

# The Dalles Dam Fishway Status Report

Date: 6/8/2014  
 Inspection Period: 6/1/2014 to 6/7/2014

## 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: Comments	21	Temperature: 59.0 F	Secchi: 3.8 feet
<b>NORTH FISHWAY</b>						
Exit differential	0	≤ 0.5'				
Count station differential	0	≤ 0.3'				
Weir crest depth	2	1.0' ± 0.1'	Out at 0.8' PLC was adjusted.			
Entrance differential	0	1.0' - 2.0'				
Entrance weir N1	0	depth (≥ 8')				
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'				
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 1.6			
Entrance weir E1	0	No criteria	Average 9.1			Set in auto
Entrance weir E2	0	depth (≥ 8')	Average 12.2			
Entrance weir E3	1	depth (≥ 8')	Average 10.5			Out at 7.9'. Set in manual due to sticking weir.
Collection channel velocity	0	1.5 - 4 fps	Average 2.5			
Transportation channel velocity	0	1.5 - 4 fps	Average 2.3			
North channel velocity	0	1.5 - 4 fps	Average 2.0			
South channel velocity	0	1.5 - 4 fps	Average 2.6			
West entrance differential	0	1.0' - 2.0'	Average 1.5			
Entrance weir W1	0	depth (≥ 8')	Average 11.7			
Entrance weir W2	0	depth (≥ 8')	Average 11.7			
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 10.2			
Entrance weir S2	0	depth (≥ 8')	Average 10.2			
<b>JUVENILE PASSAGE</b>						
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 0.1-0.2'			
Spill volume	9	40%±1%	Average 37.1			<40% due to gas cap
Spill Pattern	0	per FPP				
Turbine Unit Priority	2	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. Gatewell drawdown completed on 6/7/14. All values were within criteria.

**Current Outages:**

T8 (MU15 & MU16) de-rated to single unit full load ops through 9/14/2017  
MU22 OOS 0600 3/24/2014 to 1700 6/12/2014 for O/H  
MU20 OOS 0600 5/19/2014 to 1700 6/26/2014 for O/H and Servo Rebuild  
MU17 outage extended to 1700 6/10/2014 due to complications with head gate installation.

**Maintenance:**

Parts for new weir 158/159 arrived. Met with maintenance staff to go over plans. Work to start next week. Completion by Oct1.  
North fishway pump motor replacement ordered.  
Collection channel pump #1 to be removed for repair of grounded motor.  
Investigating purchase of permanent oil boom to install in forebay of east exit after FPOM approval.  
Planning to install equalizing valve for PUD intake bulkhead for next winter dewatering.  
East entrance weir E3 sticking at el 74 and placed in manual operation. Entrance weir E1 set to auto in its place. To be repaired this winter.  
*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

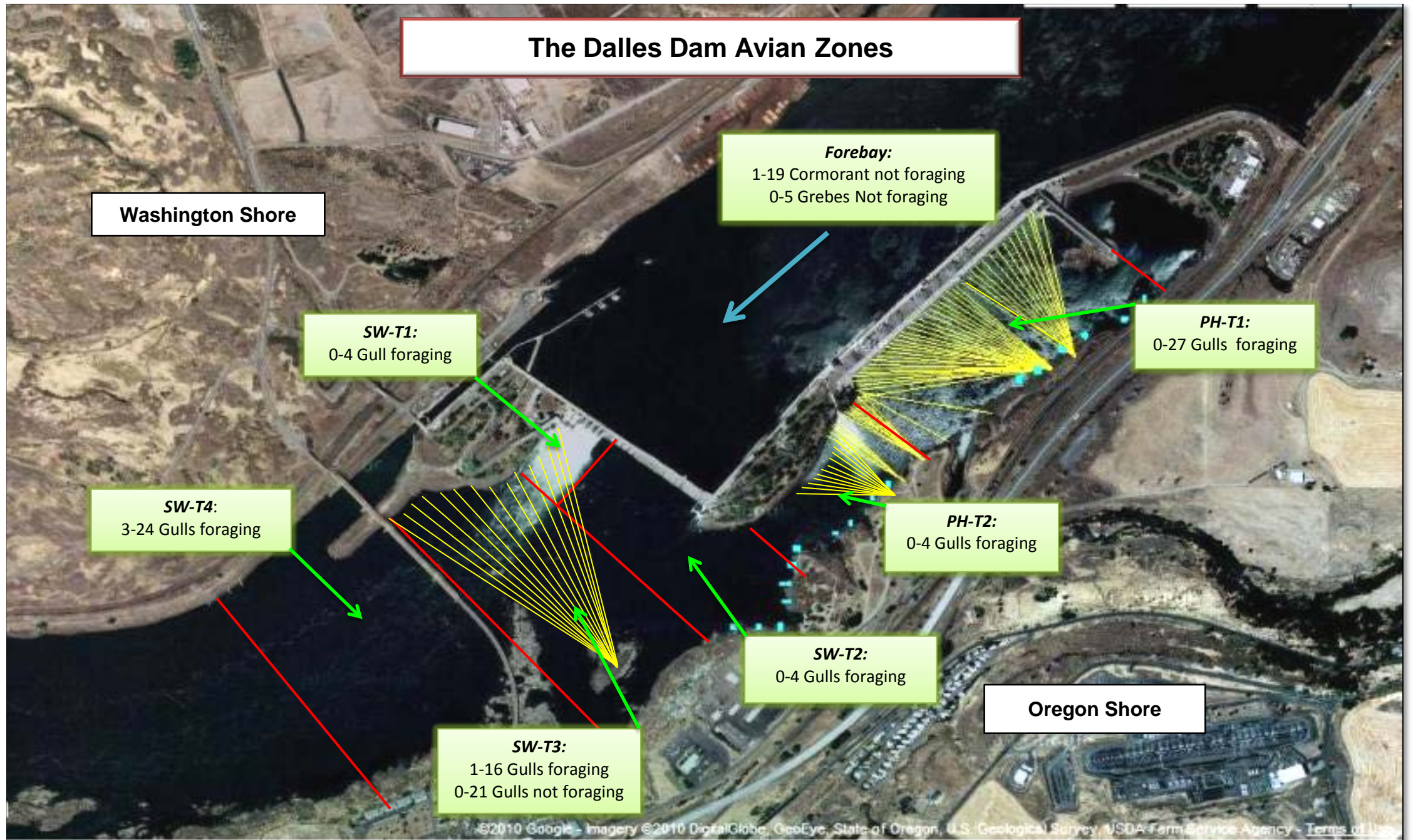
**Studies:**

**EFL Backup.** Hole 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.  
**PUD** - PUD 'freedom' second turbine proposal for north fishway in FERC review process. COE reviewed and commented.

**Research/Contractors:**

PSMFC PIT tag monitoring continues at count stations. No issues.  
Columbia River Northern Pikeminnow Management Dam Angling: Effort hours-30, Total NPM-86, NPM  $\geq$  230-86, Game fish-4, Non-game fish-1. CTUIR, YN, and NPT will start their lamprey collection June 11 through Oct 25.  
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: 5 Chinook smolts, and 2 fry.  
Normandeau fish counting program 4/1 through 10/31. Night video starts mid June.  
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

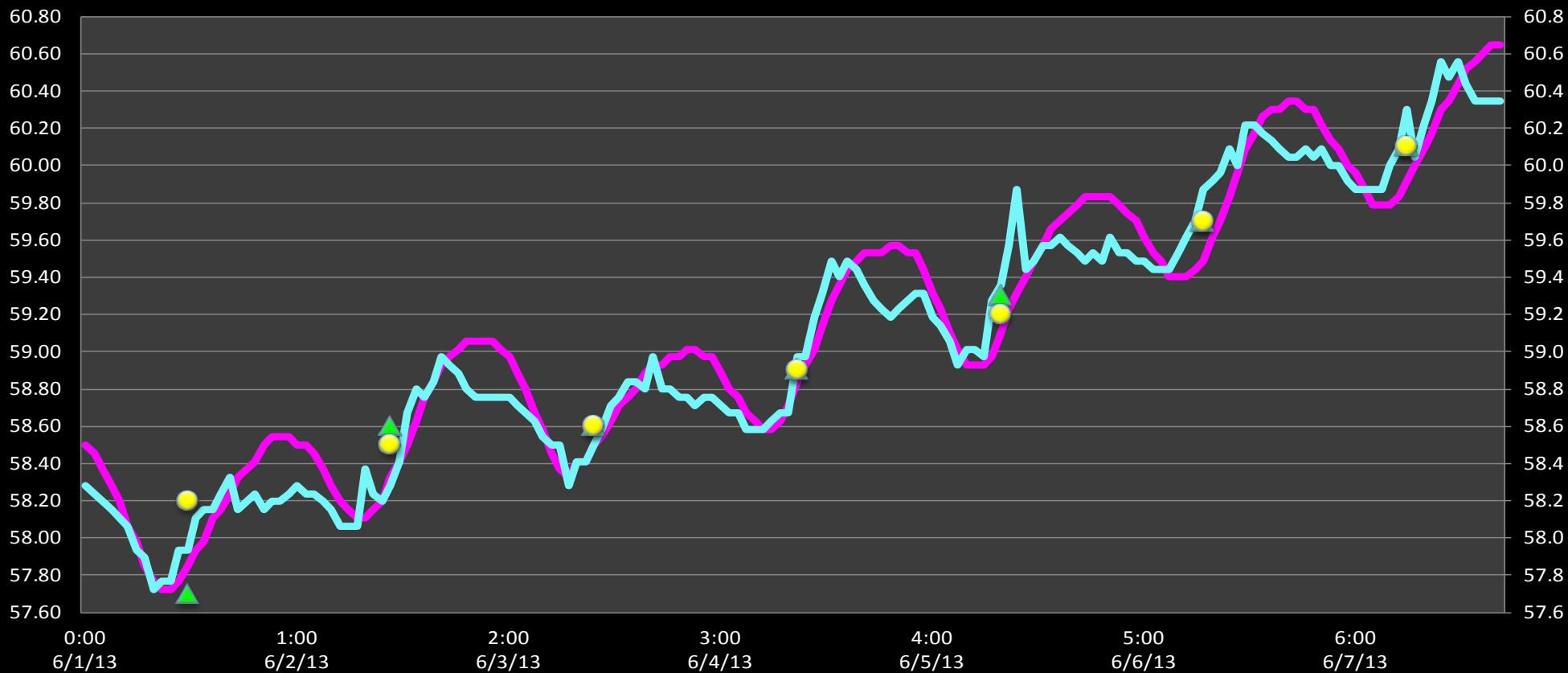


Hazing activity primarily in SW-T4  
 Numbers reflect weekly range of daily averages

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

°F

East Fish Ladder North Fish Ladder USGS Forebay daily average USGS Tailwater daily average





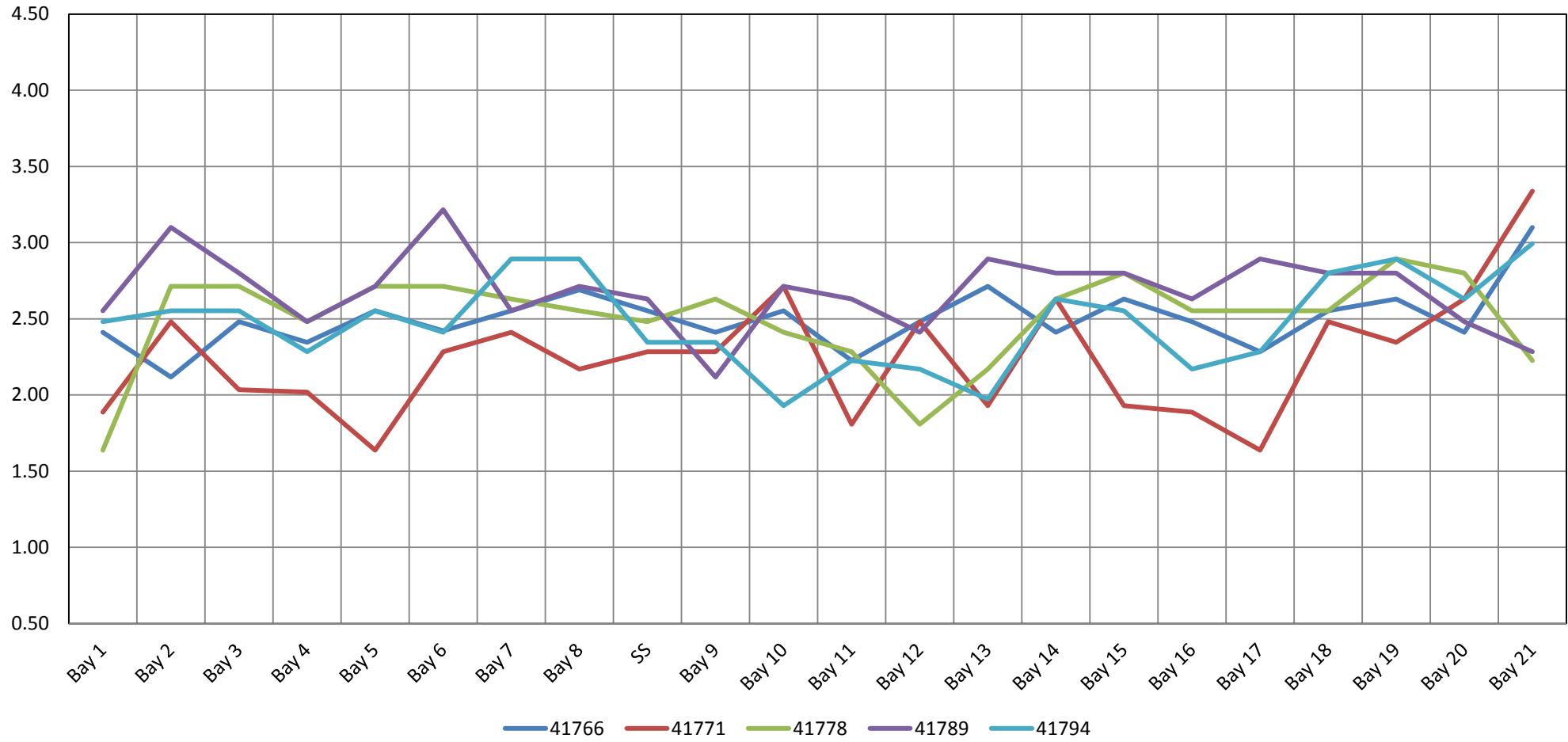
### DART The Dalles Adult Ladders Daily Usage with Spill Percent and Outflow

Date	Chinook				Jack Chinook				Steelhead				Steelhead Wild				Sockeye				Coho				Jack Coho				Lamprey				Spill Pct [Right]	Outflow (kcfs)
	Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder							
	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#		
6/1	72	919	28	358	94	244	6	16	85	11	15	2	100	1	0	0	88	7	13	1		0		0		0		0		0	34	308		
6/2	74	1100	26	382	95	240	5	12	100	23	0	0	100	6	0	0	100	11	0	0		0		0		0		0	100	1	0	0	38	337
6/3	67	1543	33	752	92	323	8	29	97	30	3	1	100	4	0	0	100	19	0	0		0		0		0		0	100	1	0	0	39	322
6/4	80	938	21	242	93	199	7	14	94	34	6	2	83	5	17	1	100	34	0	0		0		0		0		0	100	1	0	0	38	310
6/5	88	1100	12	156	99	280	1	4	100	27	0	0	100	5	0	0	100	74	0	0		0		0		0		0	-1		1	39	314	
6/6	84	1343	16	251	95	216	5	11	97	32	3	1	86	6	14	1	99	116	1	1		0		0		0		0	100	2	0	0	38	322
6/7	81	1747	19	410	97	365	3	10	96	53	4	2	100	11	0	0	98	217	2	5		0		0		0		0	64	7	36	4	40	290
Date	Chinook				Jack Chinook				Steelhead				Steelhead Wild				Sockeye				Coho				Jack Coho				Lamprey				Spill Pct	Outflow
YTD	Left Ladder	Right Ladder	Left Ladder	Right Ladder	Left Ladder	Right Ladder	Left Ladder	Right Ladder	Left Ladder	Right Ladder	Left Ladder	Right Ladder	Left Ladder	Right Ladder	Left Ladder	Right Ladder	Left Ladder	Right Ladder	Left Ladder	Right Ladder	Left Ladder	Right Ladder	Left Ladder	Right Ladder	Left Ladder	Right Ladder	Left Ladder	Right Ladder	Left Ladder	Right Ladder	Left Ladder	Right Ladder	Spill Pct	Outflow
	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct
	77	23	95	5	96	4	95	5	99	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	69	31						

**NOTES:**

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		Secchi:
USGS	57.7	58.2	SUN	3.2
	58.6	58.5	MON	3.5
	58.6	58.6	TUES	4.0
	58.9	58.9	WED	4.0
DATA	59.3	59.2	THUR	3.5
	59.7	59.7	FRI	3.5
	60.1	60.1	SAT	5.0
AVG:	59.0		AVG:	3.8

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	
6/1/14			1.8	6.0	12.5	11.1		1.5	12.1	12.1	c l o s e d	1.4	10.7	10.7	
	1.3	10.0	1.6	5.9	12.4	11.6	15.6	1.5	11.9	11.9		1.5	10.6	10.6	31.5
	1.4	9.9	1.7	5.9	12.5	11.0	15.0	1.5	11.9	11.9		1.5	10.4	10.4	35.8
6/2/14			1.6	6.1	12.4	12.4	16.4	1.6	12.0	12.1		1.5	10.6	10.7	
	1.3	10.0	1.6	6.1	12.6	10.8	16.3	1.6	12.0	12.1		1.5	10.4	10.5	40.3
	1.4	10.0	1.4	6.0	12.6	12.7	16.7	1.7	12.0	12.1		1.5	10.5	10.5	33.5
6/3/14			1.5	11.0	12.0	10.8	16.0	1.5	12.1	12.0		1.4	10.6	10.6	
	1.6	9.7	1.4	11.0	12.0	11.0	16.2	1.4	12.1	12.0		1.5	10.5	10.5	33.3
	1.3	9.9	1.4	10.0	12.0	11.2	16.4	1.6	11.6	11.6		1.6	10.0	9.9	35.6
6/4/14			1.5	10.0	12.0	10.0		1.6	11.4	11.5		1.6	10.0	10.0	
	1.3	10.0	1.5	10.0	12.0	9.8	15.0	1.5	11.4	11.5		1.5	10.0	10.0	37.2
	1.4	9.9	1.6	10.0	12.0	12.2	14.5	1.4	11.5	11.5		1.6	10.0	9.9	41.1
6/5/14			1.6	10.0	12.0	9.9		1.5	11.5	11.6		1.6	10.1	10.1	
	1.3	10.0	1.7	10.0	12.0	9.9	15.1	1.5	11.5	11.4		1.6	9.9	9.9	38.4
	1.4	9.9	1.6	10.1	12.0	9.6	14.8	1.5	11.6	11.5	1.6	10.0	10.0	39.0	
6/6/14			1.6	10.1	12.1	9.6		1.5	11.4	11.4	1.6	10.0	10.0		
	1.3	10.0	1.6	10.2	12.2	9.7	14.9	1.5	11.5	11.5	1.6	10.0	10.0	38.4	
	1.3	10.1	1.6	10.1	12.1	11.4	16.1	1.6	11.5	11.6	1.6	10.1	10.1	36.2	
6/7/14			1.7	10.0	12.0	7.9		1.4	11.4	11.5	1.5	9.9	9.9		
	1.4	10.0	1.6	11.1	12.5	8.8	14.5	1.3	11.5	11.5	1.5	10.0	10.0	39.6	
	1.3	9.9	1.5	11.0	12.6	9.9	15.1	1.4	11.4	11.4	1.5	9.9	9.9	39.2	
<b>AVG:</b>	<b>1.4</b>	<b>10.0</b>	<b>1.6</b>	<b>9.1</b>	<b>12.2</b>	<b>10.5</b>	<b>15.5</b>	<b>1.5</b>	<b>11.7</b>	<b>11.7</b>	<b>1.5</b>	<b>10.2</b>	<b>10.2</b>	<b>37.1</b>	