The Dalles Dam Fishway Status Report

11/12/2016

Inspection Period: 11/06/2016 - 11/12/2016

THE DALLES DAM

US Army Corps of Engineers
Portland District

Fishways are inspected twice daily plus one SCADA inspection

The Dalles Dam	Inspections Out of Criteria	Criteria Limit	Total Number of Inspections: 21	Temperature: 56.4 °F
			Comments: Fall like conditions on project	Secchi: 4.6 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'	1.3	
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	1	Per forebay	Weir in transition	
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')	10.5	
East entrance differential	0	1.0' - 2.0'	1.5	
Entrance weir E1	0	No criteria	0.0	
Entrance weir E2	0	depth (≥ 8')	12.5	
Entrance weir E3	0	depth (≥ 8')	12.5	
Collection channel velocity	0	1.5 - 4 fps	3.28	
Transportation channel velocity	0	1.5 - 4 fps	2.66	
North channel velocity	0	1.5 - 4 fps	2.84	
South channel velocity	0	1.5 - 4 fps	3.48	
West entrance differential	0	1.0' - 2.0'	1.5	
Entrance weir W1	0	depth (≥ 8')	10.1	
Entrance weir W2	0	depth (≥ 8')	10.1	
Entrance weir W3	0	No criteria	Closed	
South entrance differential	0	1.0' - 2.0'	1.5	
Entrance weir S1	0	depth (≥ 8')	8.5	
Entrance weir S2	0	depth (≥ 8')	8.5	
JUVENILE PASSAGE				
Sluicegate operation	0	Units 1, 8, 18		
Turbine trashrack drawdown	0			
spill				
off				
Turbine Unit Priority	4	per FPP	MU's 3, 15, and 16 OOS	
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. Awaiting USDA cost estimate.

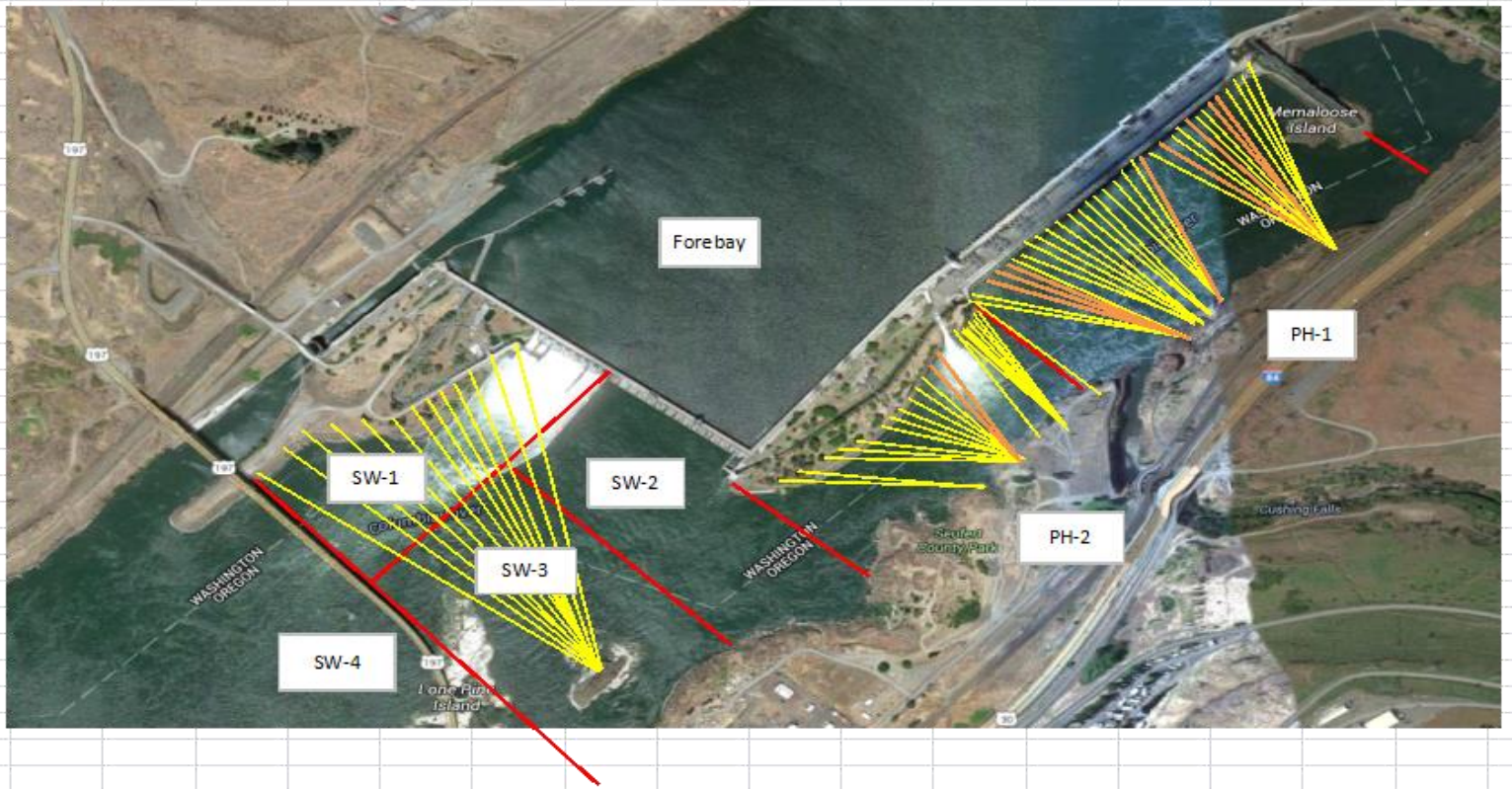
Operations:
Calibration 11/11, some discrepancies found, TDE notified
Analyzing fish counts from Oct 13 powerhouse outage.
Current Outages;
T8 (MU15 & MU16) forced out due to transformer failure. Return unknown.
MU3 forced out of service through 8/4/2016 due to loss of governor sump oil level
MU21 out for exciter failure RTS unknown

Maintenance:
New east exit weir electrical panel FCQ7 installation ~50% complete. Work to 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.
Dewater pumps and bulkheads ready for fishladder dewatering.
Planned winter work; west entrance weir and lift beam rehab, east count station brush replace, vegetation removal 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 continues. MOC coordinated through FPOM.
North fishladder rehab/rock wall stabilizing - Awaiting funding.
East fishladder emergency backup - Prefab continues on north staging area. Exploratory digging and utility relocate underway.
Railroad track removal - Start in water work period 2016/17. Crane rail replacement postponed to 2021.
Tailrace crane rehab - Work resumed. Completion Dec.
Fish unit breaker replace.- Work start fall 2017. Switch over Jan 2018.
Transformer replacement - Install start May 2018. Expect 4 months per transformer bank. Reviewing sequence for least risk to fish passage.
N Wasco Co PUD Memo of Agreement - Reviewing for final.
Fish unit rehab - Award planned for 2020. Completion 2022.
Fish unit breaker replacement - Start in water work period 2017/18
Lamprey minor mods - Rounded weir caps planned for all entrances 2018. Fab and install with project labor. Planning meeting Dec 12.

Research/Contractors:
Fish counting and dam angling done for season.

Approved by: Ron Twiner
Operation Project Manager The Dalles Dam



Yellow lines= present avian lines

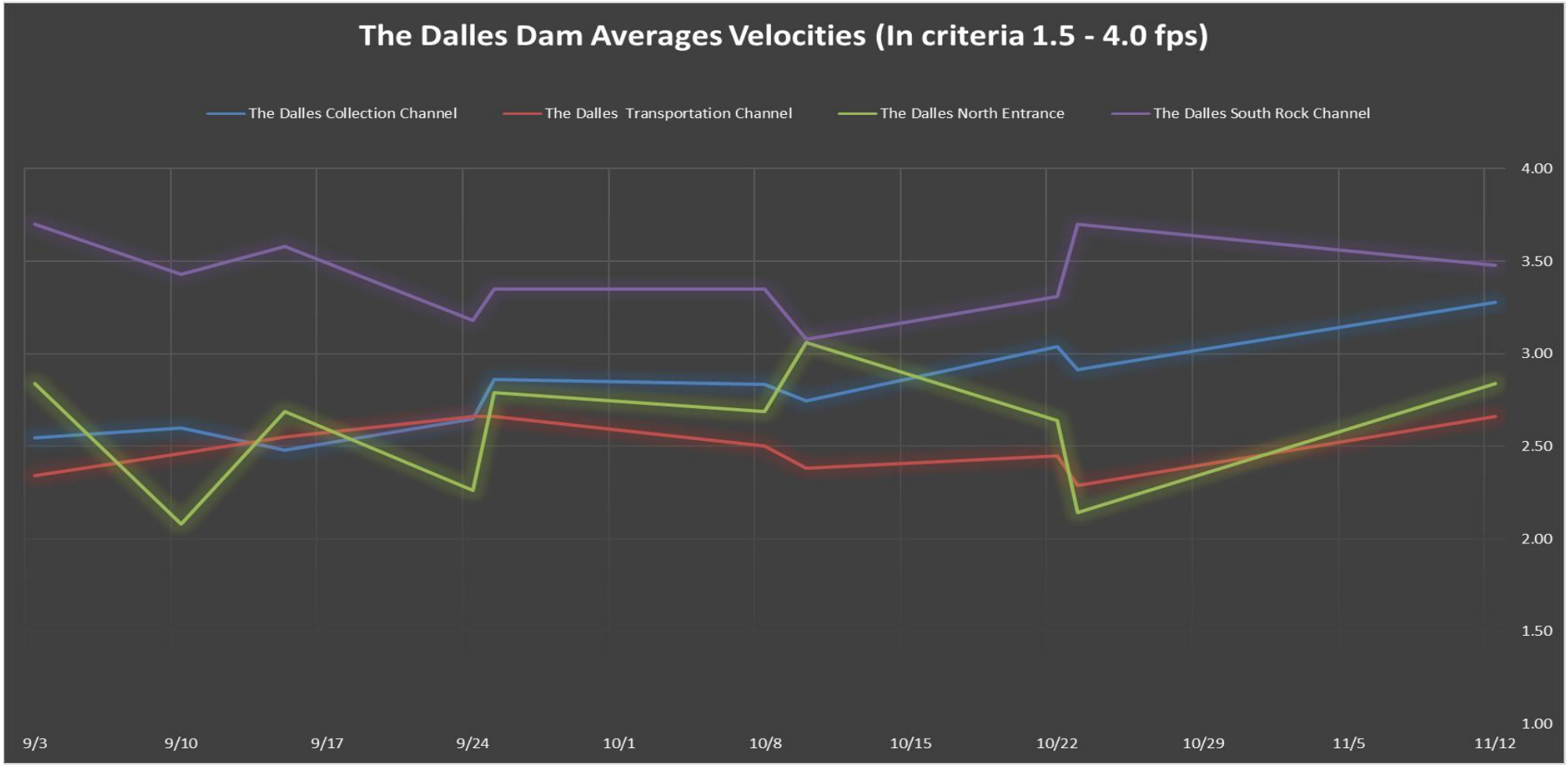
red lines=Barriers between observation zones

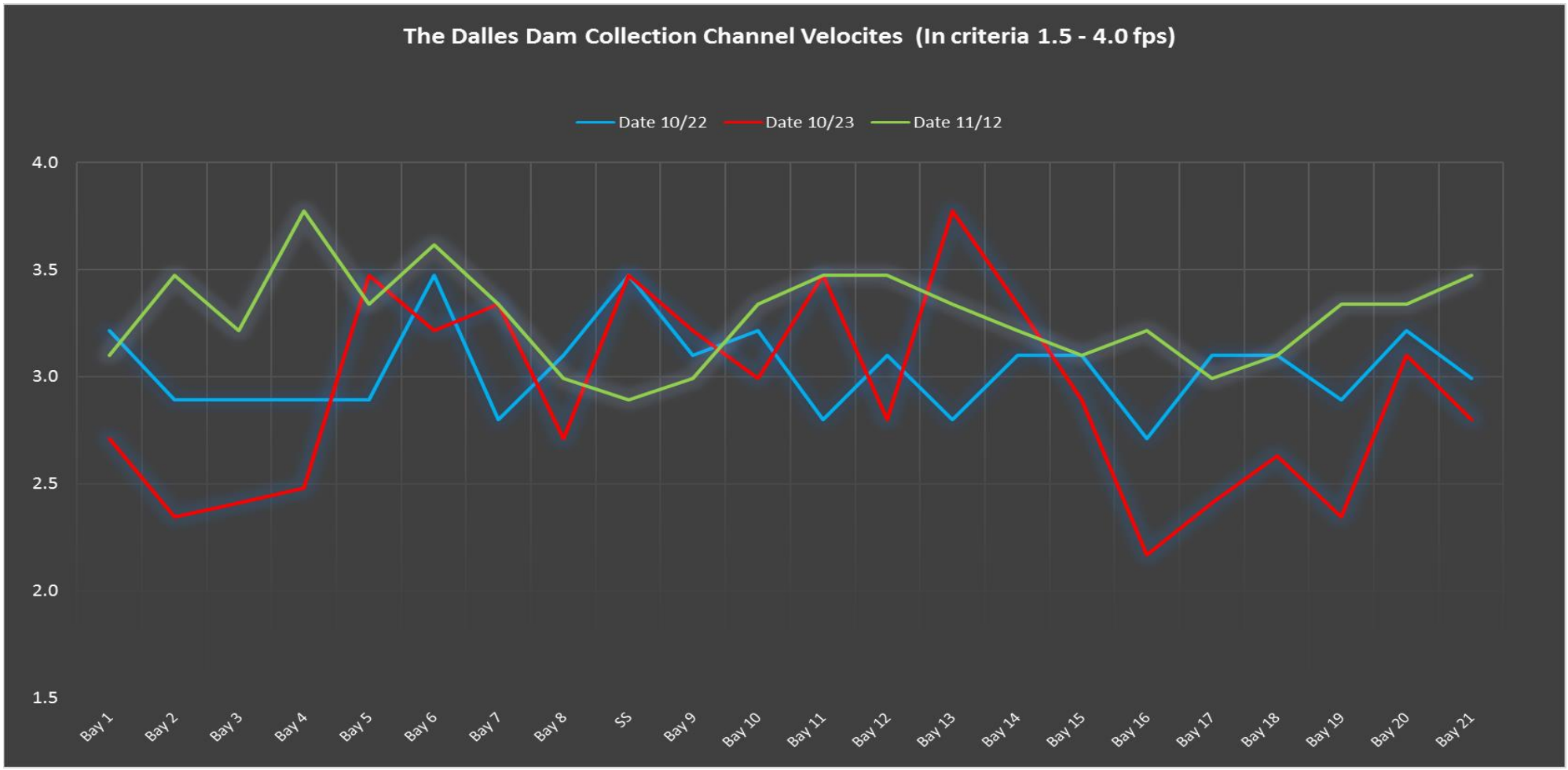
Orange lines= Missing or down avian lines

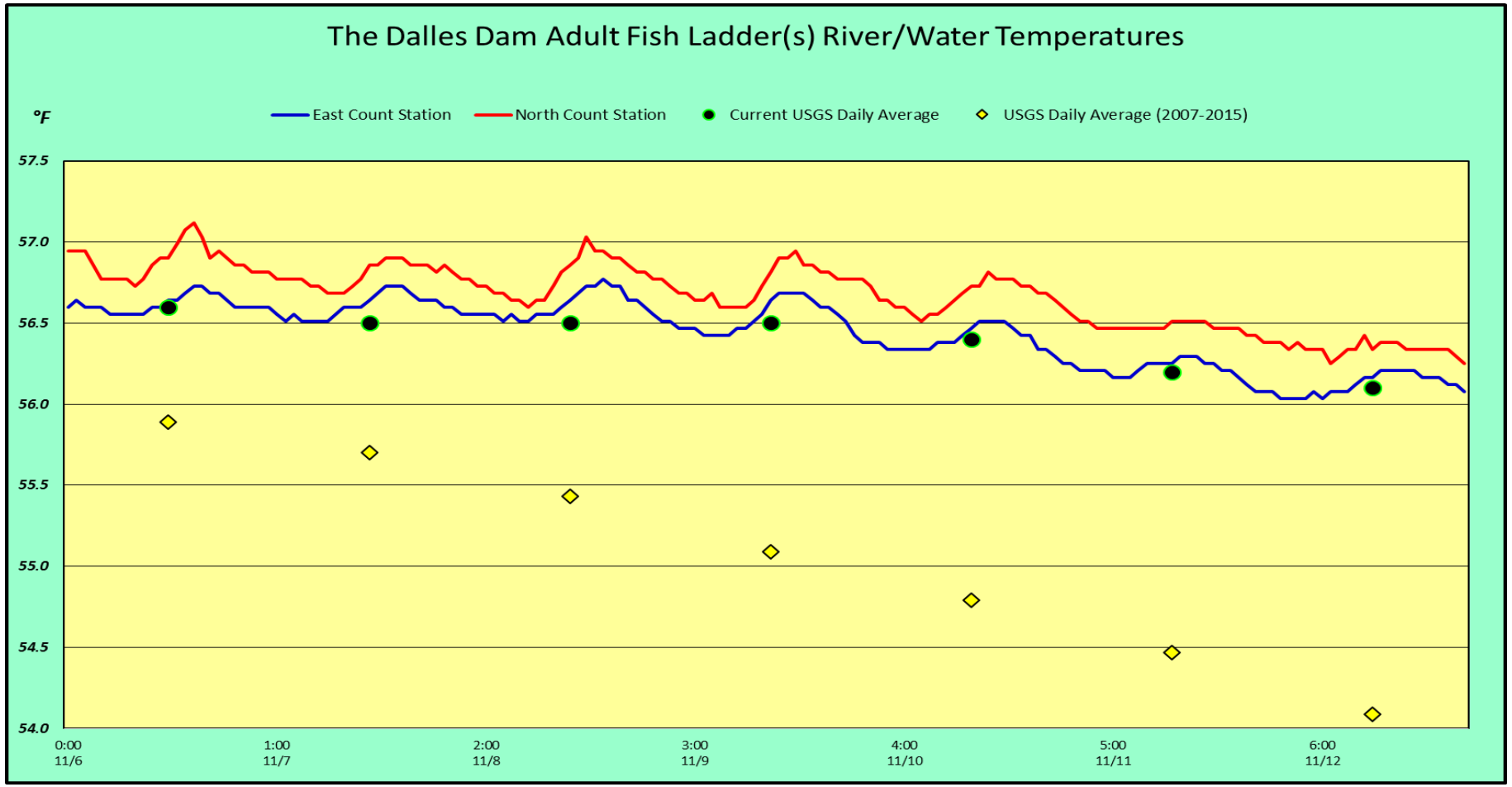
2016 Piscivorous Bird Counts

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		
11/6/16	JWR	PM	FB	0	34	0	0	0	0	0	26	0	0	0	0	60	
			PH1	0	0	0	4	0	0	0	0	0	0	0	23	27	22 COME, 1 GBHE
			PH2	7	0	0	0	0	0	0	0	0	0	0	0	7	
			SW1	0	18	0	0	0	0	0	0	0	0	0	0	18	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	0	53	0	75	0	0	0	0	0	0	0	0	128	
			SW4	0	4	0	29	0	0	0	0	0	1	0	0	34	
11/7/16	JWR	AM	FB	0	0	2	0	0	0	2	33	0	0	0	0	37	
			PH1	0	0	0	42	0	0	0	0	0	0	0	43	85	COME
			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	1	0	56	0	0	0	0	0	0	0	0	57	
			SW4	0	0	0	4	0	0	0	0	0	0	0	0	4	
11/8/16	GJF	PM	FB	0	0	7	0	0	0	0	19	0	0	0	3	29	2 BAEA, GBHE
			PH1	0	1	10	31	0	0	0	0	0	0	9	25	76	33 COME, 1 GBHE
			PH2	0	0	3	0	0	0	0	0	0	0	0	0	3	
			SW1	0	5	2	0	0	0	0	0	0	0	0	0	7	
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	0	3	0	16	0	0	0	0	0	0	0	0	19	
			SW4	0	0	3	15	0	0	0	0	0	0	0	1	19	GBHE
11/9/16	JWR	AM	FB	0	10	0	0	0	0	0	25	0	0	0	0	35	
			PH1	0	0	0	27	0	0	0	0	0	0	0	18	45	COME
			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	0	37	0	0	0	0	0	0	0	0	37	
			SW4	0	0	0	0	0	0	0	0	0	0	0	0	0	
11/10/16	JWR	PM	FB	0	165	0	0	0	0	0	0	0	0	0	0	165	
			PH1	0	0	0	23	0	0	0	0	0	0	0	60	83	COME
			PH2	5	0	0	0	0	0	0	0	0	0	0	0	5	
			SW1	0	72	0	0	0	0	0	0	0	0	0	0	72	
			SW2	1	0	1	0	0	0	0	0	0	0	0	0	2	
			SW3	0	27	6	46	0	0	0	0	0	0	0	0	79	
			SW4	0	1	0	5	0	0	0	0	0	0	0	0	6	
11/11/16	JWR	AM	FB	0	0	1	0	0	0	0	4	0	0	0	0	5	
			PH1	0	0	2	26	0	0	0	0	0	0	0	61	89	COME
			PH2	4	0	0	0	0	0	0	0	0	0	0	0	4	
			SW1	0	44	0	0	0	0	0	0	0	0	0	1	45	GBHE
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW3	0	51	0	95	0	0	0	0	0	0	0	0	146	
			SW4	0	0	0	7	0	0	0	0	0	1	0	1	9	GBHE
11/12/16	GJF	PM	FB	94	1	4	0	0	0	0	12	0	0	0	1	112	GBHE
			PH1	0	3	6	34	0	0	0	0	0	0	31	16	90	COME
			PH2	13	0	2	0	0	0	0	0	0	0	0	0	15	
			SW1	0	4	0	0	0	0	0	0	0	0	0	1	5	GBHE
			SW2	0	0	2	0	0	0	0	0	0	0	0	0	2	
			SW3	0	4	1	54	0	0	0	0	0	0	0	0	59	
			SW4	0	37	0	22	0	0	0	0	0	0	0	0	59	
daily averages				*2.5*	*11.0*	*1.1*	*13.2*	*0.0*	*0.0*	*0.0*	*2.4*	*0.0*	*0.0*	*0.8*	*5.2*	*36.3*	


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
4.00
3.50
3.00
2.50
2.00
1.50
1.00
9/3
9/10
9/17
9/24
10/1
10/8
10/15
10/22
10/29
11/5
11/12


The Dalles Dam Collection Channel Velocites (In criteria 1.5 - 4.0 fps)
Date 10/22
Date 10/23
Date 11/12
4.0
3.5
3.0
2.5
2.0
1.5
Bay 1
Bay 2
Bay 3
Bay 4
Bay 5
Bay 6
Bay 7
Bay 8
SS
Bay 9
Bay 10
Bay 11
Bay 12
Bay 13
Bay 14
Bay 15
Bay 16
Bay 17
Bay 18
Bay 19
Bay 20
Bay 21


The Dalles Dam Adult Fish Ladder(s) River/Water Temperatures
°F
East Count Station
North Count Station
Current USGS Daily Average
USGS Daily Average (2007-2015)
57.5
57.0
56.5
56.0
55.5
55.0
54.5
54.0
0:00
11/6
1:00
11/7
2:00
11/8
3:00
11/9
4:00
11/10
5:00
11/11
6:00
11/12

USGS: Nov - http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201611.lcol.html

	Secchi:		Temperatures
10/23	5.0	Sun	56.6
10/24	5.0	Mon	56.5
10/25	5.0	Tue	56.5
10/26	5.0	Wed	56.5
10/27	4.0	Thurs	56.4
10/28	4.0	Fri	56.2
10/29	4.0	Sat	56.1
	4.6	AVG	56.4

The Dalles Dam Daily Readings and Averages for

Temperatures, Secchi, Entrances, and Spill

= Out of criteria

	North Ladder		***East Ladder***												
	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	
11/6			1.2	0.1	12.5	12.5	9.4	1.1	10.4	10.4		1.4	8.6	8.6	
	1.2	9.2	1.5	0.0	12.0	12.0	10.2	1.5	10.0	10.0		1.5	8.3	8.3	
	1.3	9.2	1.5	0.0	12.3	12.3	10.3	1.5	10.0	10.0		1.5	8.3	8.3	
11/7			1.5	0.1	12.4	12.4	10.3	1.5	10.0	10.0		1.5	8.3	8.3	
	1.3	9.2	1.5	0.0	12.7	12.7	11.0	1.5	10.1	10.1		1.5	8.5	8.5	
	1.4	9.3	1.4	0.0	12.7	12.7	11.2	1.7	9.9	9.9		1.5	8.6	8.6	
11/8			1.2	0.2	13.1	13.2	10.3	1.4	10.2	10.2		1.3	8.8	8.8	
	1.2	9.2	1.4	0.0	12.3	12.3	10.0	1.5	10.0	10.0		1.4	8.8	8.8	
	1.2	9.1	1.6	0.0	11.7	11.7	9.7	1.5	10.1	10.1		1.5	8.4	8.3	
11/9			1.4	0.0	11.8	11.8	8.7	1.2	9.9	9.9		1.4	8.4	8.3	
	1.3	9.2	1.6	0.0	12.2	12.2	10.1	1.5	10.1	10.1		1.4	8.6	8.6	
	1.5	9.2	1.3	0.0	12.8	12.8	10.7	1.5	10.1	10.1		1.5	8.5	8.5	
11/10			1.3	0.0	12.5	12.5	9.7	1.4	10.1	10.1		1.4	8.5	8.5	
	1.4	9.1	1.7	0.0	12.2	12.3	11.3	1.6	10.1	10.1		1.6	8.6	8.5	
	1.3	9.2	1.7	0.0	12.2	12.3	10.7	1.6	10.1	10.1		1.6	8.5	8.4	
11/11			2.0	0.0	12.2	12.3	10.6	1.6	10.3	10.3		1.4	8.6	8.6	
	1.4	9.2	1.6	0.0	13.0	13.0	11.4	1.6	10.3	10.3		1.5	8.6	8.6	
	1.4	9.2	1.5	0.0	13.1	13.1	11.3	1.6	10.2	10.2		1.5	8.6	8.6	
11/12			1.3	0.0	13.2	13.2	10.9	1.4	10.4	10.4		1.4	8.7	8.6	
	1.5	9.1	1.5	0.0	13.0	12.9	10.9	1.5	10.2	10.2		1.5	8.5	8.5	
	1.4	9.1	1.4	0.0	13.0	13.0	11.2	1.6	10.3	10.3		1.5	8.5	8.4	
AVG:	**1.3**	**9.2**	**1.5**	**0.0**	**12.5**	**12.5**	**10.5**	**1.5**	**10.1**	**10.1**		**1.5**	**8.5**	**8.5**	

S P I L L O F F

Fishways are inspected twice daily plus one SCADA inspection.

Rerouting water an sewer lines for EFL AWS 10' hole.