

The Dalles Dam Fishway Status Report

7/9/2016

Inspection Period: 07/03/2016-07/09/2016

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: 21		Temperature: 67.5 °F	
			Comments		Secchi: 5.3 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'	1.4			
Entrance weir N1	0	depth (≥ 8')	9.8			
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				
Weir 158-159 differential	0	1.0' ± 0.1'	158 manually adjusted as needed. New sensor purchased and being installed.			
Count station differential	0	≤ 0.3'	Picket leads raked as needed.			
Weir crest depth	0	1.0' ± 0.1'	Currently set at 1.3' for shad passage			
Junction pool weir JP6	0	depth (≥ 7')	9.1			
East entrance differential	0	1.0' - 2.0'	1.4			
Entrance weir E1	0	No criteria	5.8			
Entrance weir E2	0	depth (≥ 8')	12.0			
Entrance weir E3	0	depth (≥ 8')	12.0			
Collection channel velocity	0	1.5 - 4 fps	2.6			
Transportation channel velocity	0	1.5 - 4 fps	2.4			
North channel velocity	0	1.5 - 4 fps	2.2			
South channel velocity	0	1.5 - 4 fps	3.4			
West entrance differential	0	1.0' - 2.0'	1.5			
Entrance weir W1	0	depth (≥ 8')	9.2			
Entrance weir W2	0	depth (≥ 8')	9.2			
Entrance weir W3	0	No criteria	Closed			
South entrance differential	0	1.0' - 2.0'	1.4			
Entrance weir S1	0	depth (≥ 8')	8.5			
Entrance weir S2	0	depth (≥ 8')	8.5			
JUVENILE PASSAGE						
Sluiceway operation	9	Units 1, 8, 18	MU2 instead of MU1 but 2-1 is stuck so 3-1 is open- MU 3 is forced out. MU 1 RTS on 7/7			
Turbine trashrack drawdown	0	<1.5', wkly	range: 0.2-0.6'			
Spill volume	0	Spill at 40%				
Spill Pattern	0					
Turbine Unit Priority	0	per FPP	MU 3, 13, 14, 15 & 16 forced out. Affects turbine block priority order.			
Turbine 1% Efficiency	0	per FPP				

Birds/Sea lions:

Bird observation data collected once daily. Refer to Avian Zone map. USDA hazing to continue through mid August.
Many Pelicans feeding in SW3 and 4. Congregating at end of spillwall. No gull activity at powerhouse.
Investigating possibility of limited lethal gull removal at project. District investigating feasibility.
USDA gull hazing by boat continues through mid August.

Operations:

Gatewell drawdown complete. All differentials within criteria.
Calibration 7/8. All in criteria
Spill 40% continues.

Current Outages:

T8 (MU15 & MU16) forced out due to transformer failure. Return unknown.
MU3 FOOS through 8/4/2016 due to loss of governor sump oil level, O/H and SCC upgrade

Maintenance:

South entrance dewater pump removed for rehab. To be complete for this winter outage.
New east exit weir electrical panel FCQ7 panel installed in gallery. Power connection as funding allows.
Long Term repair maintained plans; 154 -157 weir mods, collection channel diffusers decommission, repair failed diffusers - all awaiting funding
Fish related /non-fish funded items; Spillway crane rehab priority over spillgate 9, both awaiting funding.
Fish unit breaker replace, Fish unit rehab and transformer replace in planning.
All spillway items on Critical Infrastructure list and Unfunded Requirement list.

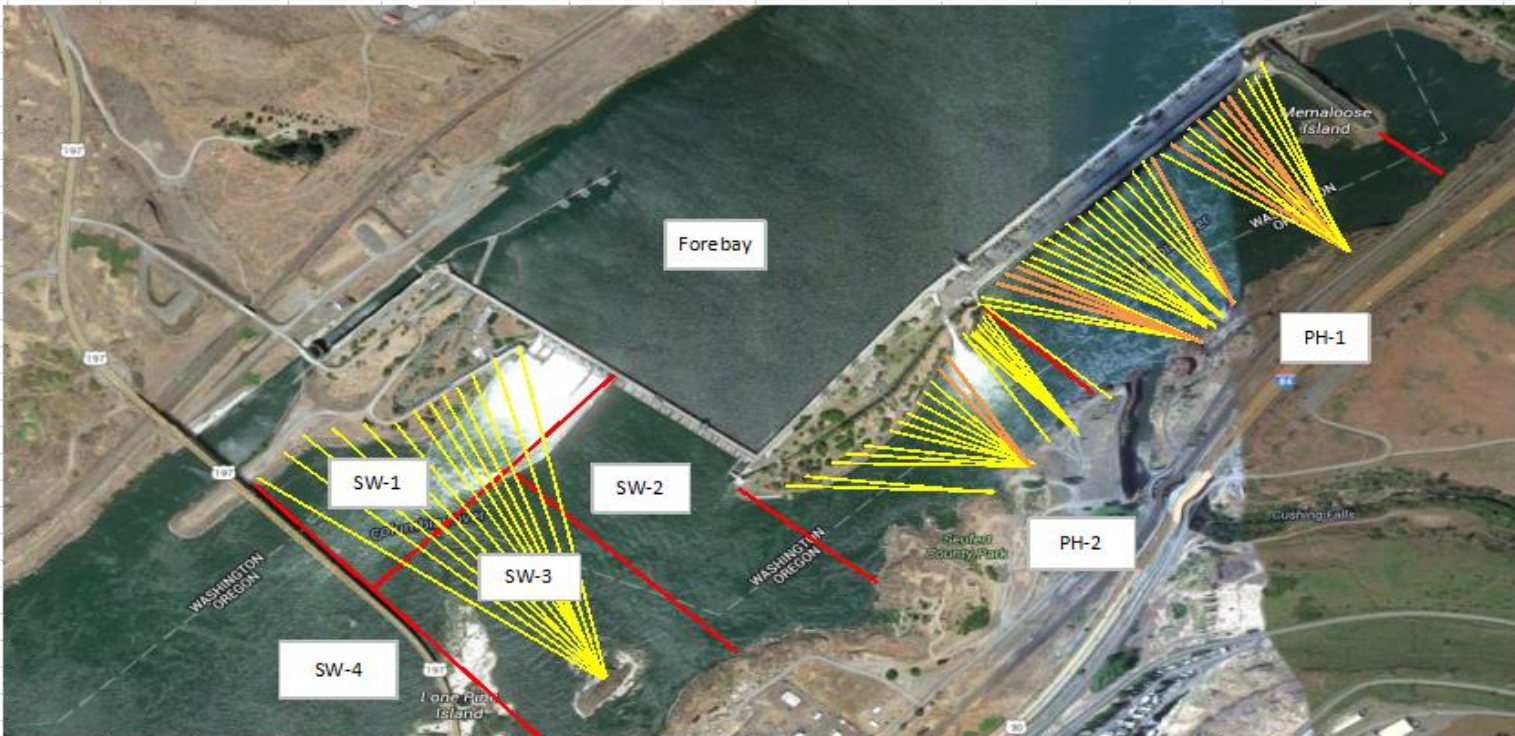
Studies/Construction:

Main unit 1 out of service 6/27-7/7 for environmental acceptable grease testing. Sluice gates closed on unit 1 and open on unit 2 during that time.
North fishladder rehab/rock wall stabilizing. No new development.
East fishladder emergency backup construction this winter. Weekly planning meetings underway.
Crane rail replacement on tailrace and intake for in water work period 2016/17.
Transformer replacement planning continues. Eliminate fish unit TA transformers and tie to T1 and T3. Install start 2017.
No new developments for north lighting video counting improvements.
In process of updating N Wasco Co PUD Memo of Agreement. Final awaiting PUD comments.
Fish unit rehab project plan started. Will increase reliability of fish units and potential redundancy.
Fish unit breaker replace planned for in water work period 2017/18
East exit fishing boundary marker plan awaiting feedback from Washington for boundary distance.

Research/Contractors:

Northern Pikeminnow Management Program dam anglers caught 81 fish this week at The Dalles Dam powerhouse. Cumulative total 2,133.
Normandeau fish counters continue through Oct 30. No issues.
Tribal lamprey trapping continues at east count station. Approx 30% catch target met.

Approved by: Ron Twiner
Operation Project Manager The Dalles Dam



Yellow lines= present avian lines

red lines= Barriers between observation zones

Orange lines= Missing or down avian lines

2016 Piscivorous Bird Counts

F=foraging, NF=non-foraging

Date	Observer	AM/PM	Zone	Gull		Cormorant		Caspian tern		Grebe		Pelican		Other		Total birds in zone	Notes	
				F	NF	F	NF	F	NF	F	NF	F	NF	F	NF			
7/2/16	GJF	AM	FB	0	1	0	27	0	0	0	0	0	0	0	0	0	28	
			PH1	0	3	2	6	0	0	0	0	0	1	0	0	0	12	
			PH2	0	7	1	0	0	0	0	0	0	0	0	0	0	8	
			SW1	27	0	0	0	0	0	0	0	0	0	0	0	0	27	
			SW2	0	5	0	0	0	0	0	0	0	2	0	0	0	7	
			SW3	87	67	0	0	0	0	0	0	0	35	0	0	0	189	
			SW4	31	18	0	0	0	0	0	0	84	24	0	0	0	157	
7/3/16	GJF	PM	FB	0	0	0	16	0	0	0	0	0	0	0	0	0	16	
			PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW1	23	0	0	0	0	0	0	0	0	0	0	0	0	23	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	19	34	0	0	0	0	0	0	4	0	0	0	0	57	
			SW4	8	0	0	0	0	0	0	0	7	51	0	0	0	66	
7/4/16	GJF	AM	FB	0	0	0	11	0	0	0	0	0	0	0	0	0	11	
			PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW1	7	0	0	0	0	0	0	0	0	0	0	0	0	7	
			SW2	0	0	2	0	0	0	0	0	0	0	0	0	0	2	
			SW3	11	27	0	0	0	0	0	0	19	0	0	0	0	57	
			SW4	16	0	0	0	0	0	0	0	55	101	0	0	0	172	
7/5/16	GJF	PM	FB	0	2	0	13	0	0	0	0	0	0	0	0	0	15	
			PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW1	5	0	0	0	0	0	0	0	0	0	0	0	0	5	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	21	78	0	0	0	0	0	0	23	0	0	0	0	122	
			SW4	12	6	0	0	0	0	0	0	31	46	0	0	0	95	
7/6/16	JWR	AM	FB	0	0	1	58	0	0	0	0	0	0	0	0	0	59	
			PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW1	2	10	0	0	0	0	0	0	0	0	0	0	0	12	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	2	0	0	0	0	0	0	0	3	39	0	0	0	44	
			SW4	0	0	0	0	0	0	0	0	16	26	0	0	0	42	
7/7/16	GJF	PM	FB	0	0	0	26	0	0	0	0	0	0	0	0	0	26	
			PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			PH2	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
			SW1	17	3	0	0	0	0	0	0	0	0	0	0	0	20	
			SW2	0	1	1	0	0	0	0	0	0	0	0	0	0	2	
			SW3	19	78	0	0	0	0	0	0	22	0	0	0	0	119	
			SW4	7	10	0	0	0	0	0	0	26	35	0	0	0	78	
7/8/16	JWR	AM	FB	0	15	5	57	0	0	0	0	1	0	0	0	78		
			PH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			PH2	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
			SW1	0	0	12	7	0	0	0	0	0	0	0	0	0	19	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	7	56	1	0	0	0	0	0	23	6	0	0	0	93	
			SW4	0	0	0	0	0	0	0	0	21	57	0	0	0	78	
7/9/16	EHK	PM	FB	1	0	0	23	0	0	0	0	0	0	0	0	24		
			PH1	0	0	0	3	0	0	0	0	0	0	0	0	3		
			PH2	0	0	0	0	0	0	0	0	2	0	0	0	2		
			SW1	15	0	0	0	0	0	0	0	0	0	0	0	15		
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	7	59	0	1	0	0	0	0	18	0	0	0	0	85	
			SW4	1	0	0	0	0	0	0	0	162	0	0	0	0	163	

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
7/3	1437	1336	101	305	203	102	0	0	0	3457	0	0	124
7/4	1413	1349	64	305	162	143	0	0	0	3014	0	0	47
7/5	1346	1176	170	355	198	157	0	0	0	2198	0	0	88
7/6	1206	1118	88	364	179	185	0	0	0	1800	0	0	40
7/7	1041	896	145	396	190	206	0	0	0	1355	0	0	101
7/8	1019	889	130	372	182	190	0	0	0	1123	0	0	44
7/9	1075	955	120	366	191	175	0	0	0	1010	0	0	49
total	8537	7719	818	2463	1305	1158	0	0	0	13957	0	0	493

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
7/3	768	727	41	93	23	70	0	0	0	3895	0	0	73
7/4	951	898	53	212	108	104	0	0	0	3124	0	0	60
7/5	791	761	30	150	76	74	0	0	0	1883	0	0	48
7/6	310	269	41	134	48	86	0	0	0	908	0	0	62
7/7	459	436	23	153	74	79	0	0	0	1056	0	0	67
7/8	640	572	68	211	108	103	0	0	0	1069	0	0	83
7/9	593	569	24	215	107	108	0	0	0	1204	0	0	59
total	4512	4232	280	1168	544	624	0	0	0	13139	0	0	452
% North	34.6	35.4	25.5	32.2	29.4	35.0	0.0	0.0	0.0	48.5	0.0	0.0	47.8

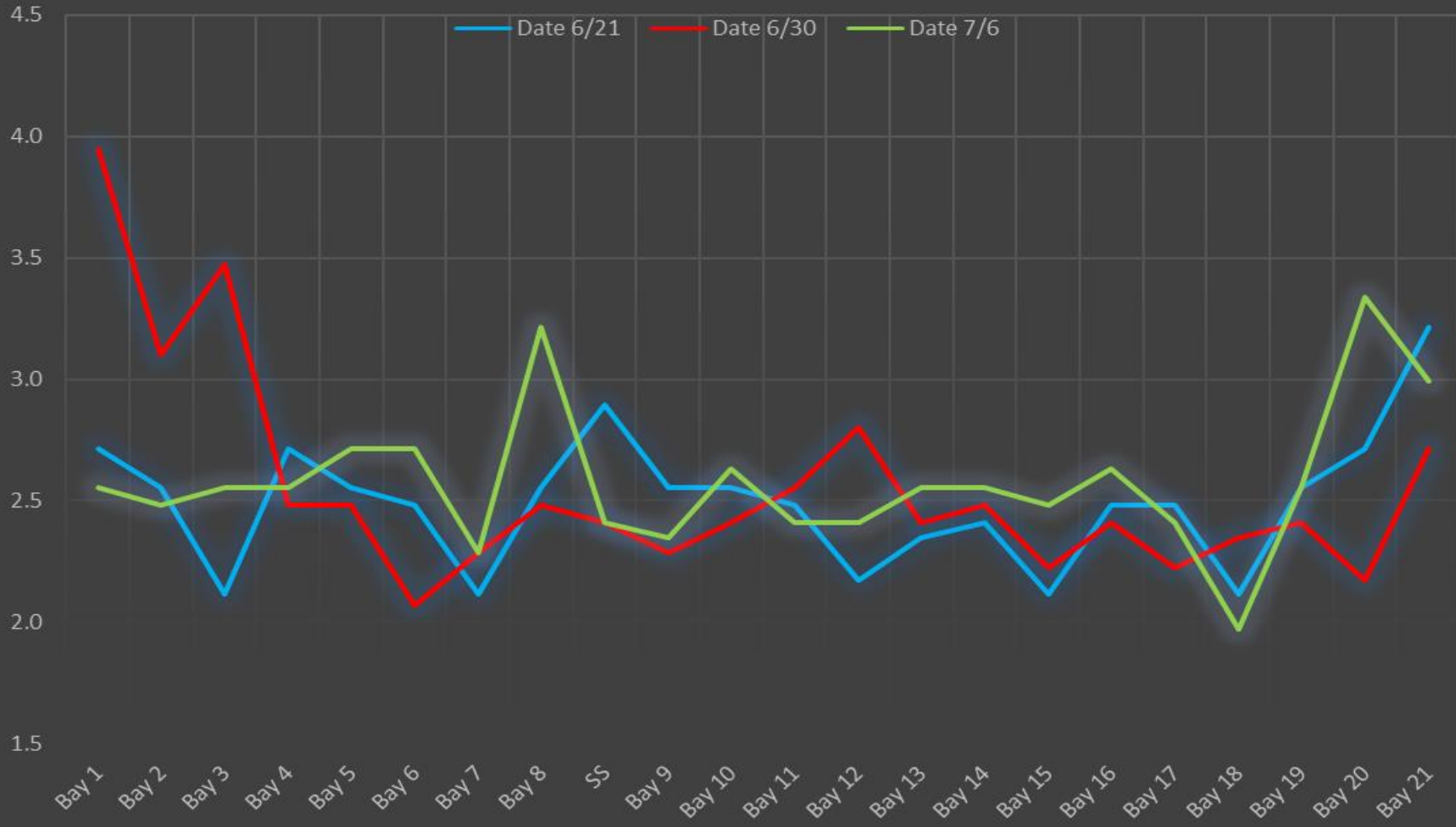
<http://www.nwp.usace.army.mil/Missions/Environment/Fish/Counts.aspx>

The Dalles Dam Averages Velocities (In criteria 1.5 - 4.0 fps)

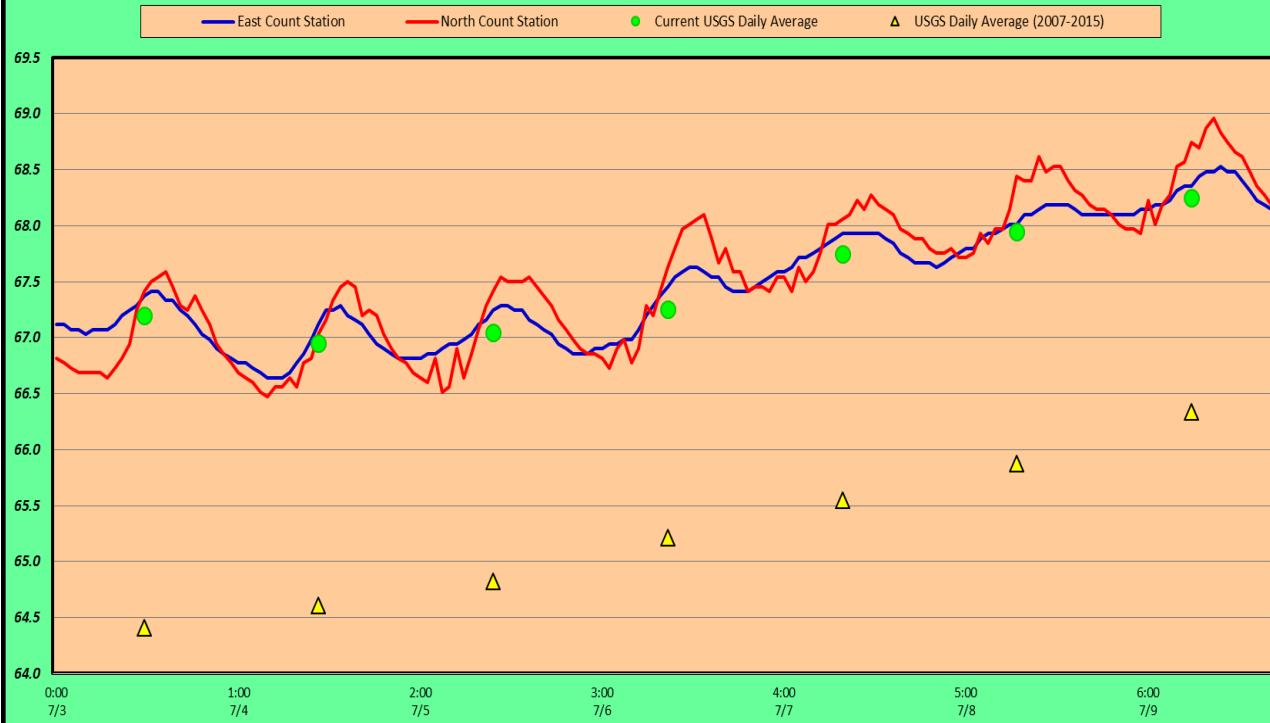
— The Dalles Collection Channel — The Dalles Transportation Channel
— The Dalles North Entrance — The Dalles South Rock Channel



The Dalles Dam Collection Channel Velocites (In criteria 1.5 - 4.0 fps)



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



USGS: <http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201607/icoi.html>

Secchi:		Temperatures
5.0	Sun	67.20
5.0	Mon	66.95
5.0	Tue	67.05
5.0	Wed	67.25
5.0	Thurs	67.75
6.0	Fri	67.95
6.0	Sat	68.25
5.3	AVG	67.49

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

= Out of criteria

Date:	North Ladder			East 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	
7/3			1.2	6.7	12.0	12.0	9.0	1.4	9.5	9.5		1.5	8.4	8.4	40.1
	1.5	9.7	1.3	6.7	12.0	11.9	9.0	1.4	9.5	9.5		1.5	8.4	8.4	
	1.6	9.6	1.4	6.6	12.0	11.9	8.4	1.2	9.5	9.5		1.3	8.6	8.6	
7/4			1.5	6.5	11.9	12.0	8.6	1.4	9.5	9.5		1.4	8.5	8.5	40.1
	1.5	9.6	1.3	6.7	12.1	12.0	8.8	1.4	9.3	9.5		1.4	8.5	8.5	
	1.4	9.5	1.3	6.6	11.9	11.9	8.9	1.4	9.3	9.3		1.4	8.5	8.5	
7/5			1.4	6.7	12.0	12.0	9.0	1.4	9.4	9.4		1.4	8.6	8.6	40.1
	1.3	9.9	1.5	5.0	12.0	12.0	9.2	1.6	9.1	9.1		1.5	8.5	8.5	
	1.5	9.7	1.6	5.1	12.0	12.0	9.6	1.6	9.0	9.0		1.5	8.5	8.5	
7/6			1.3	4.9	12.1	12.1	7.8	1.3	9.0	9.0		1.3	8.6	8.6	40.0
	1.3	9.8	1.5	5.1	12.1	12.1	8.2	1.4	9.1	9.1		1.4	8.5	8.5	
	1.4	10.0	1.7	6.8	11.9	12.0	10.5	1.6	8.9	8.9		1.5	8.5	8.5	
7/7			1.3	6.6	12.0	12.0	8.9	1.5	9.1	9.1		1.5	8.5	8.5	40.2
	1.4	9.8	1.5	5.0	12.0	12.0	9.4	1.5	9.1	9.1		1.4	8.5	8.5	
	1.3	10.0	1.5	5.0	12.0	12.0	9.4	1.5	9.0	9.0		1.5	8.5	8.5	
7/8			1.5	4.9	12.0	12.0	8.7	1.6	9.0	9.0		1.5	8.5	8.5	40.1
	1.4	9.8	1.5	5.0	12.1	12.1	9.2	1.6	9.0	9.0		1.5	8.5	8.5	
	1.5	9.6	1.6	5.1	12.0	12.1	9.6	1.5	9.1	9.1		1.5	8.6	8.5	
7/9			1.4	5.7	12.1	11.9	9.0	1.4	9.4	9.4		1.3	8.7	8.7	
	1.4	9.7	1.5	5.6	12.0	12.0	9.3	1.4	9.5	9.5		1.4	8.5	8.5	
	1.4	9.8	1.6	4.7	12.0	12.1	10.0	1.6	9.3	9.3		1.5	8.5	8.6	
AVG:	1.4	9.8	1.4	5.8	12.0	12.0	9.1	1.5	9.2	9.2		1.4	8.5	8.5	40.1

Fishways are inspected twice daily plus one SCADA inspection.



East fishway south dewatering pump removed for rehab. TO be completed for next winter.