

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:		Temperature:	
			Comments			
			21		61.2	F
					Secchi:	3.9 feet
NORTH FISHWAY						
Exit differential	0	≤ 0.5'				
Count station differential	0	≤ 0.3'				
Weir crest depth	2	1.0' ± 0.1'				
Entrance differential	0	1.0' - 2.0'	Average	1.3		
Entrance weir N1	0	depth (≥ 8')	Average	10.0		
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	12.6	Manually adjusted as needed.	
East entrance differential	0	1.0' - 2.0'	Average	1.6		
Entrance weir E1	0	No criteria	Average	10.5	Set in auto	
Entrance weir E2	0	depth (≥ 8')	Average	12.5	Set in auto	
Entrance weir E3	10	depth (≥ 8')	Average	8.7	Entrance weirs E2 and E3 should maintain gate crest ≥ 8' according to FPP but E3 hangs up in weir guides; switched E3; operated manually to provide criteria entrance differential.	
Collection channel velocity	0	1.5 - 4 fps	Average	2.3		
Transportation channel velocity	0	1.5 - 4 fps	Average	2.5		
North channel velocity	0	1.5 - 4 fps	Average	2.5		
South channel velocity	0	1.5 - 4 fps	Average	3.2		
West entrance differential	0	1.0' - 2.0'	Average	1.5		
Entrance weir W1	0	depth (≥ 8')	Average	10.4		
Entrance weir W2	0	depth (≥ 8')	Average	10.4		
Entrance weir W3	closed	No criteria	closed			
South entrance differential	0	1.0' - 2.0'	Average	1.5		
Entrance weir S1	0	depth (≥ 8')	Average	9.9		
Entrance weir S2	0	depth (≥ 8')	Average	9.9		
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	0.1-0.2'		
Spill volume	1	40%+1%	Average	40.1	<40% due to gas cap	
Spill Pattern	0	per FPP				
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.
With lower tailwater, gulls moving upstream of bridge within avian lines. Hazing pyros having little to no affect.
One sea lion observed 6/11 0650 hrs. south entrance; just "chillin".

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 end of August.
Gateway 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 out of service 3/24 to 6/12/2014 for overhaul
MU20 out of service 5/19 to 6/26/2014 for overhaul and Servo Rebuild
MU17 outage extended to 6/10/2014 due to complications with head gate installation.

Maintenance:

Parts for new weir 158/159 arrived. Maintenance staff starting assembly this week. Completion by Oct1. Installation mid Dec.
North fishway pump motor replacement ordered. Delivery expected prior to Jan dewatering.
Collection channel pump #1 to be removed for repair of grounded motor.
Permanent oil boom to install in forebay of east fishladder exit FPOM approved. Purchasing underway.
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

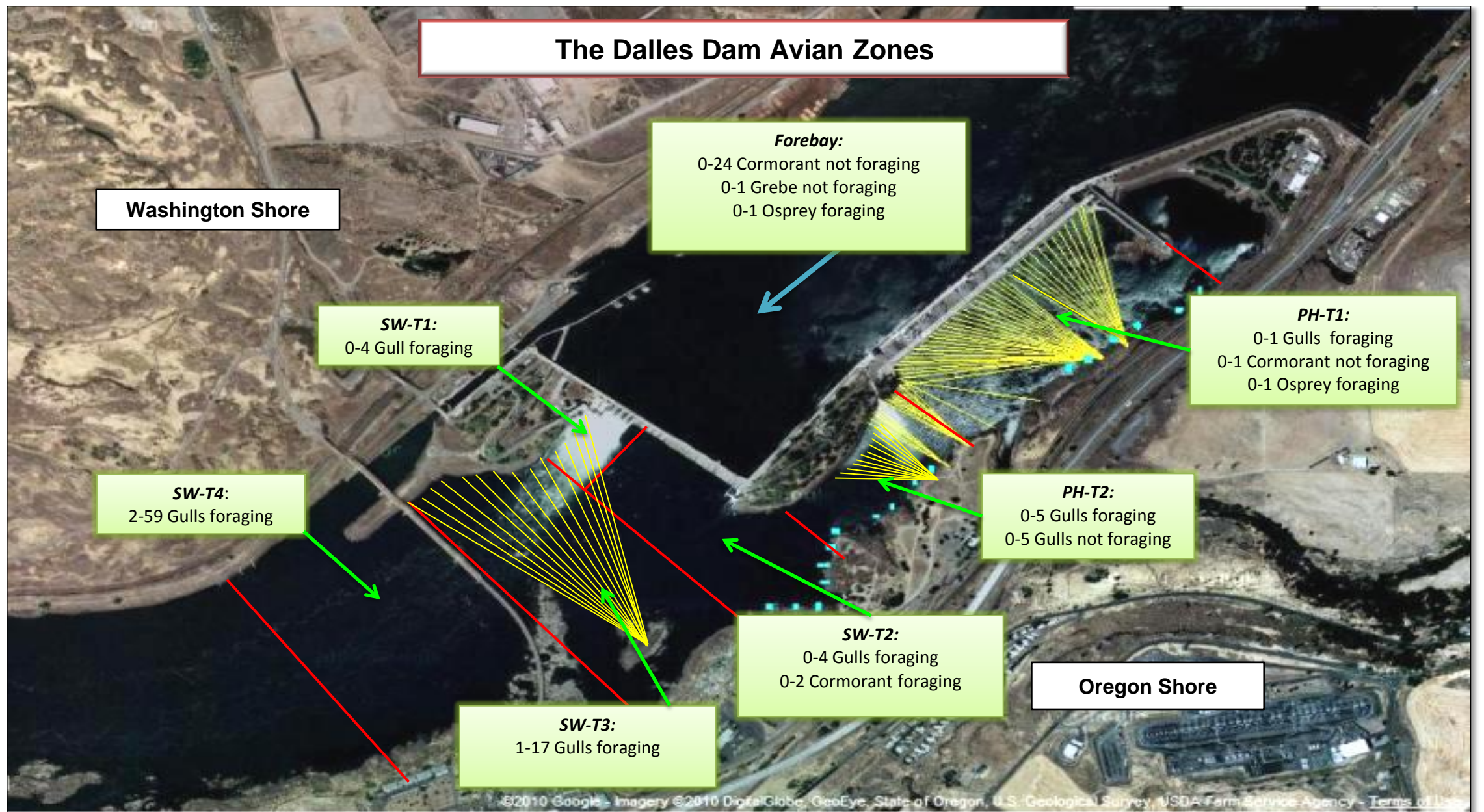
Studies:

EFL Backup. Hole through dam, under roadway and into AWS conduit at junction pool. Starting Plans and Specs. Construction winter 2015.
Test pits excavation between fishladder and fishlock parking area in Nov. ADCP flow velocity survey in Aug. Both FPOM approved.
PUD - PUD 'freedom' second turbine proposal for north fishway in FERC review process. COE reviewed and commented.

Research/Contractors:

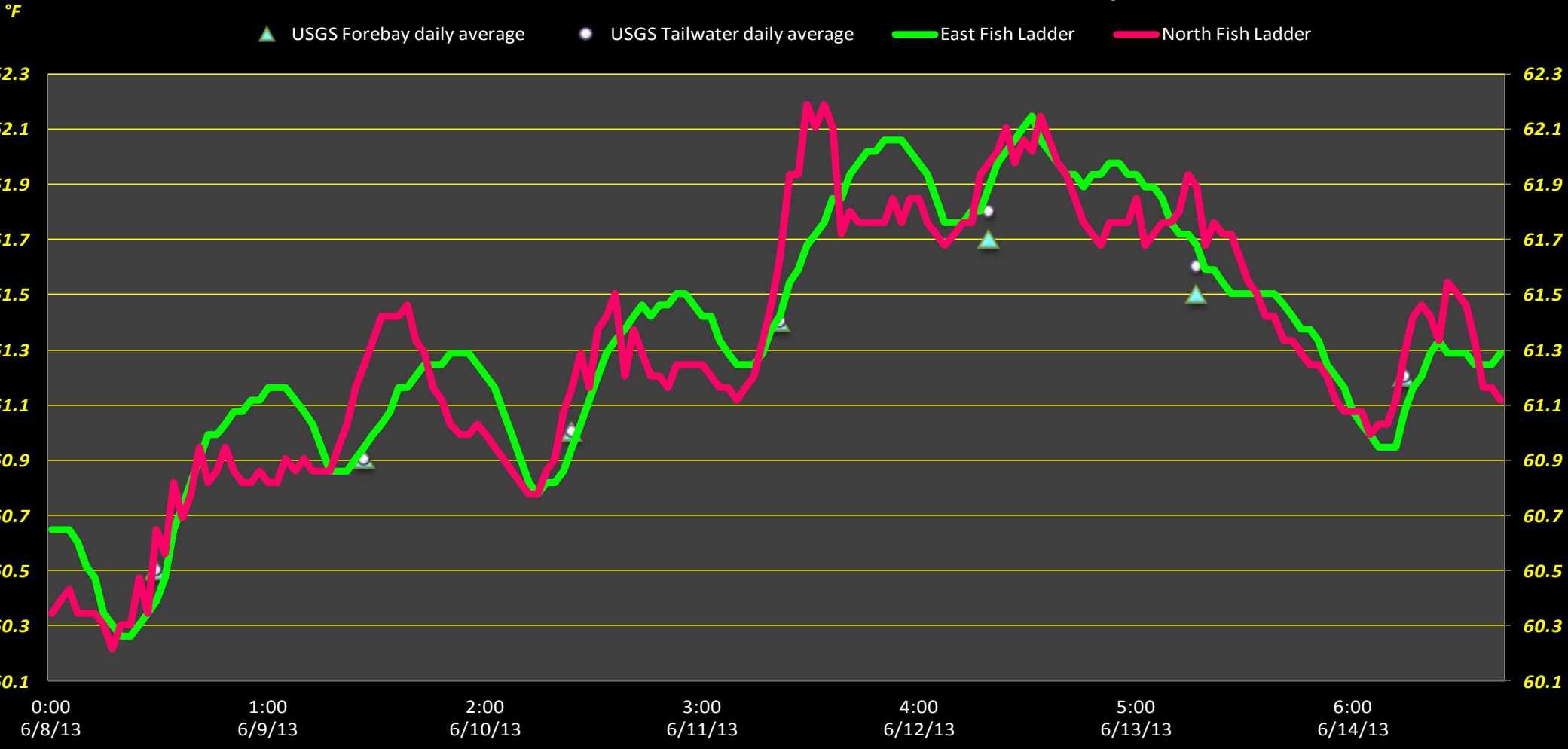
PSMFC PIT tag monitoring continues at count stations. No issues.
Columbia River Northern Pikeminnow Management Dam Angling: Twenty one hours fishing for 68 pikeminnow.
CTUIR, YN, and NPT will started lamprey collection June 11. Total catch 24 lamprey from east count station. Allocation for 2014 is 374.
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 3 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 and continuing downloads.
Removal last set of 3 derelict Vertical Barrier Screens from MU 12 gate well slot scheduled week of Aug11. Funding allocated.

Approved by;
Ron D. Twiner
Operation Project Manager



Hazing activity primarily in SW-T4
 Numbers reflect weekly range

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



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

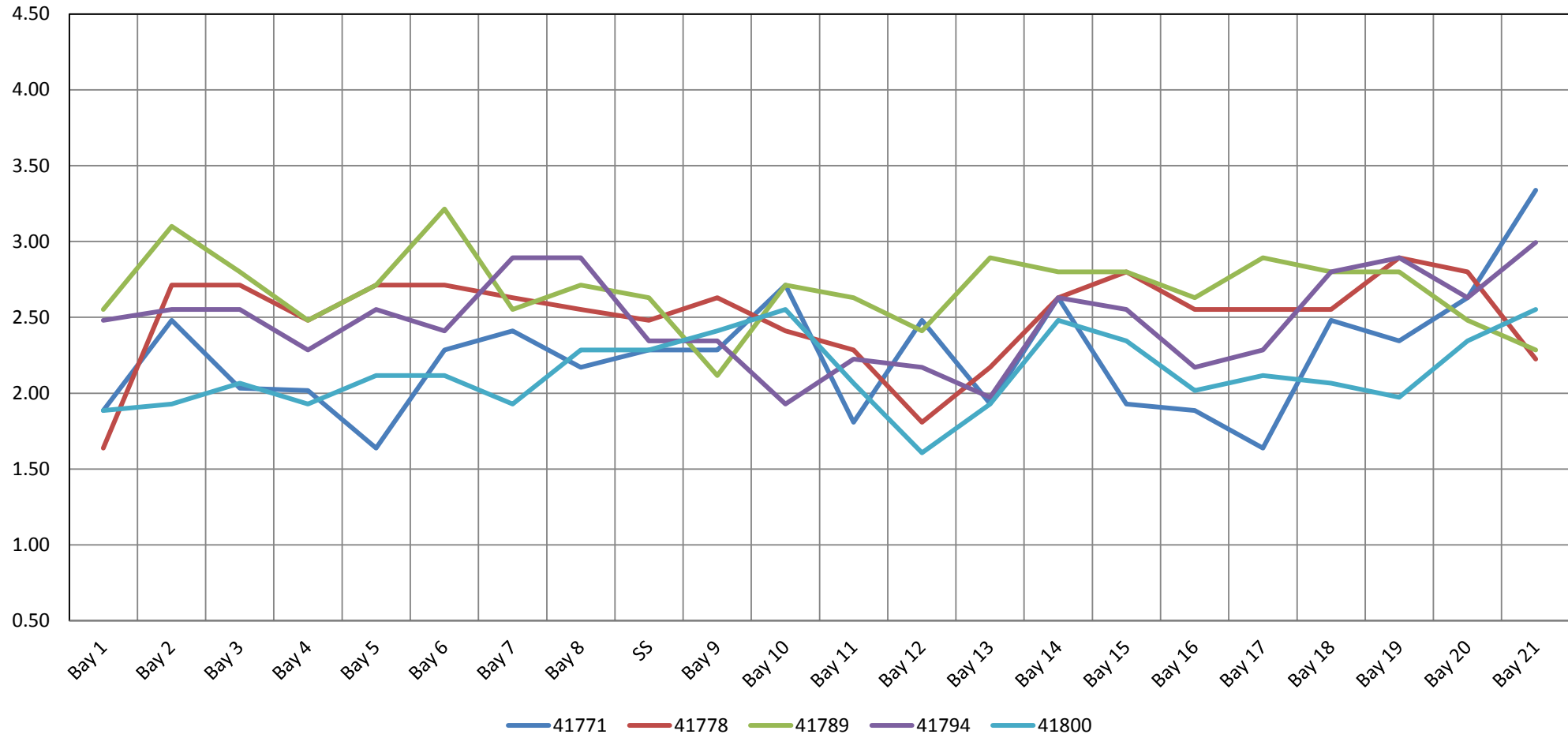
Date	Chinook				Jack Chinook				Steelhead				Steelhead Wild				Sockeye				Lamprey				Spill Pct [Right]	Outflow (kcfs)	
	Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder				
	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#			Pct
6/8	74.3	2065	25.7	715	93.6	265	6.4	18	95.1	58	4.9	3	92.3	12.0	7.7	1.0	98.5	406	1.5	6	85.7	6	14.3	1	39.9	282.6	
6/9	76.6	2102	23.4	641	96.0	410	4.0	17	92.1	58	7.9	5	94.7	18.0	5.3	1.0	99.4	632	0.6	4	62.5	10	37.5	6	40.0	269.2	
6/10	71.7	1698	28.3	670	93.2	218	6.8	16	90.5	38	9.5	4	71.4	10.0	28.6	4.0	99.8	601	0.2	1	50.0	6	50.0	6	39.9	281.9	
6/11	81.2	1626	18.8	376	97.1	436	2.9	13	98.6	70	1.4	1	100	12.0	0.0	0.0	98.7	1037	1.3	14	45.5	10	54.5	12	40.1	262.7	
6/12	72.2	1548	27.8	595	80.7	197	19.3	47	73.7	42	26.3	15	50.0	5.0	50.0	5.0	95.9	1666	4.1	71	66.7	14	33.3	7	39.7	236.9	
6/13	61.8	1505	38.2	932	84.0	341	16.0	65	76.9	90	23.1	27	66.7	28.0	33.3	14.0	83.7	1994	16.3	388	50.0	12	50.0	12	40.1	219.2	
6/14	70.4	1534	29.6	644	89.1	312	10.9	38	97.7	84	2.3	2	95.8	23.0	4.2	1.0	97.2	3575	2.8	103	82.8	24	17.2	5	39.9	229.2	
Date	Chinook				Jack Chinook				Steelhead				Steelhead Wild				Sockeye				Lamprey				Spill Pct	Outflow	
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	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	Left Ladder Pct	Right Ladder Pct	AVERAGES				
	72.5	27.5	91.1	8.9	88.5	11.5	80.6	19.4	94.4	5.6	62.6	37.4	39.9	254.5													

adult and jack coho not present YTD

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)



8-Jun-14			9-Jun-14			10-Jun-14			11-Jun-14			12-Jun-14			13-Jun-14			14-Jun-14		
River K	Spill K	Spill %	River K	Spill K	Spill %	River K	Spill K	Spill %	River K	Spill K	Spill %	River K	Spill K	Spill %	River K	Spill K	Spill %	River K	Spill K	Spill %
280.9	110.8	39.4	230.5	93.6	40.6	268.6	107.1	39.9	264.4	105.2	39.8	243.6	96.7	39.7	217.0	85.5	39.4	227.1	91.8	40.4
276.4	110.9	40.1	227.9	90.5	39.7	260.8	105.2	40.3	249.5	99.4	39.8	244.0	96.9	39.7	194.5	77.1	39.6	208.9	82.7	39.6
273.7	111.0	40.6	224.8	90.5	40.3	249.3	100.4	40.3	249.9	99.3	39.7	244.3	96.5	39.5	177.8	71.6	40.3	207.5	82.7	39.9
276.6	111.0	40.1	224.1	90.5	40.4	249.9	99.5	39.8	248.9	99.3	39.9	245.5	96.2	39.2	168.5	66.8	39.6	208.8	83.1	39.8
278.6	111.1	39.9	230.1	90.4	39.3	249.9	99.8	39.9	246.5	99.3	40.3	243.0	95.9	39.5	167.3	67.9	40.6	221.0	88.3	40.0
277.9	110.8	39.9	231.5	132.9	57.4	261.6	105.5	40.3	249.5	99.2	39.8	226.1	90.2	39.9	180.5	72.8	40.3	221.5	88.1	39.8
274.0	108.0	39.4	246.7	141.0	57.2	267.9	106.8	39.9	253.2	99.2	39.2	226.8	89.8	39.6	205.3	81.9	39.9	220.0	88.1	40.0
297.6	118.0	39.7	252.3	99.5	39.4	294.0	116.4	39.6	246.4	99.4	40.3	227.4	89.7	39.4	239.8	94.7	39.5	222.7	88.1	39.6
300.6	119.0	39.6	265.3	104.5	39.4	304.3	119.6	39.3	246.9	99.5	40.3	224.6	89.9	40.0	246.7	99.7	40.4	223.4	88.1	39.4
316.7	125.1	39.5	265.3	105.2	39.7	305.4	123.9	40.6	247.8	99.6	40.2	227.8	90.3	39.6	249.7	99.6	39.9	219.9	88.1	40.1
299.3	120.9	40.4	290.7	114.1	39.3	316.5	123.4	39.0	249.5	99.6	39.9	249.4	99.7	40.0	234.6	93.8	40.0	222.5	88.1	39.6
285.8	113.9	39.9	290.5	116.4	40.1	301.3	123.2	40.9	247.9	99.7	40.2	250.1	99.7	39.9	231.4	91.6	39.6	219.5	88.2	40.2
301.2	120.5	40.0	295.0	116.6	39.5	312.4	123.2	39.4	247.8	99.8	40.3	251.8	99.7	39.6	232.2	91.7	39.5	222.9	88.2	39.6
305.7	122.3	40.0	287.5	117.1	40.7	310.5	123.4	39.7	267.2	109.0	40.8	250.0	99.6	39.8	228.3	91.8	40.2	229.7	93.5	40.7
310.0	122.1	39.4	295.6	117.3	39.7	306.3	122.6	40.0	269.9	109.6	40.6	251.4	99.6	39.6	230.4	91.8	39.8	232.0	93.7	40.4
311.1	121.8	39.2	290.3	117.4	40.4	291.2	116.0	39.8	274.3	109.6	40.0	250.9	99.5	39.7	226.5	91.7	40.5	233.6	93.8	40.2
302.0	121.8	40.3	293.7	117.2	39.9	292.2	116.0	39.7	274.4	109.6	39.9	248.9	99.5	40.0	225.1	91.7	40.7	227.4	94.0	41.3
267.9	106.6	39.8	295.4	117.1	39.6	285.7	116.2	40.7	300.9	119.4	39.7	242.0	96.1	39.7	233.3	91.7	39.3	236.1	93.9	39.8
264.6	105.7	39.9	289.1	117.1	40.5	273.3	111.2	40.7	301.1	119.2	39.6	240.2	94.7	39.4	228.1	92.0	40.3	238.0	94.8	39.8
266.1	105.7	39.7	292.5	117.0	40.0	276.1	109.6	39.7	301.1	119.0	39.5	220.9	88.0	39.8	228.5	92.2	40.4	258.4	102.5	39.7
266.4	105.7	39.7	294.1	117.0	39.8	257.1	102.0	39.7	298.8	117.7	39.4	220.1	87.7	39.8	232.6	92.4	39.7	259.2	102.2	39.4
261.5	105.9	40.5	285.0	116.0	40.7	261.1	103.8	39.8	268.9	110.4	41.1	217.8	87.3	40.1	228.2	92.7	40.6	254.6	102.0	40.1
255.1	103.7	40.7	280.2	113.7	40.6	283.2	113.5	40.1	256.2	106.2	41.5	218.7	86.9	39.7	227.3	92.7	40.8	253.5	100.9	39.8
231.9	94.3	40.7	283.8	113.6	40.0	285.9	112.6	39.4	242.8	98.8	40.7	220.0	86.8	39.5	228.4	92.8	40.6	232.1	92.0	39.6
6781.6	2706.6	39.9	6461.9	2666.2	41.4	6764.5	2700.9	39.9	6303.8	2527.0	40.1	5685.3	2256.9	39.7	5262.0	2108.2	40.1	5500.3	2196.9	39.9
		39.9			41.3			39.9			40.1			39.7			40.1			39.9

hrs/week	hrs ooc	% of week
168.0	32.0	19.0

	Forebay	Tailwater
USGS	60.5	60.5
	60.9	60.9
	61.0	61.0
	61.4	61.4
DATA	61.7	61.8
	61.5	61.6
	61.2	61.2
AVG:	61.2	

	Secchi:
SUN	4.0
MON	4.0
TUES	4.0
WED	3.5
THUR	4.0
FRI	4.0
SAT	4.0
AVG:	3.9

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
6/8/14			1.6	11.1	12.5	8.7	13.9	1.3	11.7	11.7	c l o s e d	1.4	10.1	10.1	39.9
	1.3	10.0	1.6	11.0	12.4	9.0	14.2	1.4	11.6	11.6		1.5	10.0	10.0	
	1.4	10.0	1.6	11.0	12.6	9.2	14.4	1.4	11.5	11.4		1.4	10.1	10.1	
6/9/14			1.7	10.9	12.5	6.9	12.1	1.2	11.5	11.5		1.5	10.0	10.0	41.3
	1.3	10.0	1.8	11.1	12.4	7.1	12.3	1.3	11.5	11.5		1.4	10.1	10.1	
	1.4	10.0	1.6	10.9	12.4	10.1	13.3	1.3	11.5	11.5		1.4	10.0	10.1	
6/10/14			1.6	11.0	12.5	7.9	13.1	1.4	10.1	10.1		1.4	10.1	10.1	39.9
	1.4	9.9	1.5	12.5	12.5	8.7	13.9	1.6	10.5	10.6		1.5	10.0	10.0	
	1.3	10.0	1.4	12.5	12.6	9.7	14.9	1.6	10.4	10.4		1.6	9.9	9.9	
6/11/14			1.5	12.5	12.4	7.2	12.4	1.5	10.4	10.5		1.4	10.0	10.0	40.1
	1.3	10.0	1.5	12.4	12.5	7.1	12.3	1.4	10.4	10.5		1.4	10.1	9.9	
	1.4	9.9	1.6	12.6	12.5	7.3	12.5	1.3	9.5	9.6		1.4	10.0	10.0	
6/12/14			1.5	10.7	12.4	6.7	11.9	1.3	10.5	10.5		1.5	10.0	10.0	39.7
	1.3	10.0	1.5	12.5	12.6	6.7	11.9	1.6	9.6	9.5		1.4	10.0	10.1	
	1.3	9.9	1.6	12.4	12.5	7.4	12.6	1.7	9.4	9.4	1.4	10.1	10.1		
6/13/14			1.5	12.6	12.7	6.5	11.7	1.6	9.7	9.6	1.4	10.2	10.2	40.1	
	1.4	9.9	1.5	6.6	12.6	11.7	12.2	1.6	10.1	10.0	1.5	9.6	9.6		
	1.4	9.9	1.5	6.4	12.4	11.5	12.0	1.5	9.9	9.9	1.6	9.5	9.4		
6/14/14			1.5	6.5	12.4	10.7	11.2	1.4	10.1	10.0	1.6	9.4	9.4	39.9	
	1.3	10.0	1.5	7.6	12.5	10.8	11.3	1.6	9.0	9.0	1.6	9.5	9.5		
	1.3	10.0	1.5	6.5	12.1	10.9	11.4	1.5	9.5	9.5	1.6	9.5	9.5		
AVG:	1.3	10.0	1.6	10.5	12.5	8.7	12.6	1.5	10.4	10.4	1.5	9.9	9.9	40.1	



Fabrication started on new 159 weir. Expected completion for installation this winter.