

The Dalles Dam Fishway Status Report

Date: 6/1/2014
Inspection Period: 5/25/2014 to 5/31/2014

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:		Temperature:
			Comments	21	58.0 F
Secchi: 3.5 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'			
Entrance weir N1	0	depth (≥ 8')			
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')	Manually adjusted as needed.		
East entrance differential	0	1.0' - 2.0'	Average 1.5	Fish unit outage 0356-0524 for maintenance	
Entrance weir E1	0	No criteria	Average 7.0	Manually adjusted.	
Entrance weir E2	0	depth (≥ 8')	Average 12.4		
Entrance weir E3	0	depth (≥ 8')	Average 11.4		
Collection channel velocity	0	1.5 - 4 fps	Average 2.7		
Transportation channel velocity	0	1.5 - 4 fps	Average 2.6		
North channel velocity	0	1.5 - 4 fps	Average 2.1		
South channel velocity	0	1.5 - 4 fps	Average 2.3		
West entrance differential	0	1.0' - 2.0'	Average 1.5		
Entrance weir W1	0	depth (≥ 8')	Average 11.9		
Entrance weir W2	0	depth (≥ 8')	Average 11.9		
Entrance weir W3	closed	No criteria	Average closed		
South entrance differential	0	1.0' - 2.0'	Average 1.5		
Entrance weir S1	0	depth (≥ 8')	Average 10.4		
Entrance weir S2	0	depth (≥ 8')	Average 10.4		
JUVENILE PASSAGE					
Sluiceway operation	0	1, 8, 18	MU 18 off ~30 min for rolling unit outage; Unit 17 and 19 on during that time.		
Turbine trashrack drawdown	0	<1.5', wkly	Range 0.2' - 0.5'		
Spill volume	13	40%+1%	Average 37.2	<40% due to gas cap	
Spill Pattern	0	per FPP			
Turbine Unit Priority	14	per FPP	Full MW demand with T8 limiting unit availability		
Turbine 1% Efficiency	0	per FPP			

OTHER ISSUES:

Birds/Sea lions:

Bird observation data collected once daily. Gull numbers slightly decrease down stream of bridge and increasing below powerhouse. Refer to map. Hazing effectiveness downstream of bridge minimal. Gulls circle and come right back to same location. Hazing more effective below powerhouse. No sea lion sightings for this week.

Operations:

Spill reduced from 40% due to gas cap. As expected, a noticeable affect of increased north fishladder passage with spill <100KCFS. Spill attraction flow being proposed for October to provide more attraction to the north fishladder. Trip to ERDC model planned for August.

Current Outages:

T8 (MU15 & MU16) de-rated to single unit full load ops through 2017. Out of service several days for maintenance.
MU22 out of service 3/24 to 5/15/2014 for overhaul.
MU20 dewatering attempted, but delayed due to excessive leakage. Fish units reduced to half load 5/27, 0715-0815 during tail log installation.

Maintenance:

Parts for new weir 158/159 arriving. Most parts will arrive pre cut to assemble. Wheel fabrication starting.
North fishway pump motor replacement ordered.
Nine collection channel pumps to be removed/inspected for maintenance issues in preparation for next winter dewatering.
Investigating purchase of permanent oil boom to install in forebay of east exit.
Planning to install equalizing valve for PUD intake bulkhead for next winter dewatering.
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 and repair/modify all east fishway dewatering pumps.
Fish related but non-fish funded items; spillway evaluation, spillway crane rehab, spillgate 10/11 wire rope replacement, 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:

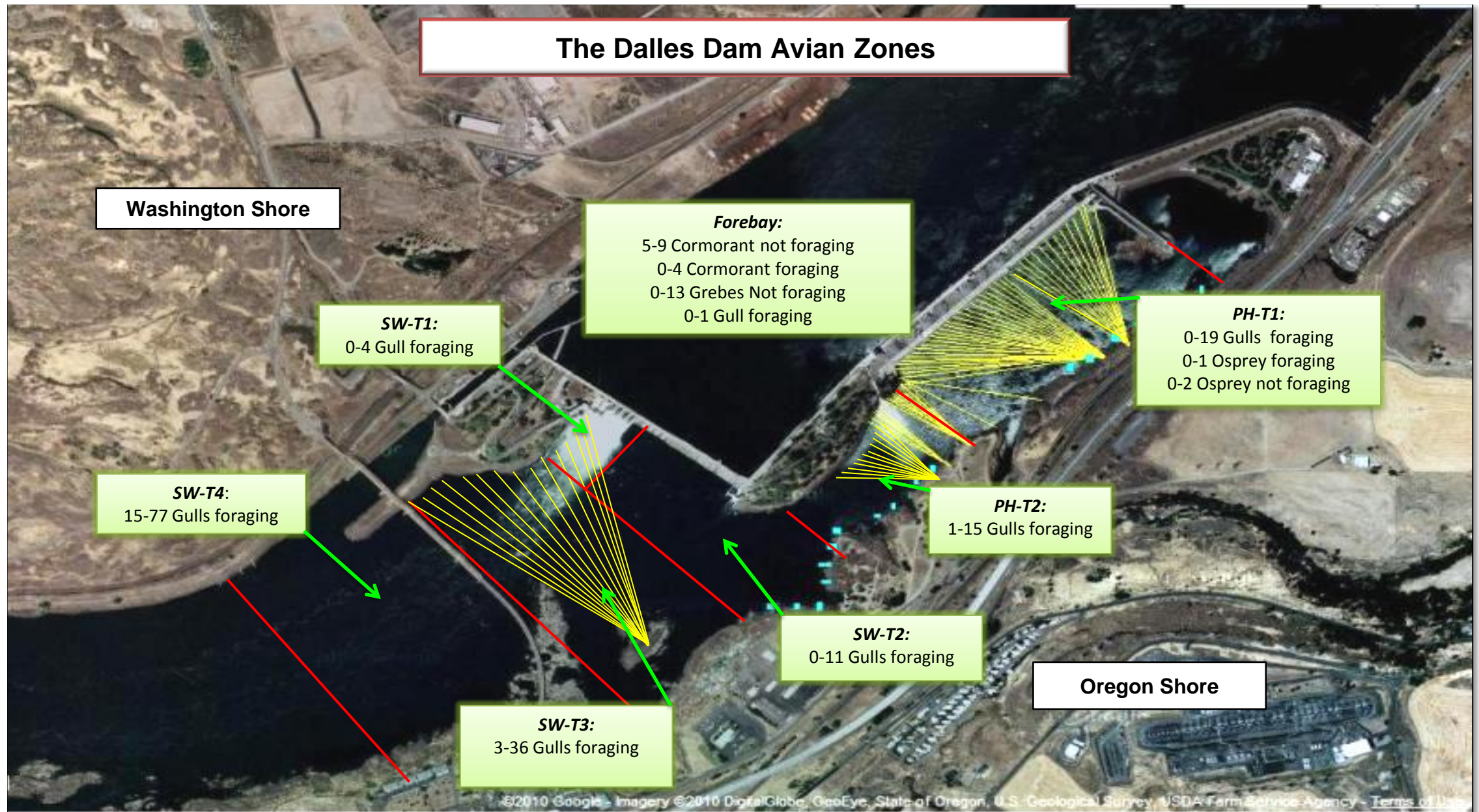
PIT - PSMFC PIT tag monitoring continues at count stations. No issues.
EFL - Plan of backup water through dam, under roadway and into AWS conduit at junction pool. Starting Plans and Specs. Construction winter 2015. Coordination in progress for test pits excavation between fishladder and fishlock parking area in Nov. ADCP flow velocity survey in June and Nov. East Fish Ladder backup design team kickoff meeting and site visit occurred in admin conference room 29 May.
PUD - PUD 'freedom' second turbine proposal for north fishway in FERC review process. COE reviewed and commented.

Research/Contractors:

ODFW Northern Pikeminnow Management Program evaluation electrofishing; No sampling at The Dalles this week.
Fish counters on site at north and east count stations 16 hours a day 1 April through 30 October.
PSMFC PUD weekly sampling continues. Subyearling smolt starting to arrive. Subyearling fry majority of sample.
Normandeau fish counting program 4/1 through 10/31. Night video starts mid June.
Fish Field Unit investigating north count station mods to improve video counting capability. Site visit 27 May.
USDA hazer's launching pyrotechnics from downstream navlock peninsula. Also on call for sea lion hazing and pigeon removal as needed.
University of Idaho maintaining antennas.
Removal last set of 3 derelict Vertical Barrier Screens from MU 12 gate well slot scheduled week of Aug11. Coordination in progress.
WDFW started dam angling of predatory northern pike minnow from the BRZ adjacent to the project.

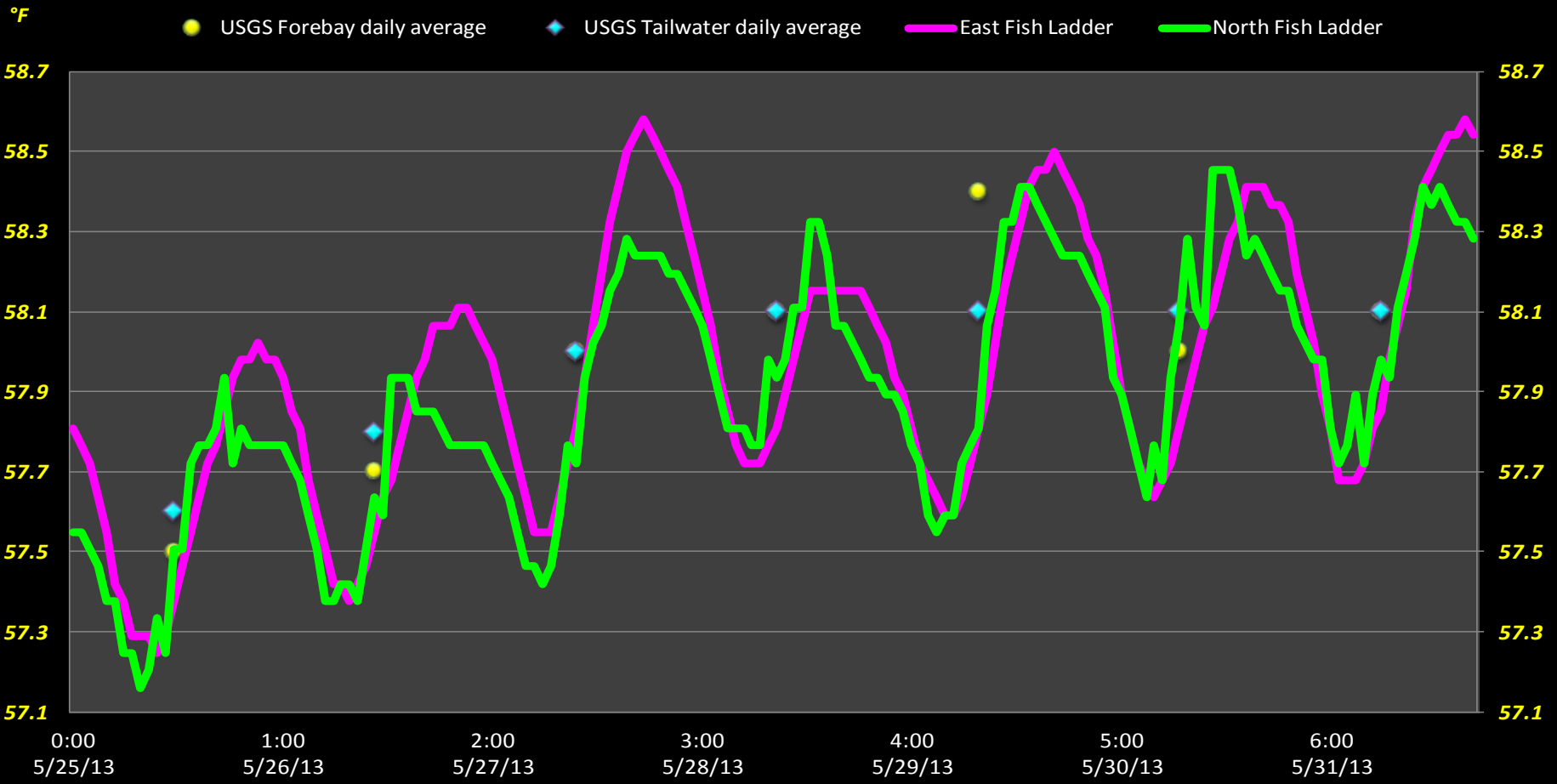
Approved by;
Ron D. Twiner
Operation Project Manager
The Dales Dam

The Dalles Dam Avian Zones



Hazing activity primarily in SW-T4
Numbers reflect weekly range of daily averages

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

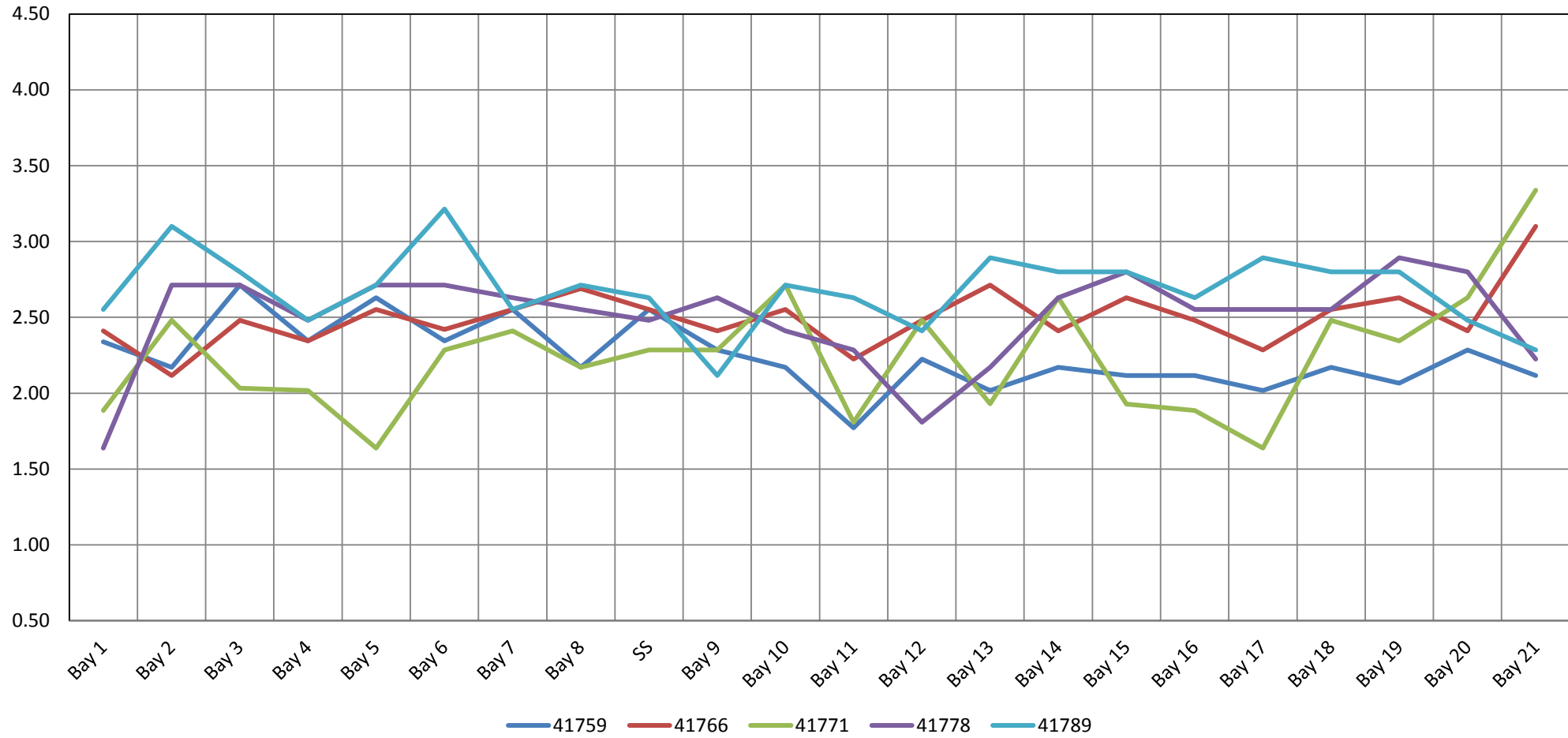


DART The Dalles Adult Ladders Daily Usage with Spill Percent and Outflow

Date	Chinook				Jack Chinook				Steelhead				Steelhead Wild				Sockeye				Coho	Jack Coho	Lamprey	Spill Pct K	O u t f l o w
	Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		These species not present YTD				
	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#					
5/25	90.4	1530	9.6	163	99.7	377	0.3	1	100.0	8	0.0	0	100.0	1	0.0	0		0		0			38.0	344.3	
5/26	97.3	1492	2.7	41	99.6	463	0.4	2	100.0	31	0.0	0	100.0	6	0.0	0		0		0			38.4	336.6	
5/27	91.1	1289	8.9	126	98.6	340	1.4	5	100.0	16	0.0	0	100.0	2	0.0	0		0		0			37.9	357.7	
5/28	90.7	1748	9.3	179	98.5	392	1.5	6	94.4	17	5.6	1	100.0	4	0.0	0	100.0	2	0.0	0			37.2	350.2	
5/29	81.6	844	18.4	190	98.1	265	1.9	5	100.0	17	0.0	0	100.0	6	0.0	0		0		0			38.0	340.3	
5/30	94.2	1178	5.8	73	100.0	298	0.0	0	100.0	22	0.0	0	100.0	5	0.0	0	100.0	4	0.0	0			38.5	337.5	
5/31	79.1	798	20.9	211	94.4	268	5.6	16	88.9	16	11.1	2	66.7	2	33.3	1	85.7	6	14.3	1			33.7	314.2	
Date	Chinook				Jack Chinook				Steelhead				Steelhead Wild				Sockeye							Averages	
YTD	Left Ladder Pct		Right Ladder Pct		Left Ladder Pct		Right Ladder Pct		Left Ladder Pct		Right Ladder Pct		Left Ladder Pct		Right Ladder Pct		Left Ladder Pct		Right Ladder Pct					37.4	340.1
	90.0		10.0		98.6		1.4		97.7		2.3		96.3		3.7		92.3		7.7						

1. The species passage percent is not calculated for either ladder on a day, if either the Right Ladder or Left Ladder species count is: negative or null for the day.
2. Ladder orientations reference the side of the river when facing downstream.
3. Data Provided Courtesy of U.S. Army Corps of Engineers

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



	Forebay	Tailwater
USGS	57.5	57.6
	57.7	57.8
	58.0	58.0
	58.1	58.1
DATA	58.4	58.1
	58.0	58.1
	58.1	58.1
AVG:	58.0	

	Secchi:
SUN	3.5
MON	3.5
TUES	4.0
WED	3.5
THUR	4.0
FRI	3.0
SAT	3.0
AVG:	3.5

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

= out of criteria

Date:	North Fish Ladder		East Fish Ladder											Spill%	
	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
5/25/14			1.5	10.1	12.1	10.2	16.2	1.5	11.9	11.9	c l o s e d	1.6	10.0	10.0	
	1.3	10.0	1.6	10.0	12.0	10.6	16.6	1.4	12.0	12.0		1.6	10.1	10.1	36.5
	1.3	10.0	1.5	8.5	12.0	10.1	16.1	1.5	11.4	11.4		1.5	10.0	10.0	37.2
5/26/14			1.6	8.5	11.9	9.3	15.3	1.6	11.5	11.5		1.5	10.1	10.1	
	1.3	10.0	1.5	10.0	12.5	9.5	15.5	1.4	12.0	12.0		1.4	10.5	10.5	37.0
	1.4	10.0	1.5	7.9	12.3	9.3	15.3	1.6	11.4	11.4		1.5	10.4	10.4	39.0
5/27/14			1.4	7.0	12.5	10.4	16.4	1.6	11.4	11.4		1.5	10.4	10.4	
	1.4	10.0	1.3	7.1	12.6	14.6	16.1	1.5	11.5	11.5		1.4	10.6	10.6	38.7
	1.4	10.0	1.5	6.0	12.6	13.4	16.4	1.5	12.0	11.9		1.5	10.5	10.4	38.1
5/28/14			1.4	6.0	12.5	13.7	16.6	1.5	12.0	11.9		1.4	10.6	10.7	
	1.4	9.9	1.5	6.0	12.4	12.2	16.2	1.5	12.0	12.0		1.5	10.5	10.5	38.8
	1.4	9.9	1.4	6.0	12.6	12.5	16.5	1.5	12.0	12.0		1.5	10.5	10.4	36.6
5/29/14			1.6	6.1	12.6	11.9	15.9	1.5	12.0	12.1		1.5	10.5	10.5	
	1.3	9.9	1.6	6.1	12.6	11.9	15.9	1.6	12.0	12.1		1.5	10.6	10.6	36.9
	1.3	9.9	1.6	5.9	12.5	12.3	16.3	1.5	12.0	12.1		1.5	10.6	10.5	37.2
5/30/14			1.7	6.0	12.4	11.3	15.3	1.5	12.0	12.0	1.5	10.4	10.5		
	1.3	9.9	1.7	5.9	12.5	11.2	15.2	1.5	12.0	12.0	1.5	10.6	10.5	40.2	
	1.3	10.0	1.5	6.0	12.4	11.3	15.3	1.5	12.1	12.0	1.4	10.6	10.6		
5/31/14			1.6	5.9	12.5	10.8	14.8	1.5	12.0	12.0	1.5	10.5	10.5		
	1.2	10.1	1.4	6.0	12.5	11.4	15.4	1.5	11.9	11.9	1.5	10.6	10.6	33.5	
	1.3	10.1	1.7	6.0	12.5	11.0	15.0	1.4	12.0	12.1	1.4	10.5	10.5	34.2	
AVG:	1.3	10.0	1.5	7.0	12.4	11.4	15.8	1.5	11.9	11.9	1.5	10.4	10.4	37.2	



Large sturgeon showing up for the annual fishway shad buffet. Up to 5 mature adults greater than 7' seen at one time in bend of transportation channel. Many also observed through junction pool and lower ladder.