

# The Dalles Dam Fishway Status Report

5/5/2018

Inspection Period: 04/29/2018-05/5/2018

## THE DALLES DAM



The Dalles Project-Fisheries  
P.O. Box 564  
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The Dalles Dam	Inspections Out of Criteria	Criteria Limit	Total Number of Inspections:	22	Temperature:	52.8 °F
			Comments	Secchi: 3.4 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')	10.1			
Entrance weir N2	0	Closed				
PUD Intake differential	0	≤ 0.5'	0			
<b>EAST FISHWAY</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	0	1.1' ± 0.1'	OOC incidents evident in trend data. High range 0.7 to 1.4.			
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')	13.0			
Entrance weir E3	0	depth (≥ 8')	12.9			
Collection channel velocity	0	1.5 - 4 fps	2.39 fps	Range: Bay MU 1, 1.76 fps to MU 20, 3.07 fps		
Transportation channel velocity	0	1.5 - 4 fps	2.52 fps			
North channel velocity	0	1.5 - 4 fps	1.63fps			
South channel velocity	0	1.5 - 4 fps	2.52 fps			
West entrance differential	0	1.0' - 2.0'	1.5			
Entrance weir W1	0	depth (≥ 8')	10.1			
Entrance weir W2	0	depth (≥ 8')	10.1			
Entrance weir W3	0	No criteria				
South entrance differential	0	1.0' - 2.0'	1.5			
Entrance weir S1	0	depth (≥ 8')	8.5			
Entrance weir S2	0	depth (≥ 8')	8.5			
<b>JUVENILE PASSAGE</b>						
Sluiceway 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	range: 0.1-0.8'			
Spill volume/pattern	0	None	Bays 1-8, Range:			
Turbine Unit Priority	1	per FPP	5/2/2018 1300hr.			
Turbine 1% Efficiency	1	per FPP	Turbines exceeding limit due to FERC mandated setting, outside of operator control.			

## OTHER ISSUES:

### **Birds and Sea lions:**

Gull numbers fluctuating daily. USDA hazers working from boat and shore. USDA hazed sea lion from near east and west entrances. It was observed consuming a salmon at the west entrance.

### **Operations**

Spillway open for fish passage. Tracking spill cap. Refer to spill tab.

North and east fishways in full operation.

Sluiceway open with 6 sluiceway operation

Water depth over east ladder weirs experiencing fluctuations outside of criteria. Data show rapid forebay fluctuations coincide with these events.

### **Current Outages;**

MU10 OOS 0730 3/5/2018 - 1700 5/31/2018 for O/H

MU15 Forced OOS through 1700 6/29/2019 GSU transformer replacement

MU16 Forced OOS through 1700 6/29/2019 for GSU transformer, Exciter, Head Cover Upgrade & Strainer

MU19 Forced OOS 1708 2/12/2018 - 1700 5/31/2018 for transformer acetylene production

MU20 Forced OOS 1708 2/12/2018 - 1700 5/31/2018 for transformer acetylene production

### **Maintenance;**

Rebuilding spare gearboxes for entrance and exit weirs.

East exit oil boom - new plan eliminating need for anchor placement. Will involve connection to new AWS peirnose. Refer to pic. To be presented to FPOM.

Collection channel dewatering pumps 3 and 4 removed for rehab. Plan to cycle through 2 per year for preventative maintenance.

Wheels to be replaced on N1 spare weir, due to excessive wear.

*Long term repair items* ; Planning for 154 -157 rehab/weir wheel replace and 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.

Periodic assessment team evaluated spillway deficiencies and found trunnion pins as highest on priority list.

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

*AWS construction* - Commissioning testing occurred Apr23-27. Flow testing attempted 4/26 night, but valve could not be fully opened. Reschedule date TBD.

PSMFC weekly sampling completed for the North Wasco County PUD's. No concerns. Planning underway for new sample collection tank. Design in review.

PITAGS North and east fishladder data collection at count stations continues.

*Fish Counters* - Ongoing.

*Pikeminnow dam angling* starting first week in May. High walleye and bass by-catches 2017. **Issue of release of non native predators for May FPOM review.**

ODFW resumed monthly fishway inspections. No problems reported.

*Lamprey minor mods* - Rounded entrance weir caps installed south, west and north entrances. East weirs planned for next winter.

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

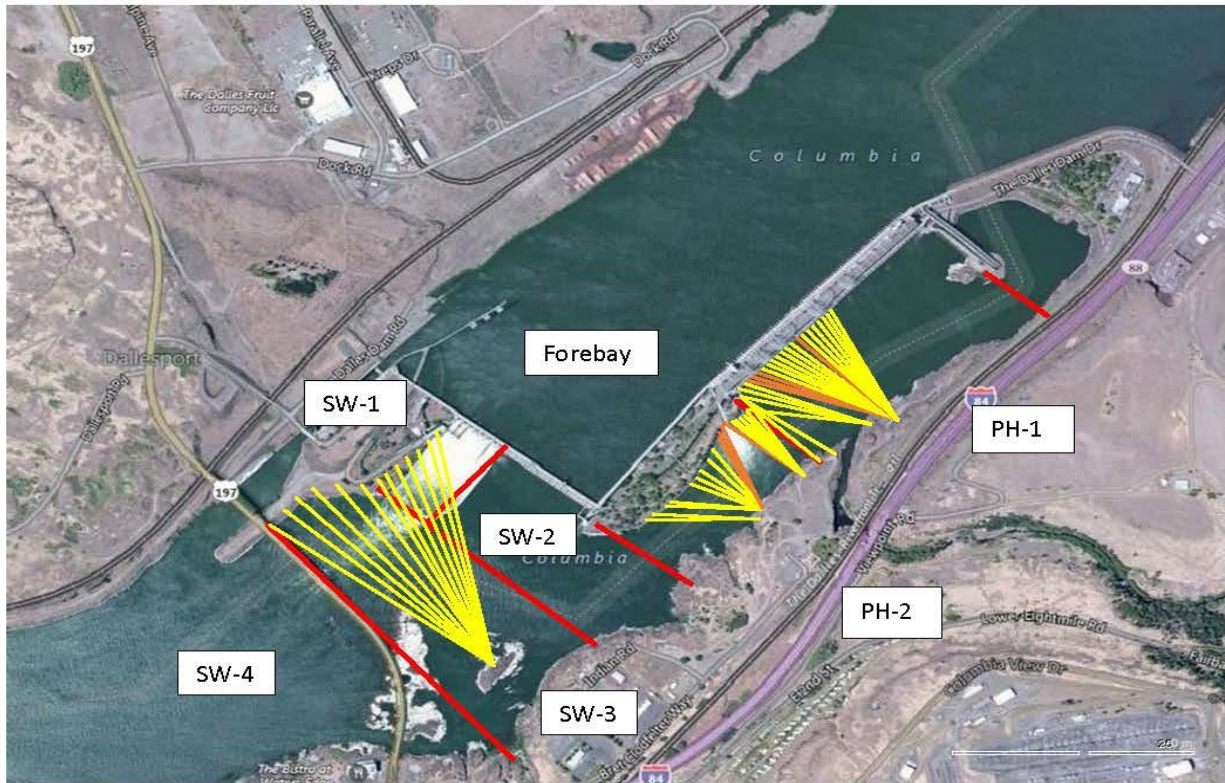
*Fish unit breaker replace* .- Prep work in progress. Installation delayed to next winter outage.

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

*Transformer replacement* - Install start delayed. Date to be determined.

Approved by: Ron Twiner

Operation Project Manager The Dalles Dam



Red lines = avian zones

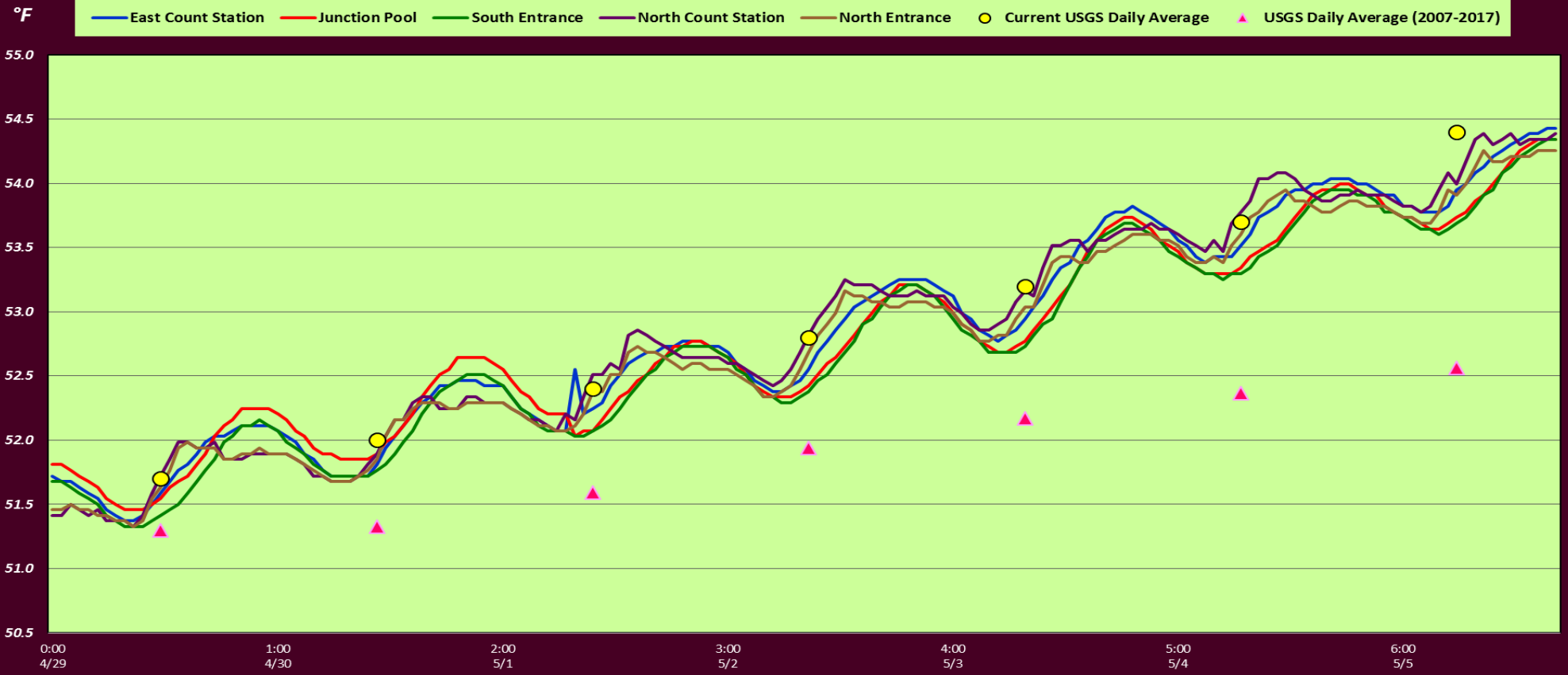
Yellow lines = current wires

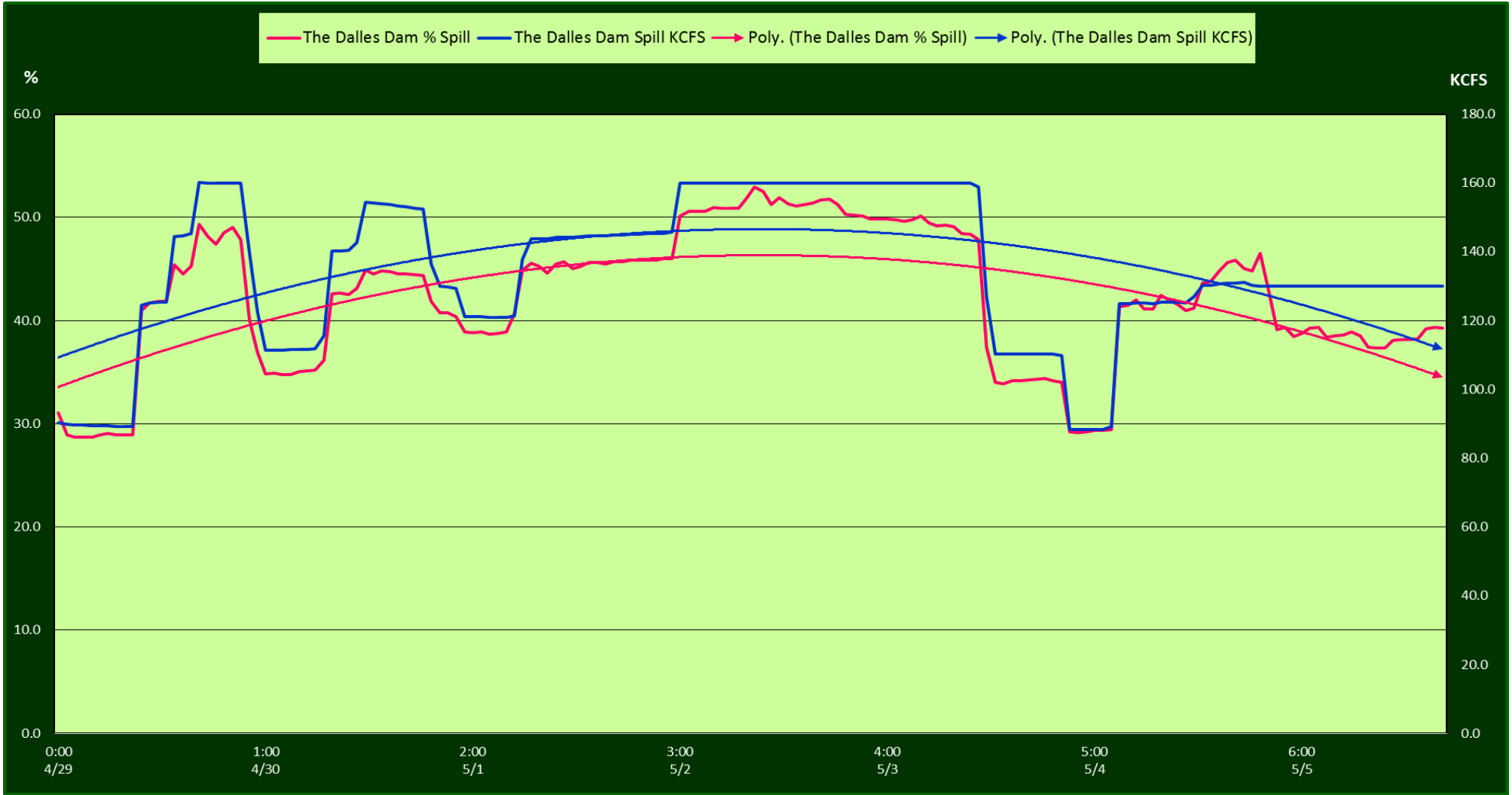
Orange lines = down or missing wires

2018 Piscivorous Bird Counts																	
Date	Observer	AM/PM	Zone	F=foraging, NF=non-foraging												Total birds in zone	Notes
				Gull		Cormorant		Caspian tern		Grebe		Pelican		Other			
				F	NF	F	NF	F	NF	F	NF	F	NF	F	NF		
4/29	JED	PM	FB	0	0	0	48	0	0	0	0	0	0	0	0	48	osprey
			PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	
			PH2	2	0	2	0	0	0	0	0	0	0	0	0	4	
			SW1	0	0	0	2	0	0	0	0	0	0	1	0	3	
			SW2	0	0	0	1	0	0	0	0	0	0	0	0	1	
			SW3	4	2	0	0	0	0	0	0	0	0	0	0	6	
			SW4	13	20	0	6	0	0	0	0	0	0	0	0	39	
4/30	JED	AM	FB	0	0	2	58	0	0	0	0	0	0	0	60		
			PH1	0	0	1	0	0	0	0	0	0	0	0	1		
			PH2	5	0	0	0	0	0	0	0	0	0	0	5		
			SW1	0	0	0	3	0	0	0	0	0	0	0	3		
			SW2	4	0	0	0	0	0	0	0	0	0	0	4		
			SW3	1	25	0	0	0	0	0	0	0	0	0	26		
			SW4	19	0	2	50	0	0	0	0	0	0	0	71		
5/1	CEA	PM	FB	0	0	3	31	0	0	0	0	0	0	0	34	sunny, 20 mph wind	
			PH1	0	0	2	5	0	0	0	0	0	0	0	7		
			PH2	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		
			SW2	0	0	2	0	0	0	0	0	0	0	0	2		
			SW3	0	0	0	0	0	0	0	0	0	0	0	0		
			SW4	5	0	0	0	0	0	0	0	0	0	0	5		
5/2	JWR	AM	FB	0	0	0	32	0	0	0	1	0	0	0	33	sea lion	
			PH1	0	0	0	0	0	0	0	0	0	0	0	0		
			PH2	2	0	0	0	0	0	0	0	0	1	0	3		
			SW1	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		
			SW3	4	1	0	0	0	0	0	0	0	0	0	5		
			SW4	9	49	0	0	0	0	0	0	0	1	0	59		
5/3	JWR	PM	FB	0	0	5	13	0	0	0	0	0	0	0	18	sea lion (x2)	
			PH1	0	0	0	0	0	0	0	0	0	2	0	2		
			PH2	0	0	1	0	0	0	0	0	0	0	0	1		
			SW1	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		
			SW3	2	0	0	0	0	0	0	0	0	0	0	2		
			SW4	7	60	0	0	0	0	0	0	0	0	0	67		
5/4	JED	AM	FB	0	2	3	41	0	0	0	1	0	0	0	47	Calm, sunny sea lion in afternoon hazed	
			PH1	0	0	0	0	0	0	0	0	0	0	0	0		
			PH2	4	0	0	1	0	0	0	0	0	0	0	5		
			SW1	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		
			SW3	6	5	1	0	0	0	0	0	0	0	0	12		
			SW4	21	20	0	0	0	0	0	0	0	0	0	41		
5/5	JED	PM	FB	0	17	4	38	0	0	4	0	2	2	67	osprey Overcast, calm cool.		
			PH1	0	0	0	0	0	0	0	0	0	0	0			
			PH2	2	3	0	0	0	0	0	0	0	0	0		5	
			SW1	0	0	0	0	0	0	0	0	0	0	0		0	
			SW2	0	5	0	2	0	0	0	0	0	0	0		7	
			SW3	20	15	0	0	0	0	0	0	0	0	0		35	
			SW4	50	70	0	0	0	0	0	2	0	0	0		122	
5/6	JED	AM	FB	0	0	1	31	0	0	0	0	0	0	32	osprey Mixed sun, calm		
			PH1	0	10	2	9	0	0	0	0	0	0	0		21	
			PH2	3	0	2	0	0	0	0	0	0	0	1		6	
			SW1	0	0	0	0	0	0	0	0	0	0	0		0	
			SW2	0	0	1	2	0	0	0	0	0	0	0		3	
			SW3	3	24	0	0	0	0	0	0	0	0	0		27	
			SW4	56	30	0	0	0	0	0	0	0	0	0		86	

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

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





		USGS: USGS river temp April		USGS river temp May	
	Secchi:		Temperatures		
4/29	3.5	Sun	51.7		
4/30	3.0	Mon	52.0		
5/1	4.0	Tue	52.4		
5/2	3.5	Wed	52.8		
5/3	3.5	Thurs	53.2		
5/4	3.0	Fri	53.7		
5/5	3.5	Sat	54.4		
	3.4	AVG	52.9		

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
4/29	SCADA		1.8		12.7	12.7	17.2	1.9	9.4	9.4		1.7	8.5	8.4
	1.4	9.9	1.9		12.8	12.6	17.3	1.9	9.5	9.5		1.6	8.5	8.6
	1.5	9.9	1.7		12.8	12.6	16.5	1.7	9.4	9.4		1.5	8.8	8.6
4/30	SCADA		1.7		12.5	12.5	17.4	1.7	9.5	9.5		1.6	8.5	8.5
	1.5	9.8	1.4		13.1	13.1	17.6	1.5	10.5	10.5		1.6	8.5	8.5
	1.6	9.7	1.6		13.0	13.0	17.5	1.5	10.6	10.6		1.5	8.6	8.6
5/1	SCADA		1.6		13.0	13.0	17.0	1.5	10.6	10.6		1.5	8.4	8.4
	1.4	10.1	1.6		13.0	13.0	16.4	1.4	10.4	10.4		1.5	8.5	8.5
	1.5	10.1	1.7		13.0	13.0	16.6	1.7	10.4	10.4		1.5	8.4	8.4
5/2	SCADA		1.6		13.1	13.1	16.0	1.3	10.5	10.5		1.4	8.5	8.5
	1.4	10.2	1.6		12.9	12.9	16.0	1.4	10.4	10.4		1.4	8.5	8.5
	1.5	10.1	1.7		13.1	13.1	15.6	1.4	10.5	10.5		1.4	8.4	8.4
5/3	SCADA		1.6		13.0	13.0	16.4	1.4	10.0	10.0		1.5	8.5	8.4
	1.4	10.3	1.6		13.1	13.1	16.5	1.4	10.0	10.0		1.5	8.5	8.5
	1.5	10.1	1.7		13.0	13.0	17.0	1.4	10.0	10.0		1.5	8.5	8.4
5/4	SCADA		1.7	13.0	13.0	17.3	1.6	10.0	10.0	1.5	8.5	8.5		
	1.3	10.2	1.6	13.0	13.0	16.5	1.5	10.1	10.1	1.5	8.6	8.5		
	1.4	10.1	1.6	13.1	13.0	16.6	1.5	10.1	10.1	1.4	8.7	8.7		
5/5	SCADA		1.5	13.1	13.1	16.9	1.7	10.1	10.1	1.5	8.7	8.6		
	1.4	10.2	1.6	13.0	13.0	17.4	1.5	10.1	10.1	1.6	8.5	8.4		
	1.4	10.2	1.6	13.0	13.0	17.9	1.6	9.9	9.9	1.6	8.4	8.4		
<b>AVG:</b>	<b>1.4</b>	<b>10.1</b>	<b>1.6</b>	<b>13.0</b>	<b>12.9</b>	<b>16.8</b>	<b>1.5</b>	<b>10.1</b>	<b>10.1</b>	<b>1.5</b>	<b>8.5</b>	<b>8.5</b>		

Fishways are inspected twice daily plus one SCADA inspection.



Spring chinook fishermen keeping their distance from the east exit...so far