

# The Dalles Dam Fishway Status Report

11/17/2014  
 Inspection Period: 11/9/2014 to 11/15/2014

## 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: #DIV/0! 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	1.4	
Entrance weir N1	0	depth (≥ 8')	Average	9.3	
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	
East entrance differential	0	1.0' - 2.0'	Average	1.5	
Entrance weir E1	0	No criteria	Average	4.4	Manually adjusted as needed.
Entrance weir E2	0	depth (≥ 8')	Average	12.3	
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	1.6	
Entrance weir W1	0	depth (≥ 8')	Average	9.9	
Entrance weir W2	0	depth (≥ 8')	Average	9.9	
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	9.2	
Entrance weir S2	0	depth (≥ 8')	Average	9.2	
<b>JUVENILE PASSAGE</b>					
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.	3	per FPP	Lines 2 and 3 OOS for scheduled work for BPA Big Eddy. See <b>Current Outages</b> below.		
Turbine 1% Efficiency	0	per FPP			

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

Bird observation data collected once daily. Refer to Avian Zone Map.

**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.

**Current Outages:**

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

MU15 out of service 9/29 to 11/20/2014 for Annual.

11/12/2014 at 0652 Powerhouse Line #3, and Main Generators 5-8 were taken out of service for scheduled work for BPA Big Eddy.

11/12/2014 at 1617 Powerhouse Line #3 was returned to service from scheduled maintenance.

Powerhouse / Big Eddy Line 2 Out-Of-Service at 0754 on 13 November 2014 for scheduled Big Eddy Substation Work.

Powerhouse / Big Eddy Line 2, Main Unit 3 and Main Unit 4 RTS from Planned Outage for Big Eddy Work at 1514 on 13 November 2014

**Maintenance:**

Dive repair planned for spillwall repair 12/03/2014.

Dive planned to inspect/clear north and south entrance bulkhead sill for debris 12/01/14. Will require auxiliary water off each for ~1 hour.

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.

*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.

PIT data showing potential 15mi creek and mill creek steelhead overshooting The Dalles. Data reviewed by FPOM. Possible winter 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. FPOM discussion continues.

District working on justification for spillgate 9 repair.

**Research/Contractors:**

PSMFC PIT tag monitoring continues at count stations.

Normandeau fish counters finished for season. Investigating visibility improvements for video use at north count station. East bathroom upgrades planned.

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.

Approved by: Ron Twiner

Operation Project Manager The Dalles Dam



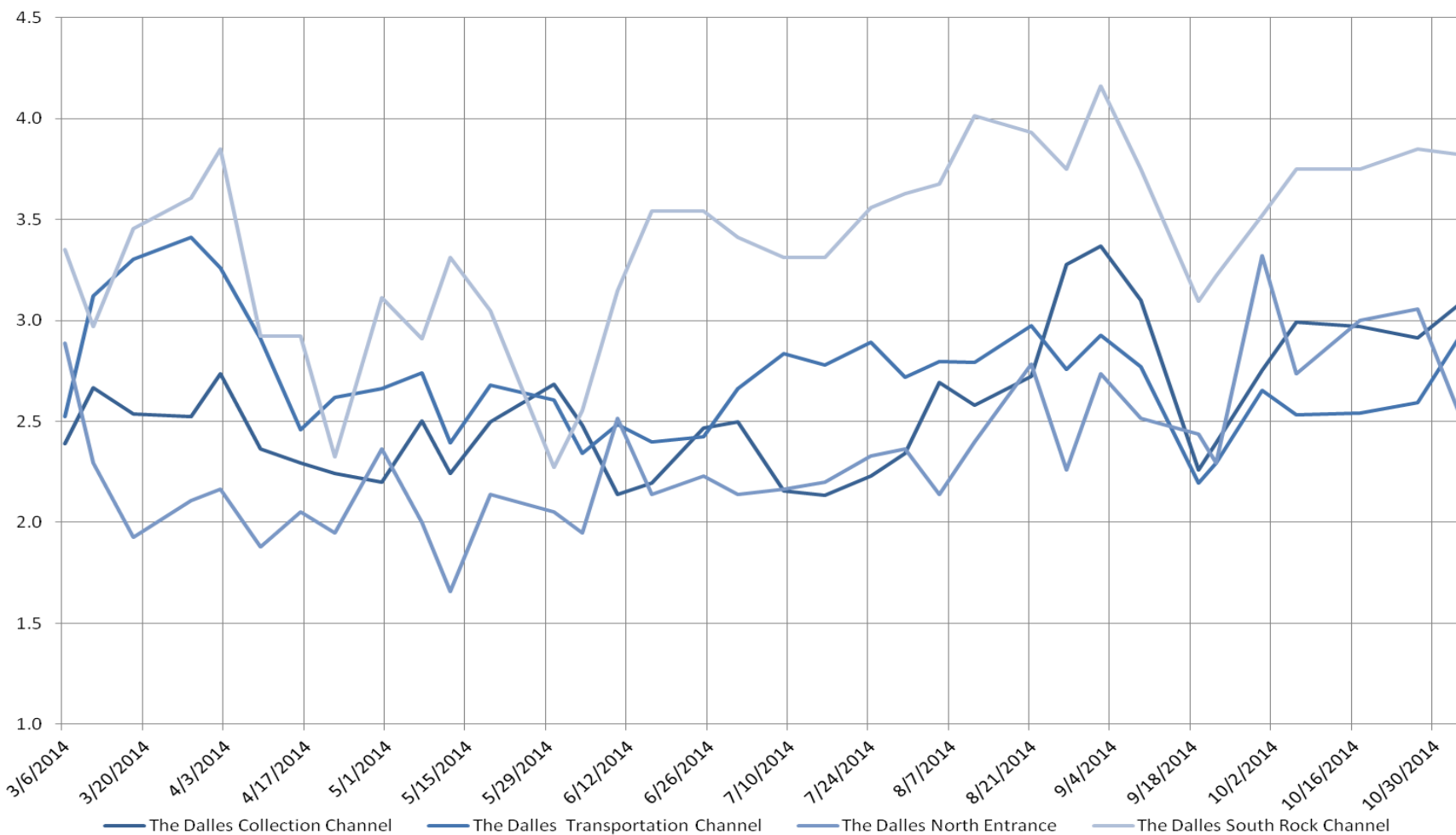
Avian lines in yellow, zones in red.

## 2014 Piscivorous Bird Counts

*F=foraging, NF=non-foraging*

Date	Session	Time (24 hr)	Zone	Gull		Cormorant		Caspian tern		Other		Total birds in	Observer	Notes
				F	NF	F	NF	F	NF	F	NF			
11/9/14	1	14:58	FB	0	9	0	0	0	0	0	56	65	EHK	grebes mergansers
		14:33	PH1	0	0	7	18	0	0	3	0	28		
		14:39	PH2	21	0	0	0	0	0	0	0	21		
		15:00	SW1	0	0	0	0	0	0	0	0	0		
		14:42	SW2	0	0	0	0	0	0	0	0	0		
		14:43	SW3	0	0	0	9	0	0	0	0	9		
		15:01	SW4	0	66	0	12	0	0	0	0	78		
11/10/14	1	8:42	FB	0	18	1	6	0	0	0	104	129	jwr	grebes mergansers
		9:18	PH1	6	0	4	14	0	0	1	8	33		
		9:23	PH2	11	0	0	0	0	0	0	0	11		
		8:37	SW1	0	2	0	0	0	0	0	0	2		
		8:46	SW2	3	0	2	0	0	0	0	0	5		
		8:51	SW3	6	26	0	69	0	0	0	0	101		
		8:53	SW4	0	17	0	8	0	0	0	0	25		
11/11/14	1	13:25	FB	0	23	0	0	0	0	0	65	88	jwr	grebes mergansers  csl
		12:43	PH1	0	3	0	46	0	0	0	21	70		
		12:49	PH2	48	0	2	0	0	0	0	0	50		
		13:10	SW1	0	16	0	0	0	0	0	0	16		
		12:51	SW2	31	0	5	0	0	0	1	0	37		
		12:55	SW3	15	126	3	55	0	0	0	0	199		
		13:00	SW4	0	65	0	77	0	0	0	0	142		
11/12/14	1	10:24	FB	0	8	0	0	0	0	0	68	76	jwr	grebes mergansers
		9:26	PH1	0	0	6	42	0	0	9	32	89		
		9:04	PH2	18	0	4	0	0	0	0	0	22		
		10:17	SW1	0	22	0	0	0	0	0	0	22		
		9:10	SW2	3	28	8	22	0	0	0	0	61		
		9:13	SW3	2	156	2	49	0	0	0	0	209		
		9:17	SW4	0	46	0	0	0	0	0	0	46		
11/13/14	1	14:38	FB	0	9	0	0	0	0	0	123	132	PSK	other = 123 grebes NF other = 51 mergansers NF  gulls roosting on spillwall  other = one great blue heron
		13:41	PH1	0	0	0	10	0	0	0	51	61		
		13:53	PH2	5	0	1	0	0	0	0	0	6		
		14:56	SW1	0	5	0	0	0	0	0	0	5		
		13:58	SW2	2	0	2	0	0	0	0	0	4		
		15:01	SW3	0	0	0	33	0	0	0	1	34		
		15:06	SW4	0	55	0	60	0	0	0	0	115		
11/14/14	1	10:24	FB	14	45	2	0	0	0	0	129	190	jwr	grebes mergansers  GBHE
		9:33	PH1	1	1	7	36	8	24	0	0	77		
		9:16	PH2	8	0	0	0	0	0	0	0	8		
		10:16	SW1	0	0	0	0	0	0	0	1	1		
		9:19	SW2	2	0	0	15	0	0	0	0	17		
		9:22	SW3	0	32	0	46	0	0	0	0	78		
		9:27	SW4	11	24	6	53	0	0	0	0	94		
11/15/14	1	14:58	FB	0	75	0	0	0	0	0	150	225	PSK	other = 141 grebes, 9 coots other = mergansers  other = great blue heron
		13:42	PH1	0	0	0	53	0	0	0	32	85		
		13:56	PH2	5	0	1	0	0	0	0	0	6		
		15:18	SW1	0	28	0	0	0	0	0	1	29		
		14:04	SW2	1	1	0	0	0	0	0	0	2		
		15:28	SW3	0	20	1	17	0	0	0	0	38		
		15:31	SW4	0	128	0	69	0	0	0	0	197		

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



Temperatures

AVG: #DIV/0!

Secchi:

5.0
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

<b>North Ladder</b>			<b>East Ladder</b>												Spill KCFS
North Entrance		East Entrance						West Entrance				South Entrance			
Date:	Differential	N1 Depth	Differential	E1 Depth	E2 Depth	E3 Depth	JP 6	Differential	W1 Depth	W2 Depth	W3 Depth	Differential	S1 Depth	S2 Depth	
11/9/14			1.5	5.5	12.6	11.2		1.4	10.0	10.1	Closed	1.4	9.1	9.0	On Seal
	1.4	9.1	1.3	5.5	12.6	11.4	10.4	1.3	10.1	10.0		1.5	8.9	9.0	
	1.5	9.0	1.5	5.6	12.5	9.7	10.7	1.4	10.0	10.0		1.5	8.9	9.0	
11/10/14			1.6	5.4	12.4	11.9		1.7	9.4	9.4		1.6	8.7	8.8	
	1.4	9.2	1.4	5.5	12.5	12.2	11.2	1.6	9.5	9.5		1.6	8.7	8.8	
	1.4	9.2	1.5	4.9	12.5	11.4	10.4	1.5	9.7	9.7		1.6	8.9	8.9	
11/11/14			1.6	4.9	12.4	11.2		1.7	9.6	9.6		1.6	9.0	9.0	
	1.4	10.1	1.5	5.4	12.3	11.1	10.1	1.5	10.0	10.0		1.6	9.1	9.1	
	1.4	9.1	1.5	5.5	12.4	11.0	10.0	1.5	9.9	9.9		1.5	9.2	9.2	
11/12/14			1.5	5.6	12.5	11.0		1.4	10.0	10.0		1.5	9.3	9.3	
	1.3	9.2	1.4	0.0	12.4	11.5	10.5	1.6	9.8	9.8		1.5	9.4	9.4	
	1.3	9.3	1.7	2.0	12.1	11.6	10.6	1.6	9.7	9.7		1.5	9.3	9.3	
11/13/14			1.6	3.6	12.1	10.8		1.5	10.2	10.2		1.4	9.5	9.4	
	1.3	9.3	1.6	5.0	12.0	11.3	10.3	1.5	10.1	10.0		1.5	9.4	9.4	
	1.4	9.4	1.5	5.0	12.0	11.7	10.7	1.6	10.1	10.0		1.5	9.5	9.5	
11/14/14			1.4	5.1	12.1	12.1		1.5	10.0	10.0	1.6	9.3	9.3		
	1.4	9.2	1.5	3.5	12.1	11.9	10.9	1.6	10.1	10.0	1.6	9.3	9.3		
	1.4	9.2	1.5	3.4	12.0	12.0	11.0	1.6	10.1	10.0	1.7	9.2	9.2		
11/15/14			1.7	3.6	12.1	12.2		1.7	10.2	10.2	1.6	9.4	9.4		
	1.4	9.2	1.6	3.4	11.9	12.4	11.4	1.8	10.0	10.0	1.6	9.3	9.3		
	1.3	9.2	1.6	3.5	12.0	11.1	10.1	1.6	9.9	10.0	1.6	9.2	9.2		
AVG:	1.4	9.3	1.5	4.4	12.3	11.5	10.6	1.6	9.9	9.9	Closed	1.5	9.2	9.2	