

The Dalles Dam Fishway Status Report

10/11/2014
 Inspection Period: 10/5/2014 to 10/11/2014

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 plus one SCADA inspection

The Dalles Dam	Inspections Out of Criteria	Criteria Limit	Total Number of Inspections: 19	Temperature: 66.1 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 9.4	
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 10.9	Manually adjusted as needed.
East entrance differential	0	1.0' - 2.0'	Average 1.5	
Entrance weir E1	0	No criteria	Average 4.9	Manually adjusted as needed.
Entrance weir E2	0	depth (≥ 8')	Average 12.1	
Entrance weir E3	0	depth (≥ 8')	Average 12.4	
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 2.7	
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 10.1	
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' wky	Range 0.1-0.5'	
Spill volume	0	40% ±1%	Average On seal.	
Spill Pattern	0	per FPP	Spillba On seal.	
Turbine Unit Priority	2	per FPP	unit 7 priority operation in lieu of unit 8	
Turbine 1% Efficiency	0	per FPP		

OTHER ISSUES:

Birds/Sea lions:

Bird observation data collected once daily. Refer to Avian Zone Map. Common mergansers showing up, 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.

Calibration completed 10/5. West entrance differential out by 0.1'.

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

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

Maintenance:

North fishway pump motor replacement installed. Refer to pic tab

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

Four collection channel dewatering pumps require removal and rehab. Parts for completion of 2 on hand. Remaining 4 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 Oct30. 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 to be 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 to be 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.

Dam Angling: Total 2,102 pikeminnow removed.

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. Installing 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
5-Oct-14	5172	3871	1301	1559	1024	535	1327	1255	72	0	0	0	2
6-Oct-14	4903	3583	1320	1363	924	439	1099	1019	80	-1	0	0	1
7-Oct-14	3765	2621	1144	985	626	359	634	592	42	0	0	0	8
8-Oct-14	3327	2597	730	1037	707	330	1135	1015	120	0	0	0	4
9-Oct-14	3685	2773	912	1024	653	371	552	518	34	0	0	0	-1
10-Oct-14	2503	1891	612	652	438	214	379	362	17	0	0	0	1
11-Oct-14	2280	1712	568	715	463	252	335	306	29	0	0	0	1
total	25635	19048	6587	7335	4835	2500	5461	5067	394	-1	0	0	16

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
5-Oct-14	229	180	49	104	72	32	82	82	0	0	0	0	0
6-Oct-14	198	118	80	96	64	32	101	97	4	0	0	0	2
7-Oct-14	69	43	26	53	40	13	42	36	6	0	0	0	0
8-Oct-14	32	12	20	43	30	13	18	18	0	0	0	0	0
9-Oct-14	29	18	11	58	28	30	26	22	4	0	0	0	0
10-Oct-14	116	90	26	52	35	17	32	31	1	0	0	0	0
11-Oct-14	232	194	38	108	62	46	64	59	5	0	0	0	0
total	905	655	250	514	331	183	365	345	20	0	0	0	2

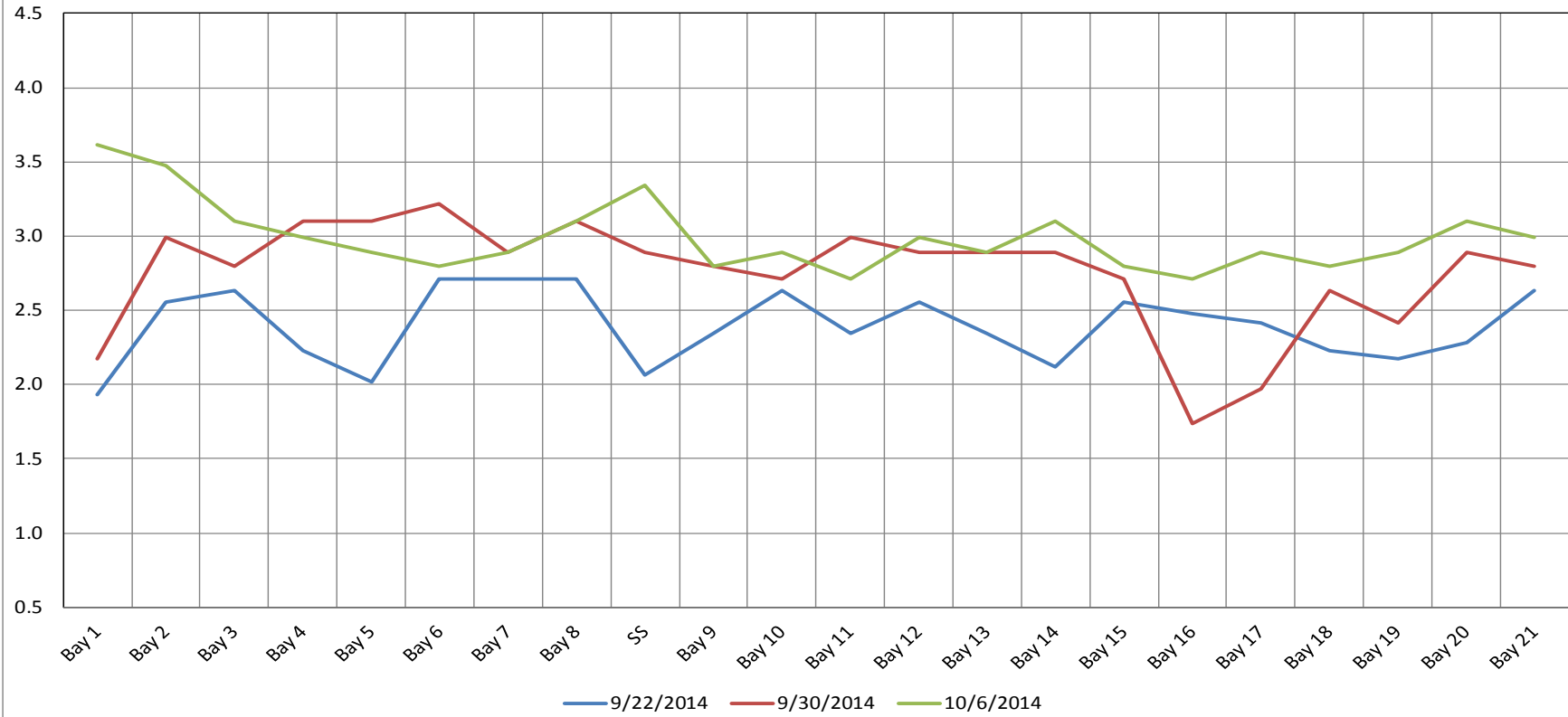
2014 Piscivorous Bird Counts

<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			
10/5/14	1	9:21	FB	0	1	1	89	0	0	0	0	91	jwr	5X COME GBHE
		8:24	PH1	0	0	2	5	0	0	0	5	12		
		8:34	PH2	0	0	0	0	0	0	0	0	0		
		9:15	SW1	0	0	0	0	0	0	0	1	1		
		8:43	SW2	0	0	0	0	0	0	0	0	0		
		9:09	SW3	0	2	4	32	0	0	0	0	38		
		9:12	SW4	0	55	0	1	0	0	0	0	56		
10/6/14	1	14:49	FB	0	0	0	2	0	0	0	3	5	PSK	grebe grebe resting on rocks resting on rocks
		13:40	PH1	0	1	0	18	0	0	0	0	19		
		14:03	PH2	22	0	0	0	0	0	0	0	22		
		15:02	SW1	0	1	0	0	0	0	0	0	1		
		14:09	SW2	34	0	2	0	0	0	0	1	37		
		15:15	SW3	0	39	0	31	0	0	0	0	70		
		15:18	SW4	0	27	2	12	0	0	0	0	41		
10/7/14	1	9:37	FB	0	0	0	84	0	0	0	5	89	jwr	grebe
		8:55	PH1	0	0	0	1	0	0	0	0	1		
		9:01	PH2	0	0	0	0	0	0	0	0	0		
		9:34	SW1	0	1	0	0	0	0	0	0	1		
		9:04	SW2	0	0	0	0	0	0	0	0	0		
		9:26	SW3	0	1	0	33	0	0	0	0	34		
		9:28	SW4	0	38	0	2	0	0	0	0	40		
10/8/14	1	14:41	FB	0	0	0	4	0	0	0	0	4	PSK	other = mergansers other = grebe
		13:29	PH1	0	0	0	14	0	0	0	3	17		
		13:34	PH2	9	0	1	0	0	0	0	0	10		
		15:00	SW1	0	2	0	0	0	0	0	1	3		
		13:51	SW2	3	0	0	0	0	0	0	0	3		
		15:13	SW3	0	30	1	36	0	0	0	0	67		
		15:16	SW4	0	25	2	12	0	0	0	0	39		
10/9/14	1	10:36	FB	0	0	2	61	0	0	0	7	70		grebe COME
		9:22	PH1	0	0	0	1	0	0	0	11	12		
		9:29	PH2	0	0	2	0	0	0	0	0	2		
		10:32	SW1	0	0	0	0	0	0	0	0	0		
		9:35	SW2	0	0	0	0	0	0	0	0	0		
		10:26	SW3	0	0	1	28	0	0	0	0	29		
		10:30	SW4	0	99	0	10	0	0	0	0	109		
10/10/14	1	14:48	FB	0	0	0	5	0	0	0	0	5	PSK	other = 2 mergansers NF other = 20 mergansers NF
		14:01	PH1	0	21	0	0	0	0	0	2	23		
		14:06	PH2	0	0	0	0	0	0	0	0	0		
		15:02	SW1	0	0	3	0	0	0	0	0	3		
		14:13	SW2	0	1	0	0	0	0	0	0	1		
		15:08	SW3	0	8	0	39	0	0	0	20	67		
		15:16	SW4	2	30	0	18	0	0	0	0	50		
10/11/14	1	9:44	FB	0	0	0	12	0	0	0	0	12	EK	
		9:13	PH1	0	0	0	5	0	0	0	0	5		
		9:20	PH2	3	0	0	0	0	0	0	0	3		
		9:42	SW1	0	2	0	0	0	0	0	0	2		
		9:23	SW2	0	0	0	0	0	0	0	0	0		
		9:59	SW3	0	0	0	26	0	0	0	0	26		
		10:02	SW4	0	33	0	18	0	0	0	0	51		

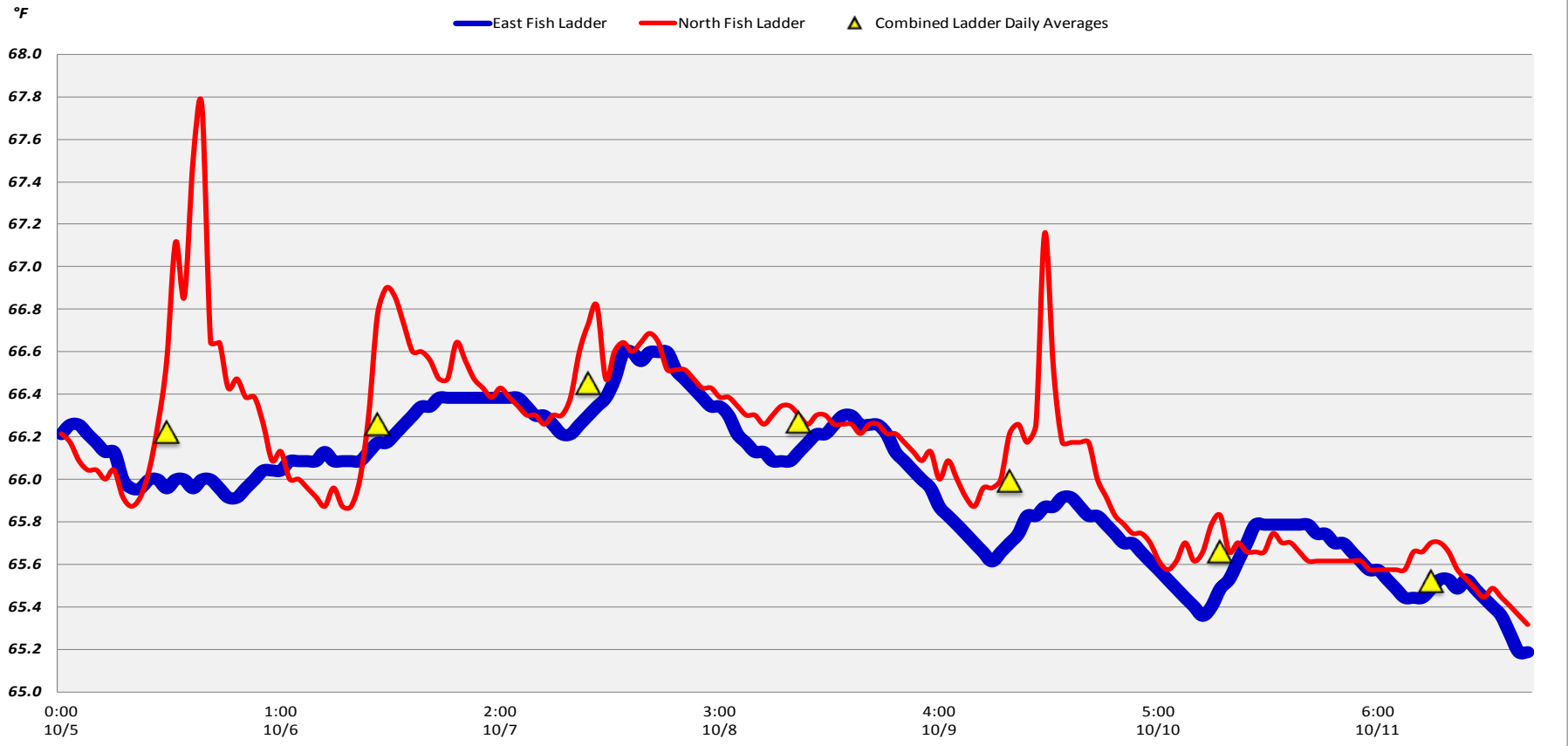


Avian lines in yellow, zones in red.

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



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



Temperatures

66.2
66.3
66.5
66.3
66.0
65.7
65.5
AVG: 66.1

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

North Ladder			East Ladder												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	
10/5			1.5	4.0	12.0	12.4	10.9	1.5	10.6	10.1	Closed	1.6	9.1	9.1	On Seal
	1.4	9.3	1.5	3.9	11.9	12.5	11.0	1.6	10.6	9.9		1.5	9.0	9.1	
	1.4	9.3	1.6	3.0	12.1	12.5	11.0	1.6	10.6	10.0		1.5	9.0	9.0	
10/6			1.6	3.1	12.1	12.3	10.8	1.5	10.6	10.1		1.5	9.0	9.1	
	1.4	9.3	1.6	4.1	12.0	12.4	10.9	1.5	10.5	10.1		1.6	9.0	8.9	
	1.5	9.3	1.5	5.1	12.0	12.7	11.3	1.5	1.1	10.0		1.5	9.0	9.1	
10/7			1.5	5.0	12.1	11.6	10.1	1.6	9.8	10.0		1.5	9.0	9.1	
	1.3	9.4	1.6	5.1	11.9	12.1	10.6	1.5	10.4	10.1		1.5	9.0	9.1	
	1.4	9.4	1.5	5.0	12.0	12.3	10.9	1.5	10.6	10.0		1.5	9.1	9.0	
10/8			1.4	5.1	12.1	12.4	10.9	1.6	10.3	10.0		1.5	9.1	9.0	
	1.3	9.4	1.5	12.1	12.6	12.6	11.1	1.4	10.8	10.1		1.5	8.9	9.0	
	1.5	9.2	1.5	5.0	12.0	12.5	10.0	1.4	10.7	10.0		1.5	9.1	9.0	
10/9			1.4	5.0	12.1	12.6		1.5	10.7	10.2		1.5	9.1	9.0	
	1.3	9.5	1.5	4.0	12.0	12.7	11.2	1.6	10.7	10.1		1.6	8.9	9.0	
	1.4	9.4	1.5	3.0	11.9	13.2	11.7	1.5	11.0	9.9		1.6	8.9	8.9	
10/10			1.5	3.1	12.0	12.0		1.5	10.1	10.1	1.6	8.9	9.0		
	1.3	9.4	1.4	3.8	12.3	12.3	10.8	1.5	10.4	10.2	1.6	9.0	8.9		
	1.4	9.4	1.4	13.7	12.2	12.4	10.9	1.5	10.3	10.2	1.4	9.0	9.0		
10/11			1.6	3.1	12.3	12.3		1.5	10.4	10.3	1.5	9.0	9.1		
	1.3	9.4	1.5	3.1	12.3	11.8	11.0	1.5	10.5	10.4	1.6	8.9	9.0		
	1.3	9.5	1.6	3.1	12.1	12.3	10.8	1.5	10.4	10.3	1.6	8.9	9.0		
AVG:	1.4	9.4	1.5	4.9	12.1	12.4	10.9	1.5	10.1	10.1	Closed	1.5	9.0	9.0	



New north fishway dewatering pump motor with protective access hatch

