

The Dalles Dam Fishway Status Report

12/6/2014
 Inspection Period: 11/30/2014 to 12/6/2014

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 once per day during the winter maintenance period.

The Dalles Dam	Inspections Out of Criteria	Criteria Limit	Total Number of Inspections: 7		Temperature: 46.0 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'			
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	1.5	
Entrance weir E1	0	No criteria	Average	4.2	Manually adjusted as needed.
Entrance weir E2	0	depth (≥ 8')	Average	12.0	
Entrance weir E3	0	depth (≥ 8')	Average	11.8	
Collection channel velocity	N/A	1.5 - 4 fps	Average		
Transportation channel velocity	N/A	1.5 - 4 fps	Average		Fishway velocities discontinued Dec 1 as per Fish Passage Plan; will resume Mar 1, 2015
North channel velocity	N/A	1.5 - 4 fps	Average		
South channel velocity	N/A	1.5 - 4 fps	Average		
West entrance differential	0	1.0' - 2.0'	Average	1.6	
Entrance weir W1	0	depth (≥ 8')	Average	9.6	
Entrance weir W2	0	depth (≥ 8')	Average	10.3	
Entrance weir W3	0	No criteria	Closed		
South entrance differential	0	1.0' - 2.0'	Average	1.6	
Entrance weir S1	0	depth (≥ 8')	Average	9.4	
Entrance weir S2	0	depth (≥ 8')	Average	9.3	
JUVENILE PASSAGE					
Sluicelgate operation	0	1, & 18	December 1 - 15, sluicelgates 1-2,1-3, 18-1 & 18-2 are open.		
Turbine trashrack drawdown	0	<1.5', wkly			
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.

Operations:

East ladder was dewatered to tailwater on December 2. The entrances, junction pool, collection and transportation channels were dewatered on Dec 4. In total, during the two day dewatering effort, 130 steelhead, 20 Chinook, 32 juvenile steelhead, 27 lamprey, three small sturgeon and three sturgeon > 6' were removed from fish ladder and channels combined and released to river. There were two clipped steelhead, one wild steelhead, one hatchery Chinook, one hatchery Coho, and one lamprey mortalities. Please refer to Memorandum for the Record. Gatewell drawdown completed for the season and will resume March 1, 2015.

Current Outages:

T8 (MU15 & MU16) de-rated to single unit full load ops through 9/14/2017
EFL OOS 0600 12/1/2014 to 1700 1/15/2014 for Annual ladder maintenance
F1 OOS 0001 12/1/2014 to 1700 1/29/2014 for O/H
F2 OOS 0001 12/1/2014 to 1700 1/15/2014 for Annual
Spill Gates 1-11 OOS 0700 12/3/2014 to 1700 12/8/2014 for Spillwall Repair

Maintenance:

East fishway winter maintenance started Dec1. Fish units off Dec1. Fishladder dewatered Dec 2. Below tailwater dewatering Dec3. Collection and transportation channels dewatered on Dec 4.
Dive repair planned for spillwall repair 12/03 - 12/08/2014. See picture.
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 delivered. 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. Installation in progress. 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 flow test planned during this winter outage.
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.
University of Idaho maintaining antennas and continuing downloads.

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

CENWP-OD-D

8 December 2014

MEMORANDUM FOR THE RECORD

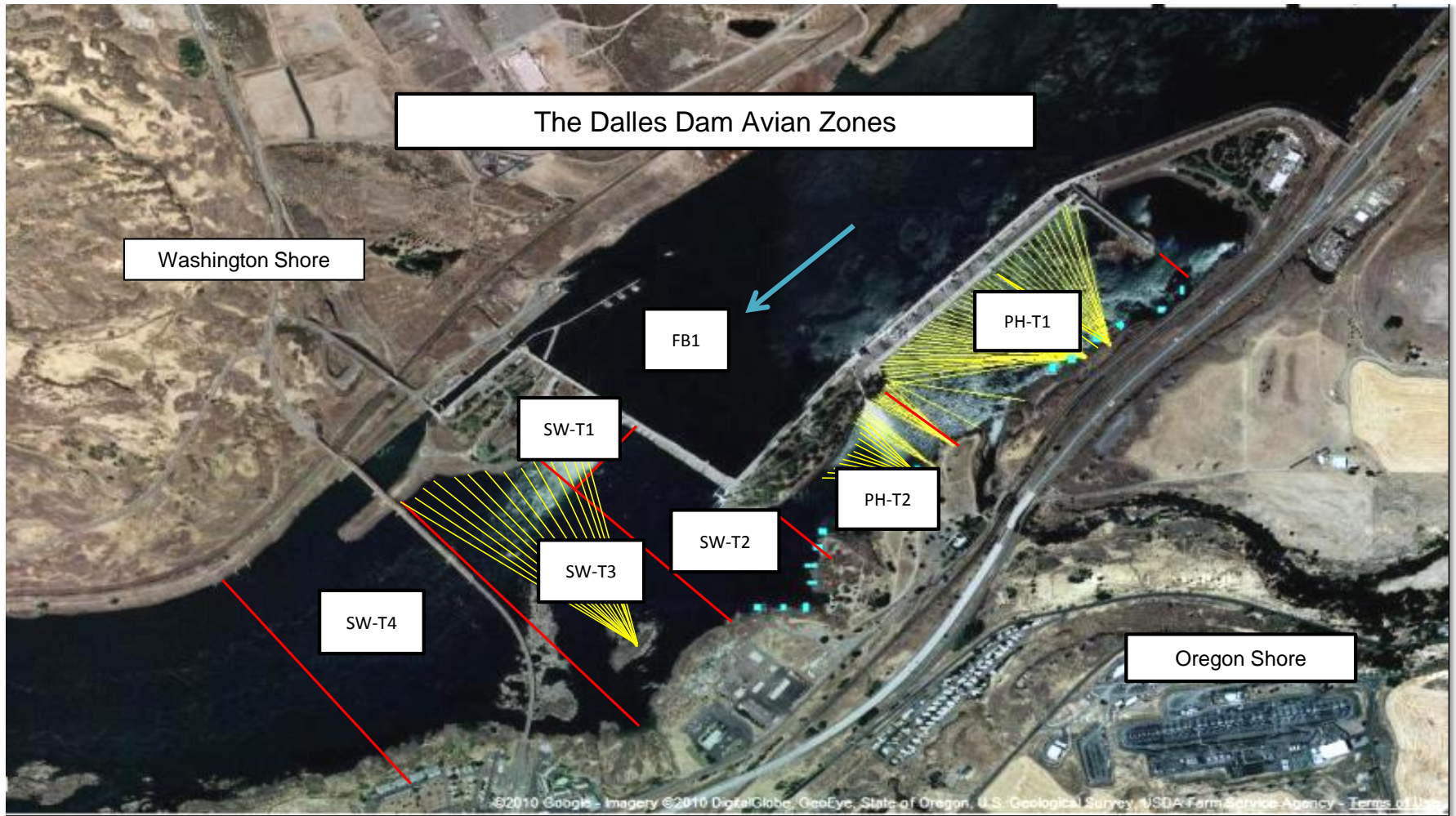
SUBJECT: 14TDA12 MFR – Lamprey and Salmonid Mortality in The Dalles Dam East Fishway

On December 4, 2014, the east fishway channels were dewatered below tailwater for annual fishway maintenance, proceeding the fishladder dewatering on December 2. Two personnel were lowered into each channel and the east entrance when water level was at 3'. Personnel pushed several large sturgeon in the collection channel to the west entrance for removal by crane. No salmonids were observed in this area at that time. When sturgeon removal was complete and it was thought the west entrance was clear of fish, personnel proceeded to the south entrance for removal of numerous salmonids and lamprey. When it was thought all areas were secure, crews broke for lunch ~1300hr. Upon return for the second walkthrough, 6 salmonids were found stranded on the floor of the west entrance. They were immediately brought to an adjacent pool for revival efforts. Two steelhead recovered to breathing status and released to river. The remainder did not recover. In addition, one steelhead and one lamprey were found dead in the south fishway channel.

- A. Species – Two hatchery steelhead, 1 wild steelhead, 1 hatchery Chinook, 1 hatchery coho and 1 lamprey.
- B. Origin – unknown
- C. Length – all adults, size varied
- D. Marks and tags - none.
- E. Marks and Injuries found on carcass – None
- F. Cause and Time of Death – dewatering/stranding.
- G. Future and Preventative Measures – West entrance stranding was easily preventable. The project biologist (me) should not have chose to leave the pool with 3'-4' water remaining. New language will be added to the SOP so as to have this pool attended until <1' water remains to provide adequate visibility to locate fish. Stranding in the south channel was not easily preventable. Fish have many locations to hide along channel floor and wall. Efforts may be made for an more immediate second walkthrough to capture these fish.

In total, during the 2 day dewatering effort, 130 steelhead, 20 chinook, 32 juvenile steelhead, 27 lamprey 3 small sturgeon and 3 sturgeon over 6' were removed from fish ladder and channels combined and released to river.

Sincerely,
TDA Project Fisheries



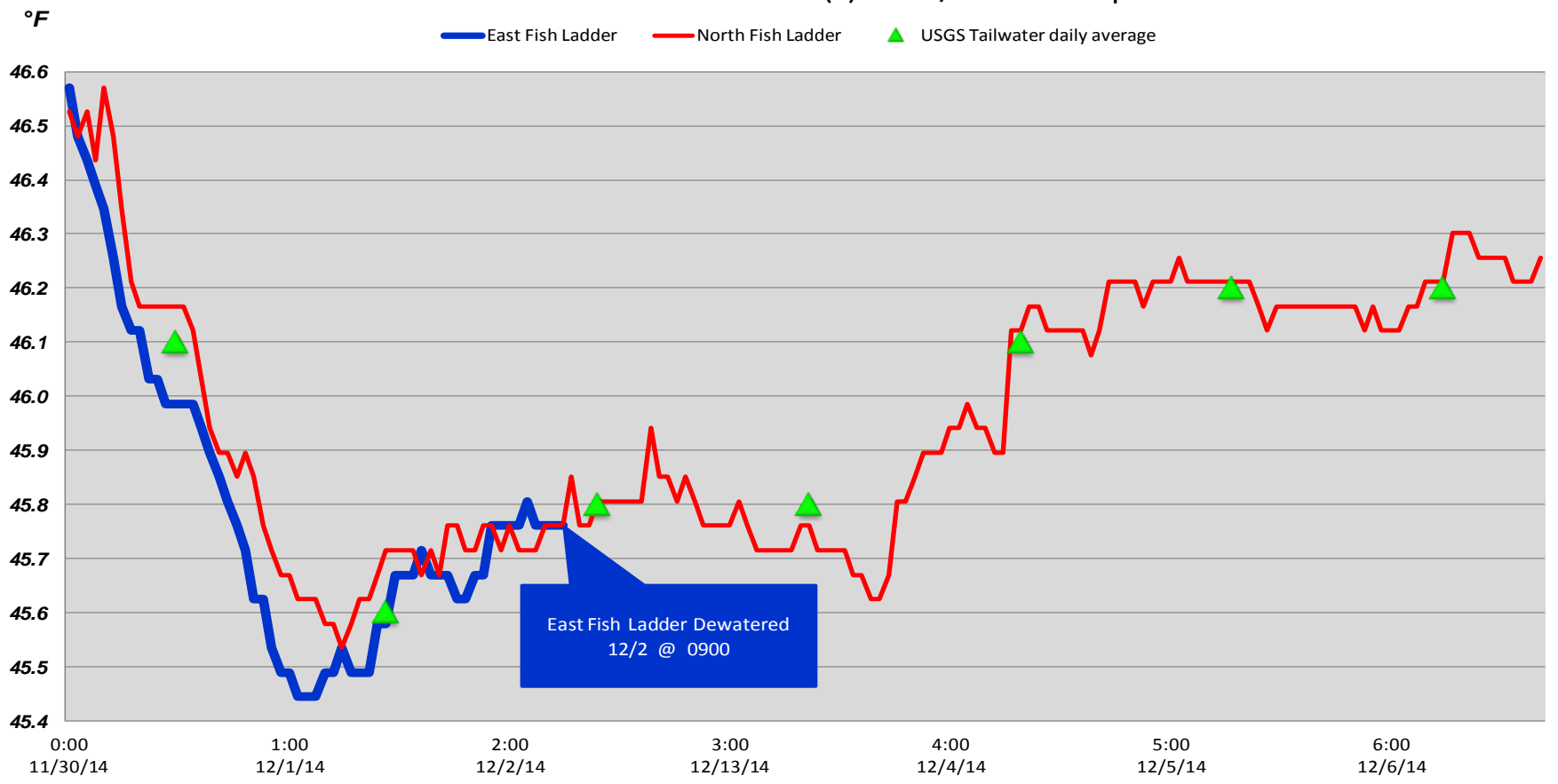
Avian lines in yellow, zones in red.

2014 Piscivorous Bird Counts

F=foraging, NF=non-foraging

Date	Session	Time (24 hr)	Zone	Gull		Cormorant		Caspian tern		Other		Total birds in zone	Observer	Notes
				F	NF	F	NF	F	NF	F	NF			
11/30/14	1		FB	0	0	0	0	0	0	0	0	0		No counts for 11/30/14
		PH1	0	0	0	0	0	0	0	0	0	0		
		PH2	0	0	0	0	0	0	0	0	0	0		
		SW1	0	0	0	0	0	0	0	0	0	0		
		SW2	0	0	0	0	0	0	0	0	0	0		
		SW3	0	0	0	0	0	0	0	0	0	0		
12/1/14	1		FB	0	0	0	0	0	0	0	0	0		No counts for 12/1/14
		PH1	0	0	0	0	0	0	0	0	0	0		
		PH2	0	0	0	0	0	0	0	0	0	0		
		SW1	0	0	0	0	0	0	0	0	0	0		
		SW2	0	0	0	0	0	0	0	0	0	0		
		SW3	0	0	0	0	0	0	0	0	0	0		
12/2/14	1		FB	0	0	0	0	0	0	0	0	0		No counts for 12/2/14
		PH1	0	0	0	0	0	0	0	0	0	0		
		PH2	0	0	0	0	0	0	0	0	0	0		
		SW1	0	0	0	0	0	0	0	0	0	0		
		SW2	0	0	0	0	0	0	0	0	0	0		
		SW3	0	0	0	0	0	0	0	0	0	0		
12/3/14	1	15:11	FB	0	1	0	0	0	0	0	74	75	PSK	Other = 1 bald eagle, 73 grebes NF Other = 3 bald eagles NF Gulls resting on spillwall Other = 1 great blue heron NF
		14:34	PH1	0	0	0	17	0	0	0	0	17		
		14:42	PH2	0	2	0	0	0	0	0	3	5		
		15:21	SW1	0	64	0	0	0	0	0	0	64		
		14:51	SW2	0	2	0	0	0	0	0	1	3		
		15:13	SW3	0	1	0	14	0	0	0	0	15		
15:15	SW4	0	30	0	6	0	0	0	0	36				
12/4/14	1		FB	0	0	0	0	0	0	0	0	0		No counts for 12/4/14
		PH1	0	0	0	0	0	0	0	0	0	0		
		PH2	0	0	0	0	0	0	0	0	0	0		
		SW1	0	0	0	0	0	0	0	0	0	0		
		SW2	0	0	0	0	0	0	0	0	0	0		
		SW3	0	0	0	0	0	0	0	0	0	0		
12/5/14	1	10:27	FB	0	1	0	1	0	0	0	97	99	PSK	Other = 96 grebes and 1 bald eagle NF Other = 53 mergansers, 1 great blue heron NF Other = 4 bald eagles NF
		9:03	PH1	0	0	0	55	0	0	0	54	109		
		9:21	PH2	0	0	0	0	0	0	0	4	4		
		10:45	SW1	0	0	0	0	0	0	0	0	0		
		9:46	SW2	0	0	0	1	0	0	0	0	1		
		10:58	SW3	0	10	0	24	0	0	0	0	34		
11:04	SW4	0	50	0	9	0	0	0	0	59				
12/6/14	1	9:13	FB	0	0	0	0	0	0	0	92	92	EHK	other= grebes other = 1 GBH and 29 mergansers
		8:42	PH1	0	0	7	63	0	0	24	6	100		
		8:50	PH2	3	0	0	0	0	0	0	0	3		
		9:16	SW1	0	12	0	0	0	0	0	0	12		
		9:02	SW2	0	0	0	0	0	0	0	0	0		
		9:03	SW3	0	31	0	24	0	0	0	0	55		
9:33	SW4	0	14	0	2	0	0	0	0	16				

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



Temperatures

46.1
45.6
45.8
45.8
46.1
46.2
46.2
AVG: 46.0

Secchi:

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	
11/30			1.6	5.1	12.1	11.4	10.4	1.7	9.4	10.0		1.7	9.1	9.0	
	1.4	9.0	1.5	3.9	11.9	12.0	11.0	1.5	9.7	10.0		1.5	9.4	9.4	
	1.4	9.1	1.5	3.5	12.1	12.0	11.0	1.5	9.7	11.0		1.5	9.6	9.6	
12/1	1.4	9.2	East ladder OOS for winter maintenace.												O n S e a l
12/2	1.4	9.2													
12/3	1.3	9.3													
12/4															
12/5	1.4	9.2													
12/6	1.4	9.2													
AVG:	1.4	9.2	1.5	4.2	12.0	11.8	10.8	1.6	9.6	10.3	Closed	1.6	9.4	9.3	



Contractor divers completing minor repairs to spillwall.