

The Dalles Dam Fishway Status Report

10/22/2016

Inspection Period: 10/16/2016 - 10/22/2016

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: 60.6 °F	
			Comments: Fall like conditions on project		Secchi: 4.3 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')	9.2			
Entrance weir N2	0	Closed				
PUD Intake differential	0	≤ 0.5'				
EAST FISHWAY						
Exit differential	0	≤ 0.5'				
Removable weirs 154-157	2	Per forebay	Off up to 1'. Auto corrected.			
Weir 158-159 differential	0	1.0' ± 0.1'				
Count station differential	0	≤ 0.3'	Picket leads raked as needed.			
Weir crest depth	0	1.0' ± 0.1'				
Junction pool weir JP6	0	depth (≥ 7')	11.2			
East entrance differential	1	1.0' - 2.0'	1.6	2.1'. Weir adjusted		
Entrance weir E1	0	No criteria	5.2			
Entrance weir E2	0	depth (≥ 8')	13.0			
Entrance weir E3	0	depth (≥ 8')	13.0			
Collection channel velocity	0	1.5 - 4 fps	2.75			
Transportation channel velocity	0	1.5 - 4 fps	2.38			
North channel velocity	0	1.5 - 4 fps	3.06			
South channel velocity	0	1.5 - 4 fps	3.08			
West entrance differential	0	1.0' - 2.0'	1.5			
Entrance weir W1	0	depth (≥ 8')	9.9			
Entrance weir W2	0	depth (≥ 8')	9.9			
Entrance weir W3	0	No criteria	Closed			
South entrance differential	0	1.0' - 2.0'	1.4			
Entrance weir S1	0	depth (≥ 8')	8.3			
Entrance weir S2	0	depth (≥ 8')	8.3			
JUVENILE PASSAGE						
Sluiceway operation	3	Units 1, 8, 18	MU 1 off for EAL testing. Gate not adjusted due to short outage.			
Turbine trashrack drawdown	0					
spill off						
Turbine Unit Priority	3	per FPP	MU 1 off for EAL testing.			
Turbine 1% Efficiency	0	per FPP				

Birds/Sea lions:

No sea lions observed. Primarily non-foraging cormorants on site.

Bird observation data collected once daily. Refer to Avian Zone map and bird count.

Two of 13 spillway avian lines broke closest to bridge. In-house installation attempted, but not successful. USDA will be contacted.

Operations:

Calibration 10/01, all readings within criteria

Gatewell drawdown completed 10/01, all readings within criteria

Full powerhouse outage occurred 10/13 ~1240PM to 10/14 ~12:20AM for BPA maintenance. Spillway opened. Coordinated through FPOM. Refer to fish count tab.

Current Outages:

T8 (MU15 & MU16) forced out due to transformer failure. Return unknown.

MU3 forced out of service through 8/4/2016 due to loss of governor sump oil level

MU21 OOS for exciter failure RTS unknown

Maintenance:

New east exit weir electrical panel FCQ7 installation ~50% complete. Work continue with available FY17 funding.

Planning underway for winter dewater season, East ladder out Dec 1 through end Feb for AWS backup construction. North ladder out Jan 3 - 17.

Planned winter work; west entrance weir and lift beam rehab, west entrance bulkhead modification, east count station brush replace and routine PMs.

Long Term repair maintenance plans; 154 -157 weir wheel replace, 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.

All spillway items on Critical Infrastructure list and Unfunded Requirement list.

Studies/Construction:

Environmental acceptable grease testing on unit 1 in progress. Coordinated through FPOM.

North fishladder rehab/rock wall stabilizing - No new development.

East fishladder emergency backup - Mobilization and prefab continues on north side staging area. Night work start in November. Day work December.

Crane rail replacement - Start in water work period 2016/17.

Transformer replacement - Install start Oct 2017.

N Wasco Co PUD Memo of Agreement - Awaiting final.

Fish unit rehab - No new development.

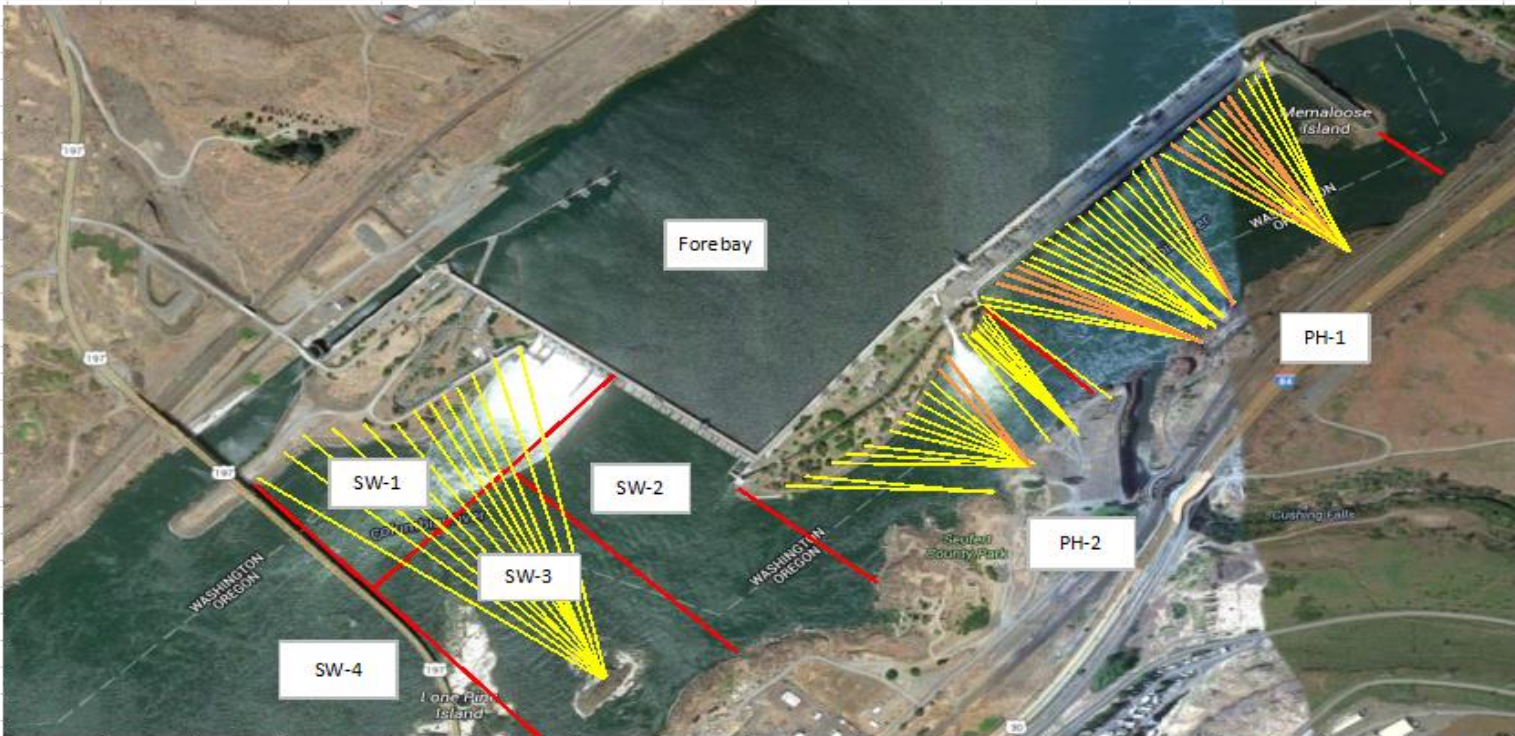
Fish unit breaker replacement - Start in water work period 2017/18

Research/Contractors:

Normandeau fish counters continue through Oct 30. No issues.

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			
10/16/16	JWR	AM	FB	0	0	0	0	0	0	0	0	0	0	0	1	1	BAEA 7 COME, 1 GBHE	
			PH1	0	0	0	14	0	0	0	0	0	0	0	0	8		22
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0		0
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0		0
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0		0
			SW3	0	0	2	56	0	0	0	0	0	0	0	0	0		58
			SW4	0	62	0	0	0	0	0	0	0	0	0	0	0		62
10/17/16	JWR	PM	FB	0	0	0	0	0	0	0	51	0	0	0	0	51	COME	
			PH1	0	0	0	26	0	0	0	0	0	0	0	18	44		
			PH2	10	0	1	0	0	0	0	0	0	0	0	0	11		
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0		
			SW2	2	0	0	0	0	0	0	0	0	0	0	0	2		
			SW3	0	45	6	61	0	0	0	0	0	0	0	0	112		
			SW4	0	108	0	17	0	0	0	0	0	1	0	0	126		
10/18/16	JWR	AM	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	COME	
			PH1	0	0	0	35	0	0	0	0	0	0	0	13	48		
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0		
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0		
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0		
			SW3	0	0	1	56	0	0	0	0	0	0	0	0	57		
			SW4	0	48	0	0	0	0	0	0	0	0	0	1	49		
10/19/16	GJF	PM	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	COME GBHE	
			PH1	0	0	14	42	0	0	0	0	0	0	6	9	0		
			PH2	8	0	7	0	0	0	0	0	0	0	0	0	0		
			SW1	0	5	0	0	0	0	0	0	0	0	0	1	0		
			SW2	1	0	2	58	0	0	0	0	0	0	0	0	0		
			SW3	0	0	0	12	0	0	0	0	0	0	0	0	0		
			SW4	0	132	0	14	0	0	0	0	0	0	0	0	0		
10/20/16	JWR	AM	FB	0	4	0	0	0	0	0	0	0	0	0	1	5	BAEA COME	
			PH1	0	0	0	41	0	0	0	0	0	0	0	5	46		
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0		
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0		
			SW2	0	0	2	0	0	0	0	0	0	0	0	0	2		
			SW3	0	0	0	46	0	0	0	0	0	0	0	0	46		
			SW4	0	82	0	0	0	0	0	0	0	0	0	0	82		
10/21/16	GJF	PM	FB	0	0	5	0	0	0	0	0	0	0	0	0	5		
			PH1	0	1	9	42	0	0	0	0	0	0	0	0	52		
			PH2	16	0	4	0	0	0	0	0	0	0	0	0	20		
			SW1	0	0	2	0	0	0	0	0	0	0	0	0	2		
			SW2	0	4	6	0	0	0	0	0	0	0	0	0	10		
			SW3	0	15	2	84	0	0	0	0	0	0	0	0	101		
			SW4	0	46	0	15	0	0	0	0	0	0	0	0	61		
10/22/16	GJF	AM	FB	0	0	0	0	0	0	0	0	0	0	0	0	0		
			PH1	0	0	13	31	0	0	0	0	0	0	0	0	44		
			PH2	12	0	2	0	0	0	0	0	0	0	0	0	14		
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0		
			SW2	0	0	1	0	0	0	0	0	0	0	0	0	1		
			SW3	0	0	4	34	0	0	0	0	0	0	0	0	38		
			SW4	0	94	0	9	0	0	0	0	0	0	0	0	103		
<i>daily averages</i>				1.0	13.2	1.7	14.1	0.0	0.0	0.0	1.0	0.0	0.0	0.1	1.2	26.0		

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
10/16	519	457	62	721	443	278	252	246	6	0	0	0	0
10/17	686	582	104	547	360	187	106	98	8	1	0	0	0
10/18	452	406	46	298	212	86	30	24	6	0	0	0	0
10/19	370	305	65	360	228	132	32	28	4	0	0	0	-1
10/20	256	236	20	178	120	58	6	6	0	0	0	0	0
10/21	306	262	44	165	118	47	14	13	1	0	0	0	0
10/22	459	418	41	165	103	62	15	13	2	0	0	0	0
Total	3048	2666	382	2434	1584	850	455	428	27	1	0	0	-1

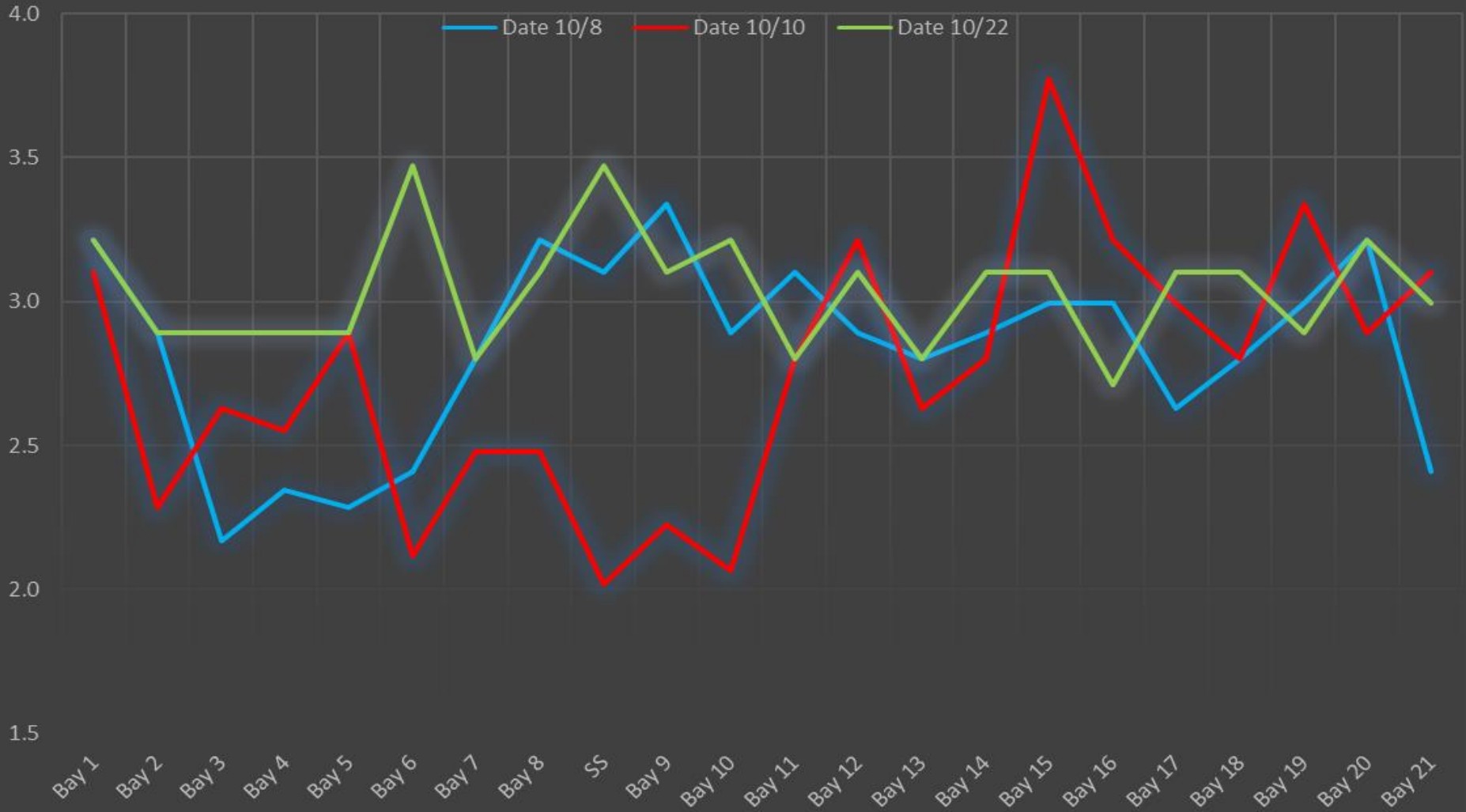
The Dalles North

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
10/16	10	8	2	78	59	19	17	17	0	0	0	0	0
10/17	14	14	0	96	62	34	6	6	0	0	0	0	0
10/18	11	7	4	51	40	11	2	2	0	0	0	0	0
10/19	6	6	0	29	17	12	2	2	0	0	0	0	0
10/20	7	6	1	31	25	6	0	0	0	0	0	0	0
10/21	9	8	1	31	24	7	0	0	0	0	0	0	0
10/22	9	7	2	29	18	11	2	2	0	0	0	0	0
Total	66	56	10	345	245	100	29	29	0	0	0	0	0
% North	2.1	2.1	2.6	12.4	13.4	10.5	6.0	6.3	0.0	0.0	0.0	0.0	0.0

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

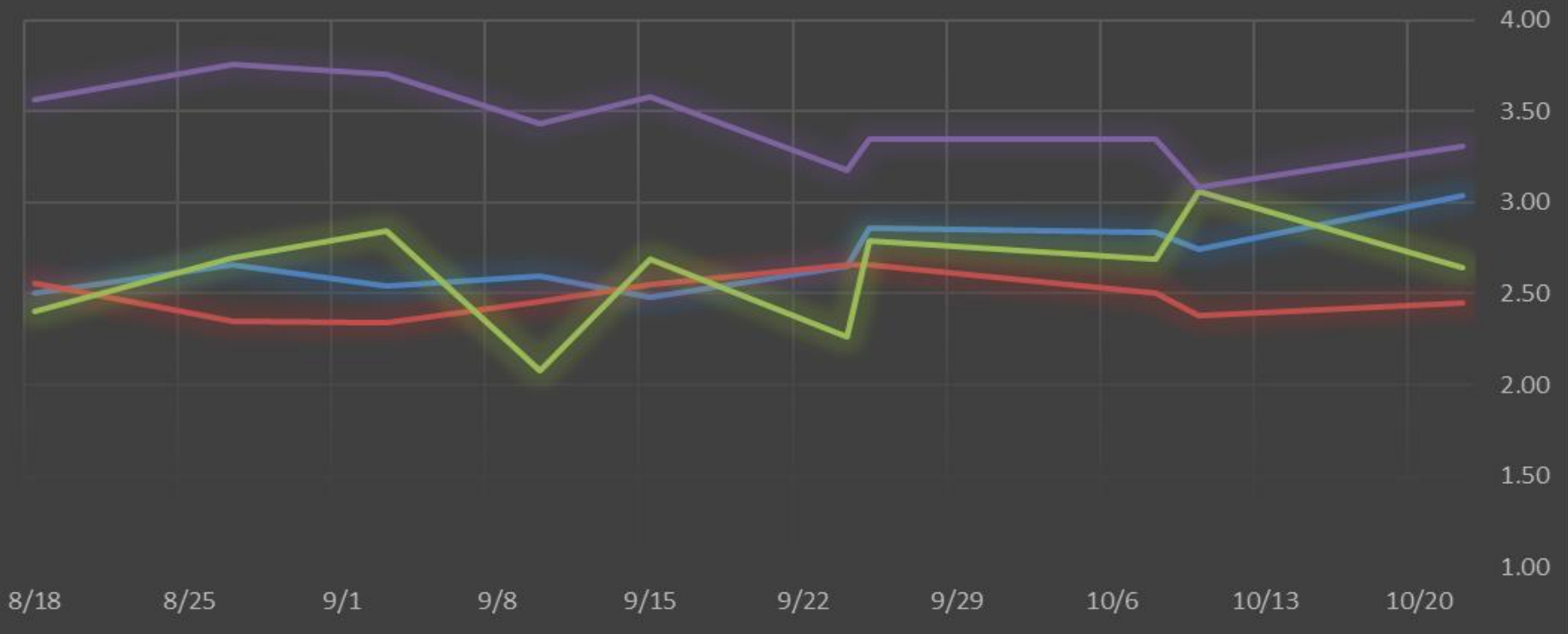
Yellow indicates Power house outage

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



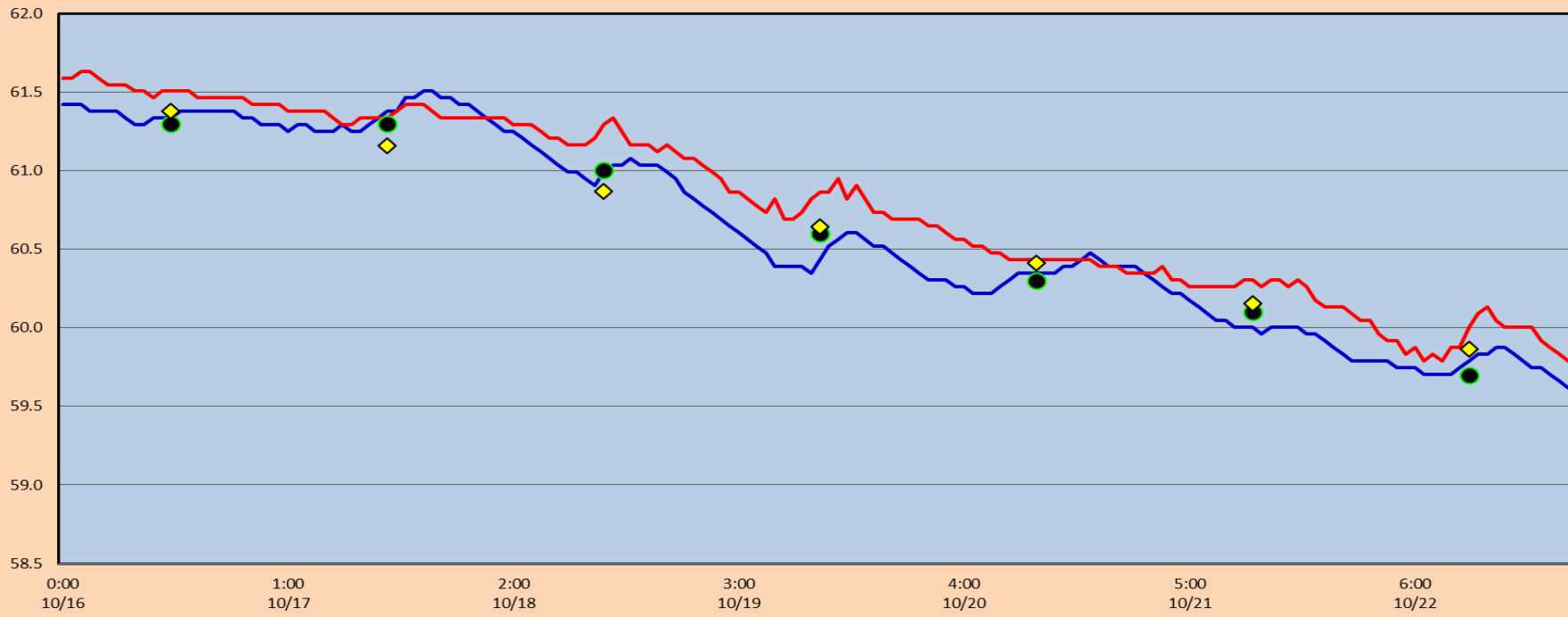
The Dalles Dam Averages Velocities (In criteria 1.5 - 4.0 fps)

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



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

— East Count Station — North Count Station ● Current USGS Daily Average ◆ USGS Daily Average (2007-2015)



		USGS:
Secchi:		Temperatures
10/9	4.0	Sun 61.3
10/10	4.0	Mon 61.3
10/11	5.0	Tue 61.0
10/12	5.0	Wed 60.6
10/13	4.0	Thurs 60.3
10/14	4.0	Fri 60.1
10/15	4.0	Sat 59.7
	4.3	AVG 60.6

(Oct) <http://www.nwd-wc.usace.army.mil/tml/documents/ops/temp/201610.html>

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

= Out of criteria

North Ladder				East Ladder											S P I L L O F F
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	
10/16			1.2	9.0	13.0	13.0	10.7	1.7	9.0	9.0		1.5	8.3	8.3	
	1.4	9.2	1.5	5.7	13.2	13.2	11.3	1.6	10.0	10.0		1.4	8.4	8.4	
	1.4	9.2	1.4	5.5	13.0	13.0	11.1	1.6	9.9	9.9		1.5	8.3	8.0	
10/17			1.6	5.5	12.9	12.9	11.1	1.6	10.0	10.0		1.4	8.3	8.3	
	1.5	9.1	1.5	8.5	13.0	13.0	11.8	1.5	10.0	10.0		1.4	8.4	8.4	
	1.5	9.1	1.4	6.0	13.1	13.1	11.7	1.5	9.7	9.7		1.4	8.3	8.3	
10/18			1.6	6.1	13.0	13.0	10.9	1.6	9.5	9.5		1.3	8.5	8.5	
	1.4	9.3	1.5	5.4	12.9	12.9	11.1	1.5	9.6	9.6		1.4	8.3	8.3	
	1.5	9.1	1.6	7.4	13.0	12.9	11.7	1.4	9.4	9.5		1.4	8.4	8.4	
10/19			1.3	7.7	13.2	13.2	10.1	1.2	10.7	10.7		1.2	8.3	8.3	
	1.4	9.3	1.5	6.0	13.1	13.1	11.2	1.6	9.6	9.6		1.4	8.3	8.3	
	1.4	9.2	1.5	5.3	12.9	12.8	11.2	1.5	9.9	10.0		1.4	8.3	8.3	
10/20			1.3	5.6	13.1	13.1	9.9	1.4	10.2	10.2		1.2	8.5	8.5	
	1.4	9.1	1.5	1.0	13.0	13.0	10.3	1.5	9.7	9.7		1.5	8.3	8.3	
	1.3	9.2	1.5	1.1	13.1	13.1	10.4	1.6	9.7	9.7		1.5	8.1	8.1	
10/21			1.8	1.1	13.1	13.0	11.0	1.6	9.8	9.8		1.5	8.4	8.4	
	1.4	9.2	2.1	1.1	13.1	13.0	11.6	1.9	9.7	9.7		1.5	8.4	8.4	
	1.5	9.1	1.8	5.0	12.9	12.9	11.8	1.5	10.5	10.5		1.6	8.2	8.2	
10/22			1.7	5.2	13.2	13.1	11.7	1.3	10.6	10.6		1.2	8.4	8.3	
	1.5	9.1	1.8	5.1	13.0	13.1	11.7	1.4	10.6	10.6		1.4	8.4	8.3	
	1.4	9.1	1.8	5.1	13.1	13.0	12.2	1.5	10.5	10.5		1.5	8.2	8.2	
AVG:	1.4	9.2	1.6	5.2	13.0	13.0	11.2	1.5	9.9	9.9		1.4	8.3	8.3	

Fishways are inspected twice daily plus one SCADA inspection.