

The Dalles Dam Fishway Status Report

11/8/2014
 Inspection Period: 11/2//2014 to 11/07/2014

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: 58.7 F
			Comments		Secchi: > 5.0 feet
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	1.4	
Entrance weir N1	0	depth (≥ 8')	Average	9.2	
Entrance weir N2	0	Closed			
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'	Window cleaned as needed.		
Weir crest depth	0	1.0' ± 0.1'			
Junction pool weir JP6	0	depth (≥ 7')	Average	10.8	
East entrance differential	0	1.0' - 2.0'	Average	1.6	
Entrance weir E1	0	No criteria	Average	4.6	Manually adjusted as needed.
Entrance weir E2	0	depth (≥ 8')	Average	12.1	
Entrance weir E3	0	depth (≥ 8')	Average	11.5	
Collection channel velocity	0	1.5 - 4 fps	Average	3.1	
Transportation channel velocity	0	1.5 - 4 fps	Average	2.9	
North channel velocity	0	1.5 - 4 fps	Average	2.6	
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	9.7	
Entrance weir W2	0	depth (≥ 8')	Average	9.7	
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	9.0	
Entrance weir S2	0	depth (≥ 8')	Average	9.0	
JUVENILE PASSAGE					
Sluiceway 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.	2	per FPP	Due to survey in the forebay for the new AWS system. See picture.		
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 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.

Gatewell drawdown completed 11/08. All differences between the forebay and gatewells in criteria.

Current Outages:

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

MU15 out of service 9/29 to 11/6/2014 for Annual.

Maintenance:

Dive repair on spillwall spalling planned for 12/3/2014.

Dive planned to inspect/clear north and south entrance bulkhead sill for debris 12/03/14.

Four collection channel dewatering pumps require removal and rehab. Parts on hand for completion of two. Remaining pumps 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 end of Dec. Contractor install before March. Further assessment for oil spill protection continues.

Charter approved for repair of north fishway rock walls. PM assigned. Awaiting start. Planning for winter inspection/assessment.

Exit weir 158 fabrication complete. Staged at exit for winter install. Investigating possible on site fabrication of new exit weirs for 154-157 as well.

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 60% review underway. Includes 10'pipe from forebay to AWS. A 1400cfs winter test planned. Flow survey via boat Nov 4-6 to prepare for winter '15/'16 construction. See picture.

PIT data of 15mi creek and mill creek steelhead overshooting The Dalles. Data provided to FPOM. Potential extension of sluiceway operation.

PUD 'freedom' second turbine proposal underway. Field test proposal for summer 2015 being reviewed. FPOM agenda item for November.

Spill test for more fish passage to north fishladder completed. Results showed benefit. Discussions continue through FPOM.

Disrict working on justification for spillgate 9 repair.

Research/Contractors:

PSMFC PIT tag monitoring continues at count stations.

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 into winter steelhead passage season.

Approved by: Ron Twiner

Operation Project Manager The Dalles Dam



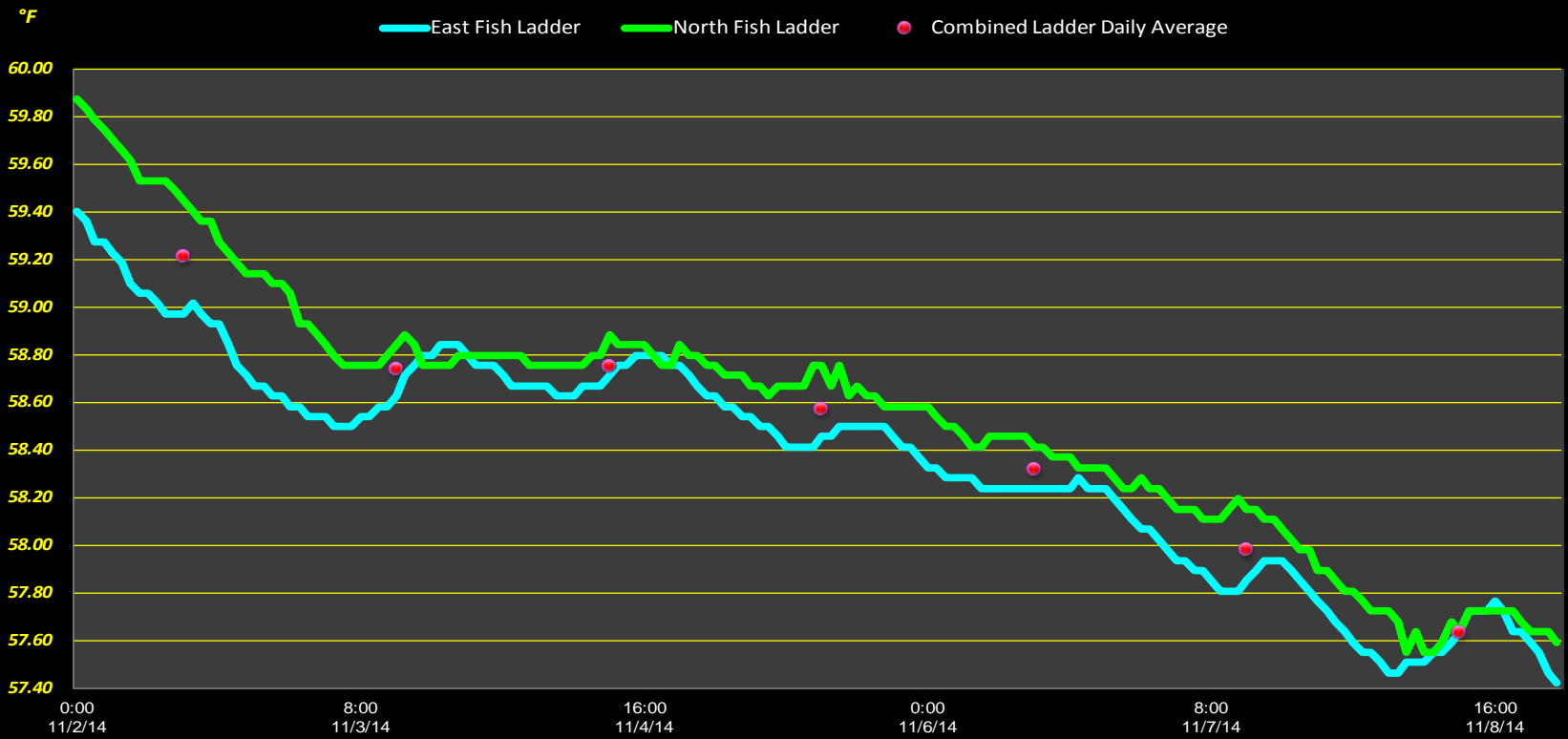
Avian lines in yellow, zones in red.

2014 Piscivorous Bird Counts

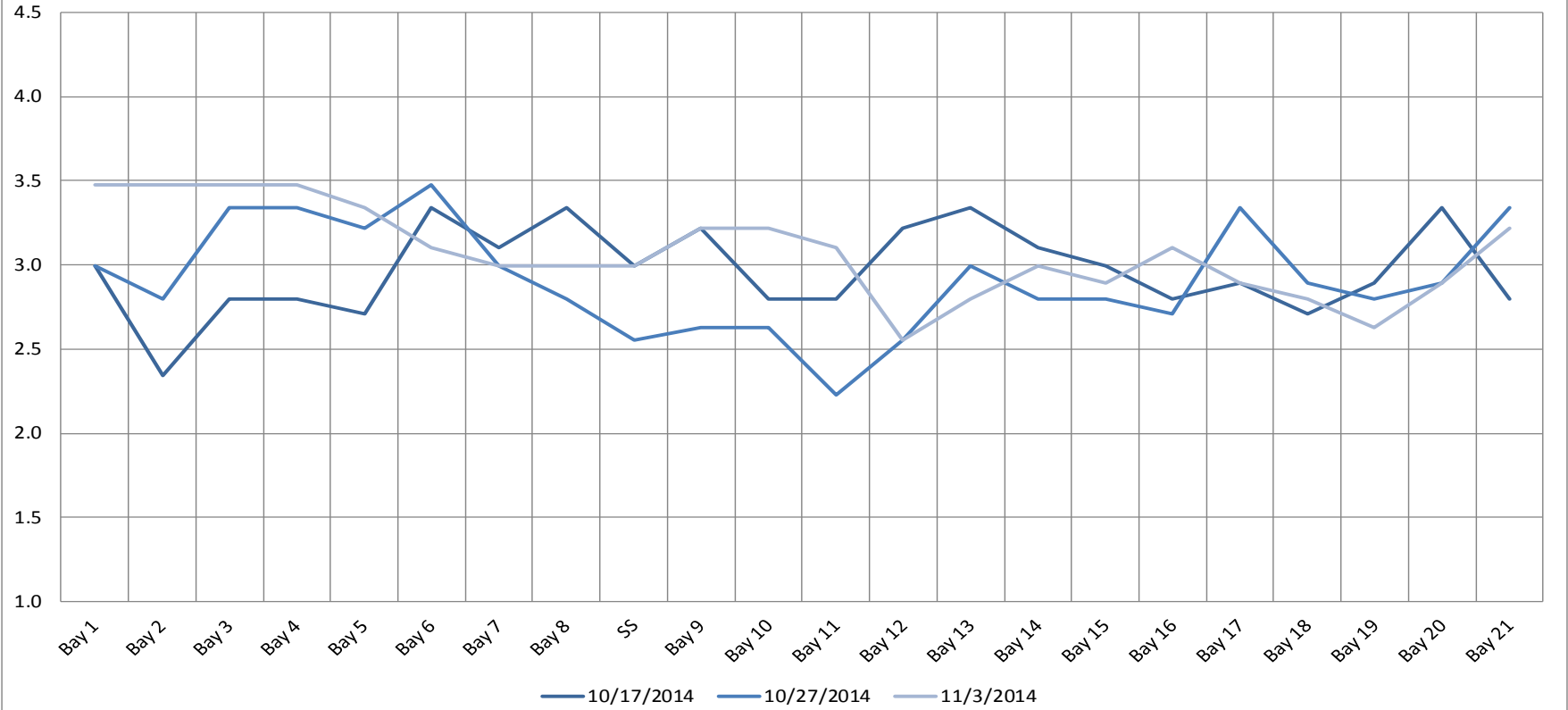
F=foraging, NF=non-foraging

Date	Observer	Time (24 hr)	Zone	Gull		Cormorant		Caspian tern		Other		Total birds in zone	Notes
				F	NF	F	NF	F	NF	F	NF		
11/2	jwr	10:12	FB	0	0	0	2	0	0	0	104	106	other = grebes other = mergansers
		9:36	PH1	0	0	9	37	0	0	0	17	63	
		9:43	PH2	18	0	1	0	0	0	0	0	19	
		10:09	SW1	0	10	0	0	0	0	0	0	10	
		9:47	SW2	11	0	0	0	0	0	0	0	11	
		10:02	SW3	0	82	4	48	0	0	0	0	134	
10:07	SW4	0	57	0	51	0	0	0	0	108			
11/3	PSK	15:08	FB	0	0	1	45	0	0	0	107	153	other = 107 grebes other = 31 mergansers
		13:40	PH1	0	0	1	30	0	0	0	31	62	
		14:17	PH2	80	0	3	0	0	0	0	0	83	
		15:44	SW1	0	0	0	0	0	0	0	0	0	
		14:32	SW2	16	0	1	0	0	0	0	0	17	
		14:37	SW3	0	108	0	81	0	0	0	0	189	
15:27	SW4	0	75	0	5	0	0	0	0	80			
11/4	jwr	9:03	FB	0	13	0	8	0	0	0	119	140	other = grebes other = mergansers gbhe
		7:56	PH1	22	0	18	7	0	0	7	31	85	
		8:08	PH2	25	0	0	0	0	0	0	0	25	
		9:00	SW1	0	2	0	0	0	0	0	1	3	
		8:12	SW2	4	0	1	0	0	0	0	0	5	
		8:16	SW3	4	99	0	62	0	0	0	0	165	
8:45	SW4	0	23	0	31	0	0	0	0	54			
11/5	PSK	14:58	FB	0	12	0	0	0	0	0	116	128	other = grebes other = mergansers gulls on spillwall
		13:30	PH1	0	0	0	10	0	0	0	41	51	
		13:44	PH2	0	34	0	8	0	0	0	0	42	
		15:15	SW1	0	34	0	0	0	0	0	0	34	
		14:00	SW2	16	0	1	0	0	0	0	0	17	
		15:26	SW3	0	61	0	76	0	0	0	0	137	
15:30	SW4	0	101	0	14	0	0	0	0	115			
11/6	jwr	9:05	FB	0	15	0	1	0	0	0	114	130	other = grebes other = mergansers
		8:05	PH1	8	0	1	28	0	0	0	37	74	
		8:13	PH2	19	0	0	0	0	0	0	0	19	
		9:02	SW1	0	6	1	0	0	0	0	0	7	
		8:18	SW2	3	0	0	0	0	0	0	0	3	
		8:20	SW3	0	64	0	73	0	0	0	0	137	
8:58	SW4	0	24	0	48	0	0	0	1	73			
other = AWPE													
11/7	PSK	13:57	FB	0	48	0	0	0	0	0	101	149	other = grebes other = mergansers gulls on spillwall
		12:44	PH1	0	0	1	23	0	0	0	21	45	
		13:09	PH2	32	0	4	0	0	0	0	0	36	
		14:12	SW1	0	26	0	0	0	0	0	0	26	
		12:59	SW2	1	0	0	0	0	0	0	0	1	
		14:22	SW3	0	0	0	60	0	0	0	0	60	
14:25	SW4	0	74	0	11	0	0	0	0	85			
11/8	EHK	8:50	FB	0	0	0	0	0	0	0	70	70	grebes mergansers
		8:10	PH1	0	0	5	38	0	0	0	14	57	
		8:29	PH2	17	0	0	0	0	0	0	0	17	
		9:11	SW1	0	22	0	0	0	0	0	0	22	
		8:33	SW2	0	7	0	0	0	0	0	0	7	
		8:45	SW3	0	34	0	52	0	0	0	0	86	
8:53	SW4	0	74	0	19	0	0	0	0	93			

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



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



Temperatures

59.2
59.2
58.7
58.7
58.6
58.3
58.0
AVG: 58.7

Secchi:

5.0
5.0
5.0
5.0
5.0
5.0
5.0
AVG: 5.0

<p>The Dalles Dam Daily Readings and Averages for Temperatures, Secchi, Entrances, and Spill</p>

= out of criteria

Date:	North Ladder		East Ladder											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	
11/2			1.6	3.1	12.1	12.1		1.6	9.9	9.9	Closed	1.5	9.2	9.2	On Seal
	1.5	9.2	1.6	4.5	12.1	12.1	11.1	1.6	9.9	9.8		1.6	9.1	9.1	
	1.4	9.2	1.6	4.6	12.0	12.2	11.2	1.5	10.0	10.0		1.5	9.2	9.2	
11/3			1.5	4.5	12.1	11.6		1.5	9.6	9.6		1.5	8.8	8.8	
	1.3	9.3	1.6	4.4	12.0	11.5	10.6	1.5	9.5	9.5		1.5	8.9	9.1	
	1.4	9.2	1.7	4.5	11.9	11.4	10.4	1.6	9.4	9.4		1.5	9.1	9.1	
11/4			1.6	4.5	12.1	10.8		1.5	9.5	9.5		1.4	9.0	9.0	
	1.3	9.2	1.6	4.4	11.9	10.8	9.8	1.5	9.6	9.5		1.5	8.9	9.0	
	1.3	9.3	1.8	4.5	12.0	11.1	10.1	1.4	9.5	9.6		1.6	9.0	8.9	
11/5			1.5	4.8	12.3	11.9		1.6	9.6	9.5		1.4	9.1	9.1	
	1.5	10.0	1.5	4.5	12.1	12.1	11.1	1.6	9.5	9.6		1.6	9.0	9.0	
	1.5	9.0	1.4	4.6	12.1	12.5	11.5	1.6	9.6	9.6		1.6	9.0	9.0	
11/6			1.6	4.4	12.0	10.9		1.6	9.5	9.4		1.6	8.9	9.0	
	1.3	9.2	1.7	4.4	12.0	10.9	9.9	1.4	9.4	9.5		1.5	9.0	9.1	
	1.4	9.1	1.4	4.5	12.1	11.8	10.8	1.5	9.5	9.6		1.6	8.9	9.0	
11/7			1.5	4.6	12.1	11.4		1.5	9.5	9.6	1.5	9.1	9.0		
	1.4	9.1	1.6	4.6	12.1	12.2	11.2	1.6	9.5	9.6	1.5	9.0	9.1		
	1.4	9.2	1.4	4.4	11.9	12.2	11.2	1.5	9.9	10.0	1.6	8.8	8.9		
11/8			1.6	5.0	12.0	11.6		1.4	10.0	9.9	1.5	9.0	9.0		
	1.4	9.2	1.6	5.6	12.6	11.8	10.8	1.4	10.1	10.0	1.4	9.1	9.1		
	1.5	9.2	1.5	5.5	12.5	8.3	11.3	1.5	10.1	10.0	1.5	9.1	9.1		
AVG:	1.4	9.2	1.6	4.6	12.1	11.5	10.8	1.5	9.7	9.7	Closed	1.5	9.0	9.0	



Water velocity survey at the forebay east fish ladder exit for emergency auxiliary water supply Nov 4th.