

# The Dalles Dam Fishway Status Report

10/20/2014  
 Inspection Period: 10/12/2014 to 10/18/2014

## 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: 64.3 F
			Comments		Secchi: > 5.0 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'	Average	1.3	
Entrance weir N1	0	depth (≥ 8')	Average	9.4	
Entrance weir N2	0	Closed			
PUD Intake differential	0	≤ 0.5'			
<b>EAST FISHWAY</b>					
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'	Window cleaned as needed.		
Weir crest depth	0	1.0' ± 0.1'			
Junction pool weir JP6	0	depth (≥ 7')	Average	10.6	Manually adjusted as needed.
East entrance differential	0	1.0' - 2.0'	Average	1.5	
Entrance weir E1	0	No criteria	Average	3.4	Manually adjusted as needed.
Entrance weir E2	0	depth (≥ 8')	Average	12.3	
Entrance weir E3	0	depth (≥ 8')	Average	12.0	
Collection channel velocity	0	1.5 - 4 fps	Average	3.0	
Transportation channel velocity	0	1.5 - 4 fps	Average	2.5	
North channel velocity	0	1.5 - 4 fps	Average	3.0	
South channel velocity	0	1.5 - 4 fps	Average	3.8	
West entrance differential	0	1.0' - 2.0'	Average	1.5	
Entrance weir W1	0	depth (≥ 8')	Average	10.1	
Entrance weir W2	0	depth (≥ 8')	Average	10.0	
Entrance weir W3	0	No criteria	Closed		
South entrance differential	0	1.0' - 2.0'	Average	1.5	
Entrance weir S1	0	depth (≥ 8')	Average	9.1	
Entrance weir S2	0	depth (≥ 8')	Average	9.2	
<b>JUVENILE PASSAGE</b>					
Sluicelgate operation	0	1, 8, 18			
Turbine trashrack drawdown	0	<1.5', wkly	Range	0.1 - 0.4	
Spill volume	0	40% ± 1%	Average	On seal.	
Spill Pattern	0	per FPP	Spillbay	On seal.	
Turbine Unit Priority	0	per FPP			
Turbine 1% Efficiency	0	per FPP			

**OTHER ISSUES:****Birds/Sea lions:**

Bird observation data collected once daily. Refer to Avian Zone Map. Piscivorous birds targeting emerging juvenile shad.

**Operations:**

Entrance weir E3 in manual due to sticking. E1 and E2 set in auto. All maintaining criteria depth.

Entrance weir W1 in manual also due to sticking. Maintaining depth criteria.

Gateway drawdown check 10/13. All values within criteria.

The east ladder, west ladder, and ice/trash sluiceway are in service and in accordance with the Fish Passage Plan.

**Current Outages:**

T8 (MU15 & MU16) de-rated to single unit full load ops through 9/14/2017.

MU15 OOS 0001 9/29/2014 to 1700 10/30/2014 for annual.

Spillway OOS 0630 - 1700 10/16/2014 for spillwall inspection. See picture.

**Maintenance:**

Dive plan for spillwall repair submitted and in review by the Dive Safety Office. Construction will begin 12/10/2014.

Parts to be ordered for equalizing valve on PUD intake bulkhead.

Four collection channel dewatering pumps require removal and rehab. Parts for completion of two on hand. Remaining four to be inspected this winter.

Weirs E3 and W1 sticking in guide. Repair during winter fishway outage with wheel replacement and guide repair. Does not affect criteria operation.

Permanent east fishway exit boom purchased. Delivery 10/30. Install date before March. Further assessment for protection against oil spill continues.

Charter approved for repair of north fishway rock walls. PM assigned. Awaiting planning start.

Exit weir fabrication for 158 weir complete. Staged at exit for winter install. Possible in house fabrication of new exit weirs for 154-157.

*Long term repair plans funding dependent*; Upgrade east exit weirs 154-157, stabilize north ladder rock walls, remove collection channel diffusers, replace all entrance weir wheels with plastic composite wheels.

Fish related but non-fish funded items; spillway evaluation, spillway crane rehab, spillgate 9 wire rope replacement, HDC update fish unit reliability assessment, planning upgrade fish unit breakers and fish unit transformer replacement.

All spillway items on Critical Infrastructure list and Unfunded Requirement list.

**Studies:**

EFL Backup. Plans/Specs underway for 10' hole through dam, under roadway and into AWS conduit at junction pool. Construction winter '15/'16.

Test for passage with 1400cfs flow currently being discussed via FPOM and FFDRWG.

PUD 'freedom' second turbine proposal underway. Field test proposal being reviewed.

Spill test for more fish passage to north fishladder completed. Benefit evaluation reviewed through FPOM.

Overflow passage rates observed in attempts to determine overcrowding behavior changes. Final results pending, but no obvious differences.

Spillgate Repair - No new developments for spill gate 9 repair.

**Research/Contractors:**

PSMFC PIT tag monitoring continues at count stations. Requesting input for possible interference from north count station recommended video upgrades.

Normandeau fish counters at north and east count stations 16 hours/day 4/1-10/30. Investigating visibility improvements for video at north count station.

Dreissenid sampling via monthly plankton tows ongoing until water temperatures go below 50°F. Samples sent to PSU for analysis.

University of Idaho maintaining antennas and continuing downloads. Installed two additional antennas upstream and down stream of navlock for winter steelhead monitoring.

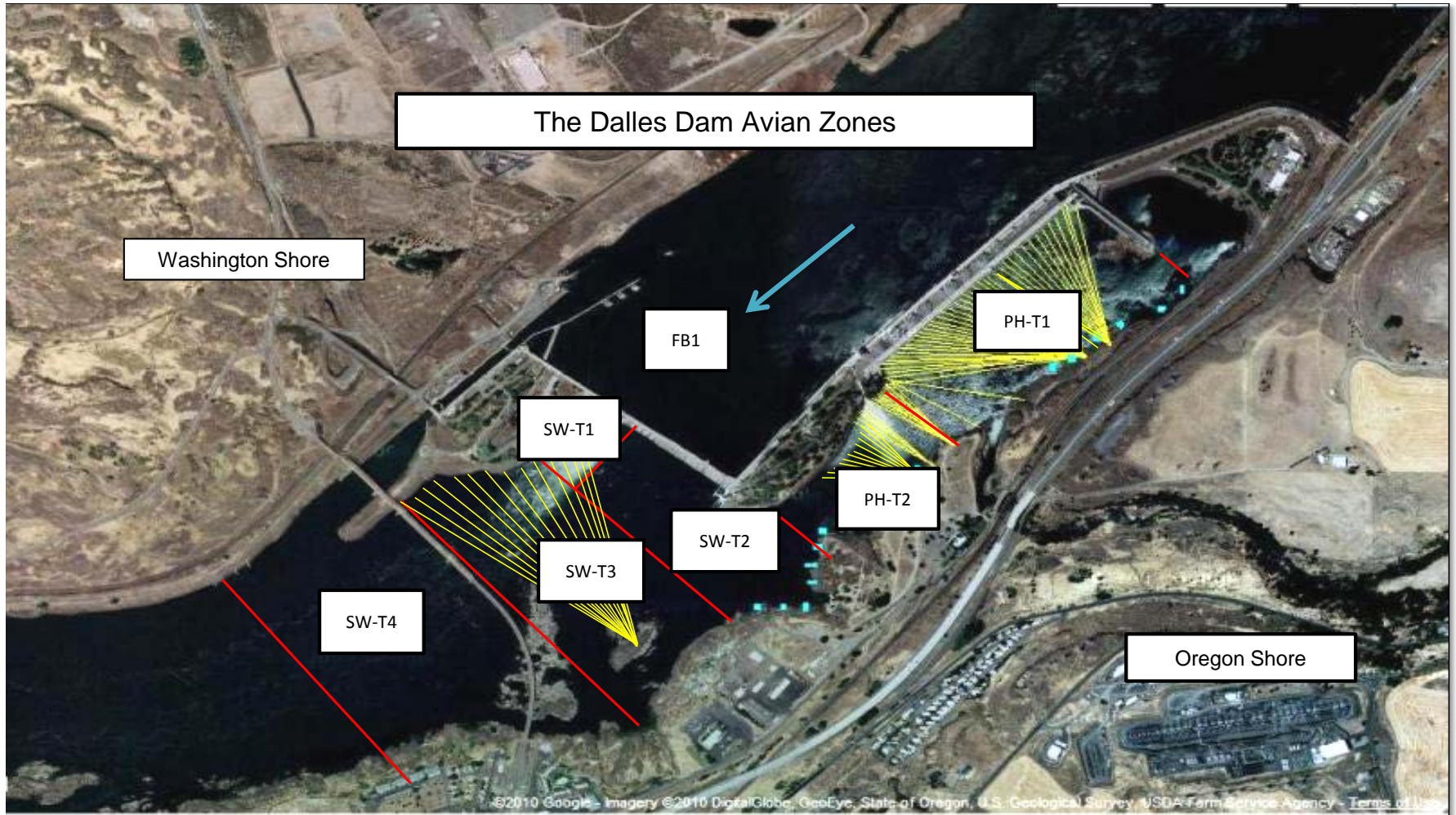
Approved by: Mike Colesar for Ron Twiner  
Operation Project Manager The Dalles Dam

### The Dalles East

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
12-Oct-14	2156	1750	406	670	413	257	366	348	18	0	0	0	1
13-Oct-14	1552	1218	334	870	473	397	293	277	16	0	0	0	1
14-Oct-14	930	748	182	407	228	179	183	179	4	0	0	0	1
15-Oct-14	1264	978	286	349	204	145	137	130	7	0	0	0	1
16-Oct-14	1124	952	172	629	406	223	259	251	8	1	0	0	0
18-Oct-14	1152	935	217	558	342	216	445	438	7	0	0	0	0
<b>total</b>	<b>8178</b>	<b>6581</b>	<b>1597</b>	<b>3483</b>	<b>2066</b>	<b>1417</b>	<b>1683</b>	<b>1623</b>	<b>60</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>4</b>
Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey

### The Dalles North

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
12-Oct-14	274	226	48	106	68	38	60	58	2	0	0	0	0
13-Oct-14	151	128	23	77	37	40	54	53	1	0	0	0	0
14-Oct-14	110	78	32	115	67	48	26	24	2	0	0	0	1
15-Oct-14	58	44	14	28	20	8	12	11	1	0	0	0	0
16-Oct-14	87	71	16	59	42	17	50	49	1	0	0	0	0
18-Oct-14	53	43	10	37	26	11	62	61	1	0	0	0	0
<b>total</b>	<b>733</b>	<b>590</b>	<b>143</b>	<b>422</b>	<b>260</b>	<b>162</b>	<b>264</b>	<b>256</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey

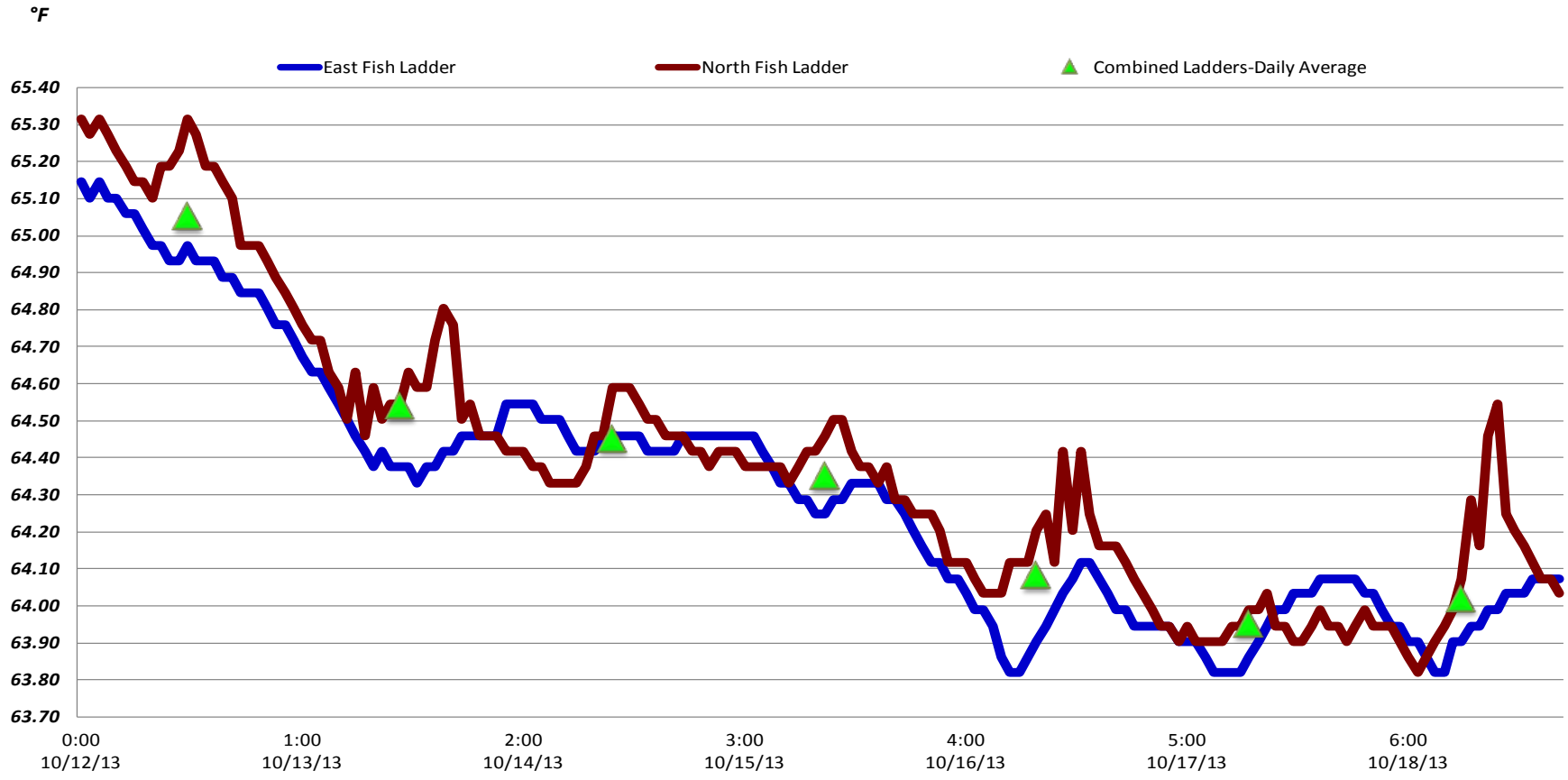


Avian lines in yellow, zones in red.

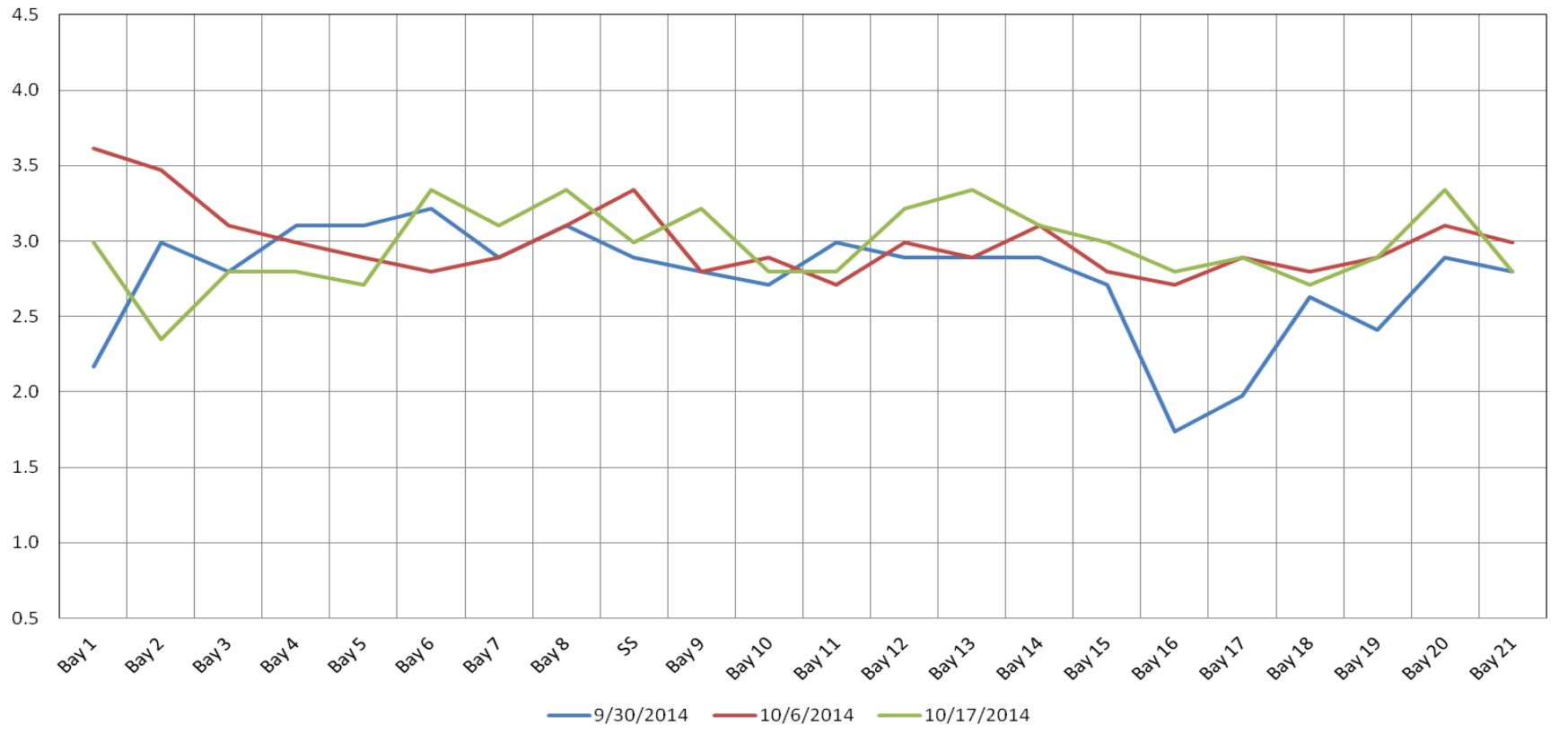
## 2014 Piscivorous Bird Counts

<i>F=foraging, NF=non-foraging</i>														
Date	Session	Time (24 hr)	Zone	Gull		Cormorant		Caspian tern		Other		Total birds in	Observer	Notes
				F	NF	F	NF	F	NF	F	NF			
10/12/14	1	14:28	FB	0	0	0	0	0	0	0	0	0	EK	GBH
		13:59	PH1	0	0	1	16	0	0	0	1	18		
		14:09	PH2	0	0	0	0	0	0	0	0	0		
		14:27	SW1	0	3	0	0	0	0	0	0	3		
		14:12	SW2	0	0	0	0	0	0	0	0	0		
		14:13	SW3	0	0	0	49	0	0	0	0	49		
		14:48	SW4	0	28	0	3	0	0	0	0	31		
10/13/14	1	10:15	FB	0	0	0	39	0	0	0	0	39	EK	
		8:56	PH1	0	0	0	1	0	0	0	0	1		
		9:34	PH2	0	0	0	0	0	0	0	0	0		
		10:13	SW1	0	6	0	0	0	0	0	0	6		
		9:39	SW2	0	0	1	0	0	0	0	0	1		
		9:40	SW3	0	0	0	28	0	0	0	0	28		
		10:36	SW4	0	14	0	6	0	0	0	0	20		
10/14/14	1	13:48	FB	0	0	0	12	0	0	0	34	46		other=grebe
		14:21	PH1	0	0	0	8	0	0	0	0	8		
		14:06	PH2	0	0	0	0	0	0	0	0	0		
		13:38	SW1	0	0	1	0	0	0	0	0	1		
		13:49	SW2	0	0	2	0	0	0	0	0	2		
		13:51	SW3	0	0	0	55	0	0	0	6	61		
		13:54	SW4	0	5	0	1	0	0	0	0	6		
10/15/14	1	10:47	FB	0	0	1	15	0	0	0	46	62		other=grebe other=COME  GBHE
		9:03	PH1	0	0	0	2	0	0	0	3	5		
		9:18	PH2	2	0	0	0	0	0	0	0	2		
		10:44	SW1	0	2	0	0	0	0	0	1	3		
		9:33	SW2	0	0	1	0	0	0	0	0	1		
		10:40	SW3	0	1	1	50	0	0	0	0	52		
		10:43	SW4	0	17	0	1	0	0	0	0	18		
10/16/14	1	15:19	FB	0	0	0	1	0	0	0	24	25	PSK	other = 24 grebes other = 1 merganser  other = 1 merganser
		13:40	PH1	0	0	0	8	0	0	0	1	9		
		14:36	PH2	0	0	0	0	0	0	0	0	0		
		15:31	SW1	0	0	0	0	0	0	0	0	0		
		14:45	SW2	0	0	0	0	0	0	0	1	1		
		15:41	SW3	0	0	0	29	0	0	0	0	29		
		15:43	SW4	0	24	0	11	0	0	0	0	35		
10/17/14	1	10:55	FB	0	0	1	14	0	0	0	17	32	jwr	other=grebe other = COME
		9:58	PH1	0	0	1	13	0	0	0	3	17		
		10:03	PH2	0	0	0	0	0	0	0	0	0		
		10:53	SW1	0	0	0	0	0	0	0	0	0		
		10:07	SW2	0	0	1	0	0	0	0	0	1		
		10:51	SW3	0	0	0	42	0	0	0	0	42		
		10:52	SW4	0	27	0	0	0	0	0	0	27		
10/18/14	1	14:54	FB	0	6	0	0	0	0	0	20	26	PSK	other = grebe other = merganser  other = merganser
		13:46	PH1	0	0	0	15	0	0	0	2	17		
		13:53	PH2	1	0	0	0	0	0	0	0	1		
		15:11	SW1	0	1	0	0	0	0	0	0	1		
		14:45	SW2	1	1	1	0	0	0	0	0	3		
		15:22	SW3	0	0	0	42	0	0	0	7	49		
		15:28	SW4	0	81	0	0	0	0	0	0	81		

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



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



Temperatures

65.0
64.5
64.4
64.3
64.0
63.9
63.7
AVG: 64.3

Secchi:

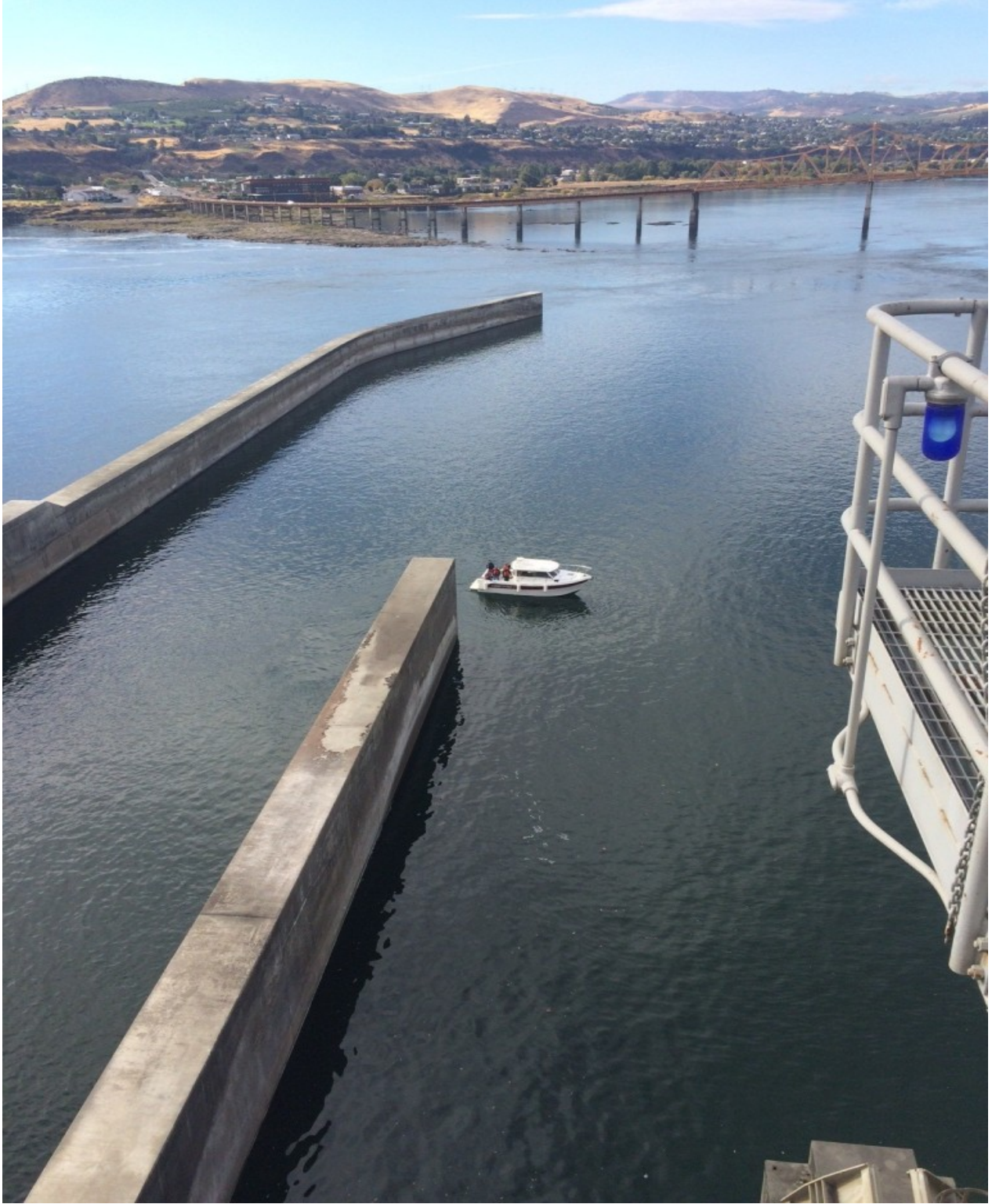
5.0
5.0
5.0
5.0
5.0
5.0
5.0
AVG: 5.0

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

= out of criteria

Date:	<b>North Ladder</b>		<b>East Ladder</b>											Spill KCFS	
	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	
10/12/14			1.4	3.3	12.4	12.1		1.5	10.2	10.3	Closed	1.5	9.1	9.1	On Seal
	1.3	9.3	1.5	3.4	12.4	12.4	10.6	1.5	10.3	10.3		1.5	9.0	9.0	
	1.3	9.5	1.4	3.3	12.3	12.3	10.8	1.2	10.2	10.2		1.6	9.0	9.0	
10/13/14			1.6	3.2	12.2	11.9		1.6	10.1	10.3		1.5	9.1	9.0	
	1.2	9.3	1.5	3.2	12.2	12.1	10.6	1.5	10.2	10.2		1.6	8.9	9.0	
	1.3	9.4	1.5	3.1	12.3	12.2	10.7	1.5	10.2	10.3		1.6	9.0	9.0	
10/14/14			1.6	3.2	11.3	11.8		1.5	9.9	10.3		1.5	9.0	9.0	
	1.3	9.3	1.5	3.2	11.3	12.0	10.5	1.5	10.0	10.2		1.5	9.1	9.1	
	1.3	9.3	1.5	3.3	12.2	12.5	11.0	1.4	10.5	10.3		1.6	9.0	9.0	
10/15/14			1.6	3.2	12.3	11.7		1.6	9.8	10.3		1.3	9.1	10.0	
	1.3	9.4	1.5	3.2	12.3	11.9	10.4	1.5	10.2	10.4		1.5	9.4	9.5	
	1.3	9.5	1.5	3.3	12.4	12.2	10.7	1.5	10.3	10.0		1.5	9.3	9.2	
10/16/14			1.5	3.3	12.4	12.3		1.6	10.4	10.0		1.5	9.2	9.3	
	1.3	9.4	1.5	3.2	12.2	12.4	10.9	1.5	10.4	10.1		1.5	10.0	10.1	
	1.4	9.3	1.5	3.2	12.2	12.4	10.9	1.5	10.4	10.1		1.6	9.2	9.1	
10/17/14			1.7	3.2	12.4	11.9		1.4	10.4	10.1	1.5	9.3	9.2		
	1.4	9.4	1.6	4.0	12.4	12.5	11.0	1.6	10.7	10.0	1.7	8.5	8.6		
	1.4	9.4	1.5	4.0	12.6	12.7	11.2	1.7	10.7	8.9	1.6	9.0	9.0		
10/18/14			1.5	4.1	12.6	10.9		1.7	9.2	9.0	1.5	9.0	9.1		
	1.2	9.4	1.6	3.9	12.4	10.7	9.2	1.7	8.9	9.0	1.5	8.9	8.9		
	1.2	9.5	1.5	4.0	12.5	10.8	9.3	1.6	9.0	9.9	1.5	9.0	9.0		
AVG:	1.3	9.4	1.5	3.4	12.3	12.0	10.6	1.5	10.1	10.0	Closed	1.5	9.1	9.2	





Spillwall repair inspection 10/16. Construction not to begin until 12/10/2014.