b>9.1</b>	<b>0.7</b>	<b>#DIV/0!</b>	<b>9.8</b>	<b>7.6</b>	<b>11.3</b>	<b>#DIV/0!</b>	<b>#DIV/0!</b>	<b>#DIV/0!</b>	<b>#DIV/0!</b>	<b>#DIV/0!</b>	<b>#DIV/0!</b>	<b>#DIV/0!</b>		

*Fishways are inspected twice daily plus one SCADA inspection.*

### The Dalles Dam River/Ladder Temperatures

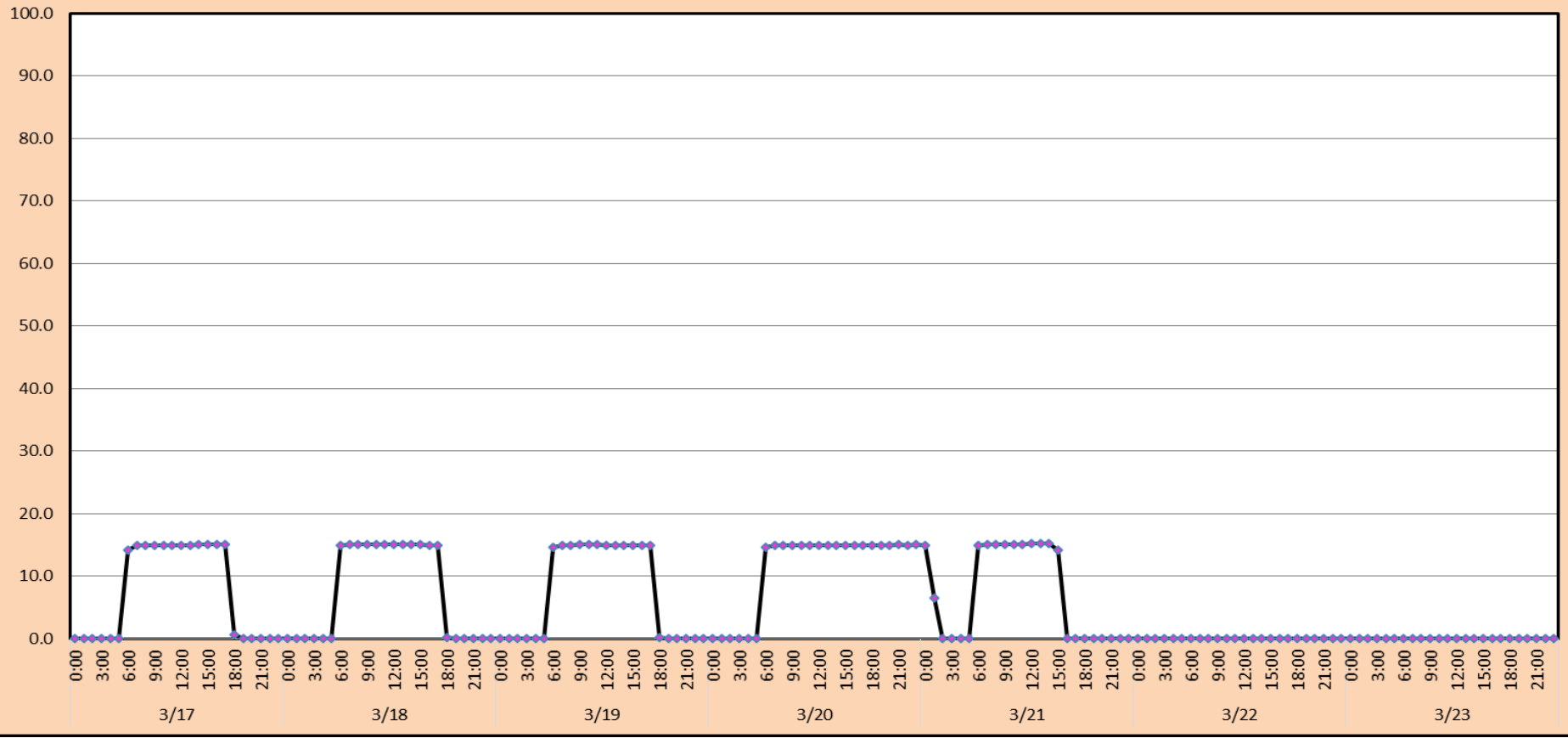
— East Count Station    — South Entrance    — North Count Station    — North Entrance    ● Current USGS Daily Average    ▲ USGS Daily Average (2007-2017)





North entrance with spill gates 1,7,8 and 15Kcfs attraction water. 3/19/2019

### Spill kcfs





THE DALLES - EAST LADDER								THE DALLES - NORTH LADDER								
DATE	Chinook Adult	Chinook Jack	Clip Steelhead	Un-clip Steelhead	Coho Adult	Coho Jack	Lamprey		DATE	Chinook Adult	Chinook Jack	Clip Steelhead	Un-clip Steelhead	Coho Adult	Coho Jack	Lamprey
3/1	0	0	0	0	0	0	0	Spill	3/1	0	0	0	0	0	0	0
3/2	0	0	0	0	0	0	0		3/2	0	0	0	0	0	0	0
3/3	0	0	0	1	0	0	0		3/3	0	0	0	0	0	0	0
3/4	0	0	0	0	0	0	0		3/4	0	0	0	0	0	0	0
3/5	0	0	0	1	0	0	0		3/5	0	0	0	0	0	0	0
3/6	0	0	0	0	0	0	0		3/6	0	0	0	0	0	0	0
3/7	0	0	0	0	0	0	0		3/7	0	0	0	0	0	0	0
3/8	0	0	0	3	0	0	0		3/8	0	0	0	0	0	0	0
3/9	0	0	1	0	0	0	0		3/9	0	0	0	0	0	0	0
3/10	0	0	0	0	0	0	0		3/10	0	0	0	0	0	0	0
3/11	0	0	0	0	0	0	0		3/11	0	0	0	0	0	0	0
3/12	0	0	1	1	0	0	0		3/12	0	0	0	0	0	0	0
3/13	0	0	0	0	0	0	0		3/13	0	0	0	0	0	0	0
3/14	0	2	3	3	0	0	0		3/14	0	0	-1	2	0	0	0
3/15	0	1	1	1	0	0	0		3/15	0	0	0	1	0	0	0
3/16	0	0	0	0	0	0	0		3/16	0	0	1	3	0	0	0
3/17	1	0	3	6	0	0	0		3/17	0	0	5	2	0	0	0
3/18	0	0	8	4	0	0	0		3/18	0	0	0	5	0	0	0
3/19	0	0	2	5	0	0	0		3/19	0	0	1	2	0	0	0
3/20	0	0	6	3	0	0	0		3/20	0	0	0	0	0	0	0
3/21	0	0	2	9	0	0	0		3/21	0	0	2	9	0	0	0
3/22	0	0	11	19	0	0	0	AWS open	3/22	0	0	1	4	0	0	0
3/23	1	0	11	10	0	0	0	AWS open	3/23	0	0	1	2	0	0	0
3/24	0	0	11	15	0	0	0	AWS open	3/24	0	0	1	1	0	0	0
3/25	1	1	19	15	0	0	0	AWS open	3/25	0	0	3	6	0	0	0
3/26								AWS open	3/26	1	0	6	5	0	0	0
3/27								AWS open	3/27							
3/28									3/28							
3/29									3/29							
3/30									3/30							
3/31									3/31							
<b>totals</b>	<b>3</b>	<b>4</b>	<b>79</b>	<b>96</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>totals</b>	<b>1</b>	<b>0</b>	<b>20</b>	<b>42</b>	<b>0</b>	<b>0</b>	<b>0</b>