

The Dalles Dam Fishway Status Report

Date: 10/7/2013
 Inspection Period: 9/29 to 10/5/2013

THE DALLES DAM



**US Army Corps
 of Engineers**
 Portland District

The Dalles Project-Fisheries
 P.O. Box 564
 The Dalles, OR 97058-9998
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Fishways are inspected twice daily. Additional daily monitoring done via automation system in fisheries office.

The Dalles Dam	Inspections Out of Criteria	Criteria Limit	Total Number of Inspections: 21	Temperature: 64.4 F
			Comments	Secchi: in ' 5.0
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'	Average 1.3	
Entrance weir N1	0	depth (≥ 8')	Average 9.5	
Entrance weir N2		Closed	Bulkhead installed.	
PUD Intake differential	0	≤ 0.5'		
EAST FISHWAY				
Exit differential	0	≤ 0.5'		
Removable weirs 154-157	0	Per forebay	Auto adjusts 1' increments.	
Weir 158-159 differential	0	1.0' ± 0.1'		
Count station differential	0	≤ 0.3'	Picketed leads raked daily due to high debris.	
Weir crest depth	0	1.0' ± 0.1'		
Junction pool weir JP6	0	depth (≥ 7')	Manually adjusted as needed.	
East entrance differential	0	1.0' - 2.0'	Average 1.5	
Entrance weir E1	0	No criteria	Average 11.0	Manually adjusted.
Entrance weir E2	0	depth (≥ 8')	Average 13.3	
Entrance weir E3	0	depth (≥ 8')	Average 13.3	
Collection channel velocity	0	1.5 - 4 fps	Average 2.0	See Velocities tab for more complete information.
Transportation channel velocity	0	1.5 - 4 fps	Average 2.3	
North channel velocity	0	1.5 - 4 fps	Average 2.6	
South channel velocity	0	1.5 - 4 fps	Average 2.6	
West entrance differential	0	1.0' - 2.0'	Average 1.5	Daily differentials & weir depths, see AVGS tab.
Entrance weir W1	0	depth (≥ 8')	Average 8.6	
Entrance weir W2	0	depth (≥ 8')	Average 8.5	
Entrance weir W3	0	No criteria	Average closed	
South entrance differential	0	1.0' - 2.0'	Average 1.2	
Entrance weir S1	1	depth (≥ 8')	Average 8.2	7.9' due to low tailwater.
Entrance weir S2	1	depth (≥ 8')	Average 8.2	7.9' due to low tailwater.
JUVENILE PASSAGE				
Sluiceway operation	0	units 1,8,17	MU18 out of service; sluice gates closed. MU17 in service; sluiceways 17-2, 17-3 open.	
Turbine trashrack drawdown	0	<1.5', wkly	Range: 0.2' - 0.4'	
Spill volume	0	40%, 24hr	On seal.	
Spill Pattern	0	per FPP	On seal.	
Turbine Unit Priority	0	per FPP		
Turbine 1% Efficiency	0	per FPP		

OTHER ISSUES:**OOS = out of service****Birds/Sea lions:**

Bird observation data collected twice daily. Gull numbers low. Cormorant numbers increasing on rocks or towers. See avian zones map and distribution tabs. No sea lion sightings this week.

Operations:

MU18 OOS 8/26/2013 to 10/3/2013 for digital governor installation.
MU15 OOS 9/17/2013 to 10/31/2013 for five year over haul.
MU7 OOS 9/30/2013 to 10/10/2013 for Governor Control-Oil Piping Modification
Gatewell drawdown completed 9/30. Values ranged from 0.2-0.4' (within criteria).

Maintenance:

Fishway winter maintenance dewatering schedule out for review. East fishway Dec 4 to mid Jan. North fishway Jan 28 through end of Feb. Winter maintenance items include; resecure west entrance diffuser grating, rehab east exit weirs, remove north ladder vegetation and repair leak over east exit electrical panel,

Studies:

PIT - Temporary Thin Wall PIT tag Antenna continues to work successfully. Most likely to be permanent option.
EFL - NWW VE Alternative - direct burial closed conduit to AWS chamber with orifice plate energy dissipation. This concept maintains the intake design and location of a 10' steel pipe presented in the 60% DDR submission. But differs with a direct line to the AWS conduit rather than into the approach channel fo the fishlock.
PUD - "Freedom" turbine proposal out for review. Modification of original FERC license underway.
Lamprey - Planning meeting Oct 9 for weir orifice floor plating in lower ladders.

Research/Contractors:

Tribal lamprey trap collection at east count station completed for season. All equipment removed from project.
WDFW Columbia River Northern Pikeminnow Management Program Dam Angling completed end of Sept.
Total dam angling effort hours - 564, total NPM - 1,684, NPM \geq 1,667, adult salmonids - 2, sturgeon - 24, game fish - 69, and non-game fish - 24.
Derelict USGS I-beams on pier noses removed by project maintenance. Plans to remove remaining pier nose antennas this winter by dive.
USFWS plans to remove all of their old equipment this winter dewatering and maintenance period from the fish ladders.
Second phase utilizing goats to remove vegetation around north fish ladder scheduled for 9/30 to 10/4. First attempt had limited results.
Normandeau fish counters performing video counting through 9/30 and visual counting to 10/31. No winter time counting this year.
One more set of derelict Vertical Barrier Screens (VBS) from 90's research remains in MU 12 gatewell slot. ROV inspection verified location.
VBS previously removed are currently stored on the north side.
University of Idaho adult RT new antennas both fish ladders completed and operating. Plans to clean up unused antennas this winter.

Approved by;
Ron D. Twiner
Operation Project Manager
The Dalles Dam

DART The Dalles Adult Ladders Daily Usage with Spill Percent and Outflow

Date	Chinook				Jack Chinook				Steelhead				Steelhead Wild				Sockeye				Coho				Jack Coho				Pink				Lamprey				Spill Pct [Right]	Outflow (kcfs)
	Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder							
	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#						
9/29/2013	95.2	6436	4.8	324	93	677	7.3	53	88	4730	11.8	635	85	1885	14.8	328		0	0		83	870	17	181	86	62	14	10					50	2	50	2	0	85.7
9/30/2013	95.9	5054	4.1	215	96	808	3.7	31	92	6895	7.9	588	91	3122	8.6	293		0	0		88	3788	12	533	92	329	8.1	29					100	4	0	0	0	83.4
Total		11490		539		1485				11625		1223		5007		621		0	0			4658		714		391		39				6		2				

Due to Government Shutdown the Following Data Has Not Been Verified and is Subject to Change; the fish counts functions below are limited to Sept. 30, 2013, and prior dates

Date	Chinook				Jack Chinook				Steelhead				Steelhead Wild				Sockeye				Coho				Jack Coho				Pink				Lamprey				Spill Pct [Right]	Outflow (kcfs)
	Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder							
	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#						
10/1/2013	95.8	2766	4.2	115	96.0	836	4.0	34	95.7	2375	4.3	122	94.2	1766	5.8	104					95.3	2179	4.7	158	96.0	253	4.0	14	0.0	0	100.0	1	60.0	5	40.0	2	0	
10/2/2013	98.1	5286	1.9	175	97.2	715	2.8	28	96.4	1631	3.6	64	95.3	1264	4.7	65					92.4	1351	7.6	115	87.0	106	13.0	14	100.0	4	0.0	0	100.0	5	0.0	0	0	
10/3/2013	99.1	6875	0.9	68	98.3	1114	1.7	19	92.4	854	7.6	65	59.5	106	40.5	43					97.4	854	2.6	23	92.5	106	7.5	8	100.0	1	0.0	0	100.0	1	0.0	0	0	
10/4/2013	95.8	3776	4.2	168	91.4	463	8.6	47	96.7	900	3.3	32	99.4	592	0.6	4					98.2	323	1.8	61	36.0	26	65.0	40	100.0	1	0.0	0						
10/5/2013	96.0	3067	4.0	125	93.9	666	6.1	41	91.7	310	8.3	26	60.9	41	39.1	25					95.2	622	4.8	30	99.5	335	0.5	2		0	0	0	0.0	0	0.0	0	0	
Total		21770		651		3794		169		6070		309		3769		241						5329		387		826		78		6		1		11		2		0

1. The species passage percent is not calculated for either ladder on a day, if either the Right Ladder or Left Ladder species count is: negative or null for the day.

2. Ladder orientations reference the side of the river when facing downstream.

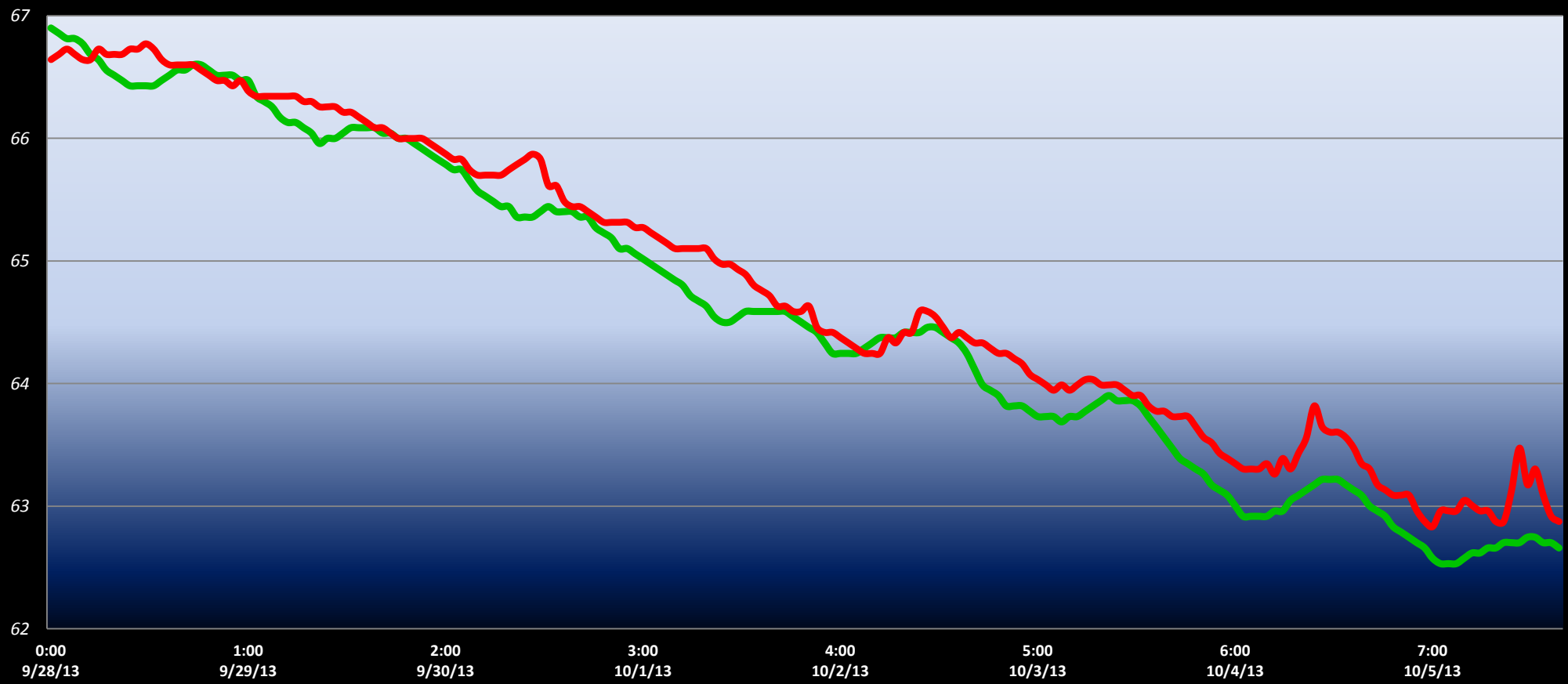
3. Data Provided Courtesy of U.S. Army Corps of Engineers

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

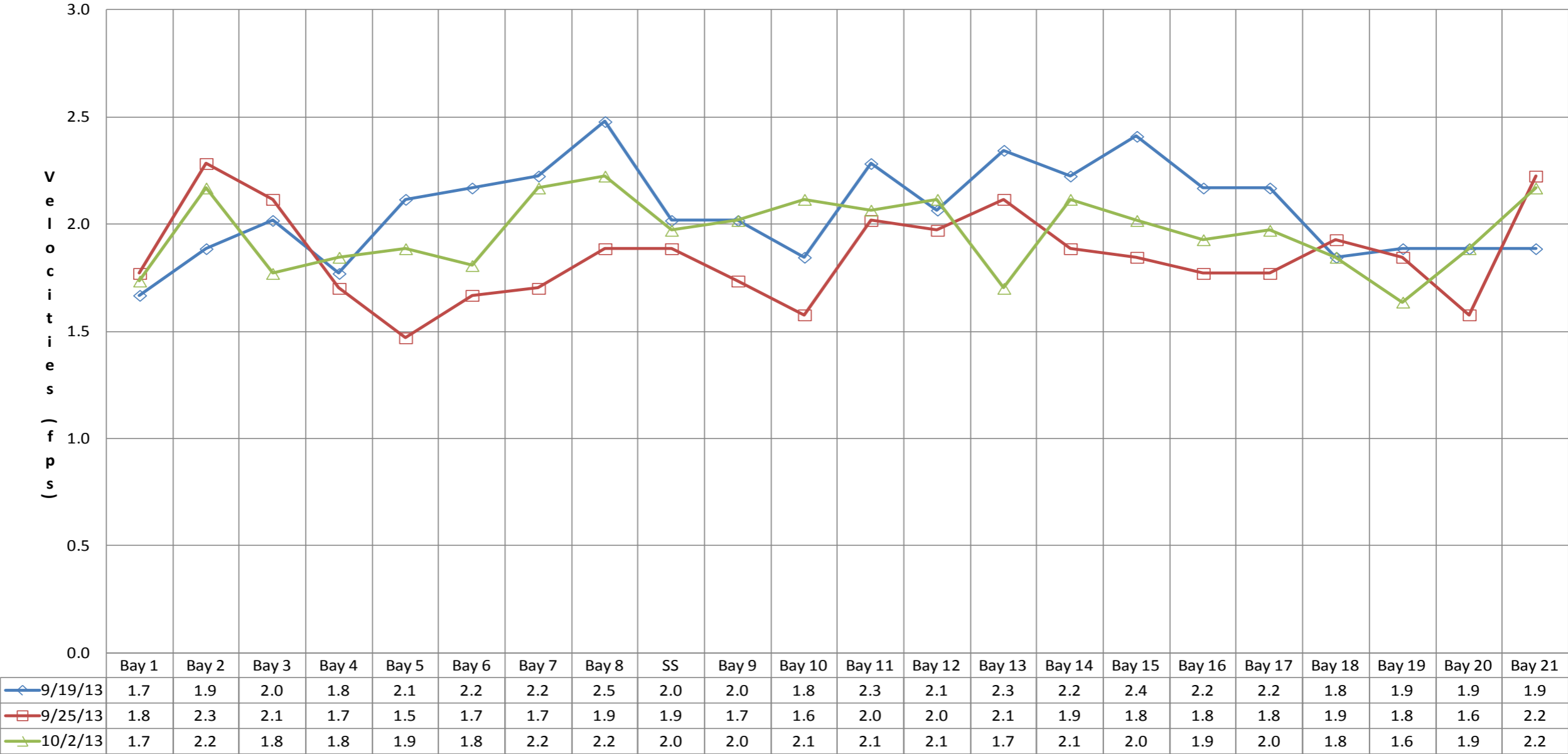
°F

East Ladder

North Ladder



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



The Dalles Dam Avian Zones

Washington Shore

FB1

PH-T1

PH-T2

SW-T1

PH-T3

SW-T3

SW-T2

SW-T4

SW-T5

Oregon Shore



Temp:		Secchi:
66.2	SUN	5.0
65.6	MON	5.0
64.8	TUES	5.0
64.4	WED	5.0
63.9	THUR	5.0
63.2	FRI	5.0
62.9	SAT	5.0
AVG: 64.4	AVG:	5.0

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

= out of criteria

North Fish Ladder		East Fish Ladder													KCFS
North Entrance		East Entrance						West Entrance				South Entrance			% Spill
Date:	Differential	N1 Depth	Differential	E1Depth	E2 Depth	E3 Depth	JP 6	Differential	W1Depth	W2 Depth	W3 Depth	Differential	S1 Depth	S2 Depth	
9/29	1.3	9.5	1.8	10.2	12.9	12.9	8.4	1.5	8.8	8.6	B u l k h e a d i n s t a l l e d	1.1	8.2	8.4	O n s e a l
9/29	1.3	9.5	1.6	10.8	13.1	13.1	8.4	1.5	8.7	8.7		1.2	8.2	8.3	
9/29			1.8	8.7	12.9	12.9	8.2	1.5	8.5	8.4		1.3	7.9	7.9	
9/30	1.3	9.5	1.4	10.9	13.0	13.0	7.8	1.4	8.6	8.5		1.2	8.1	8.1	
9/30	1.3	9.4	1.5	10.9	13.0	13.0	7.8	1.5	8.5	8.4		1.2	8.2	8.3	
9/30			1.5	10.8	12.9	12.9	7.9	1.4	8.8	8.6		1.1	8.3	8.3	
10/1	1.3	9.6	1.7	12.8	13.3	13.3	8.5	1.5	8.5	8.5		1.3	8.2	8.2	
10/1	1.3	9.5	1.4	13.0	13.5	13.5	8.7	1.8	8.2	8.2		1.2	8.2	8.2	
10/1			1.7	12.0	13.0	13.0	8.8	1.6	8.3	8.2		1.3	8.1	8.1	
10/2	1.3	9.6	1.5	13.1	13.5	13.6	9.7	1.6	8.6	8.6		1.4	8.1	8.1	
10/2	1.3	9.6	1.6	13.0	13.4	13.5	9.6	1.6	8.5	8.5		1.3	8.1	8.1	
10/2			1.5	13.0	13.6	13.5	9.6	1.6	8.5	8.5		1.4	8.1	8.1	
10/3	1.3	9.6	1.5	10.0	13.5	13.4	8.6	1.5	8.5	8.5		1.3	8.2	8.2	
10/3	1.3	9.5	1.6	10.0	13.4	13.5	8.8	1.6	10.4	8.4		1.2	8.2	8.2	
10/3			1.2	13.1	13.7	13.6	8.8	1.4	8.6	8.6		1.2	8.3	8.3	
10/4	1.3	9.5	1.4	10.0	13.4	13.5	8.2	1.4	8.5	8.5		1.2	8.1	8.2	
10/4	1.3	9.6	1.4	10.0	13.6	13.6	8.3	1.4	8.5	8.6		1.2	8.3	8.2	
10/4			1.5	10.0	13.4	13.5	8.2	1.5	8.6	8.6		1.2	8.0	8.1	
10/5	1.2	9.5	1.4	10.0	13.5	13.6	7.5	1.4	8.5	8.5		1.3	8.1	8.2	
10/5	1.3	9.5	1.5	9.6	13.6	13.5	7.4	1.5	8.1	8.2		1.2	8.2	8.1	
10/5			1.5	10.0	13.5	13.6	7.5	1.5	8.4	8.4	1.2	8.1	8.2		
AVG:	1.3	9.5	1.5	11.0	13.3	13.3	8.4	1.5	8.6	8.5	closed	1.2	8.2	8.2	

Third fish way inspection for east fish ladder, east, west, and south entrances completed via automation system in fisheries office (SCADA).