

The Dalles Dam Fishway Status Report

11/7/2016

Inspection Period: 10/30/2016 - 11/05/2016

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: 57.2 °F	
			Comments: Fall like conditions on project		Secchi: 5.4 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	0	Per forebay				
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')	11.1			
East entrance differential	1	1.0' - 2.0'	1.4			
Entrance weir E1	0	No criteria	3.7			
Entrance weir E2	0	depth (≥ 8')	12.7			
Entrance weir E3	0	depth (≥ 8')	12.7			
Collection channel velocity	0	1.5 - 4 fps	2.91			
Transportation channel velocity	0	1.5 - 4 fps	2.29			
North channel velocity	0	1.5 - 4 fps	2.14			
South channel velocity	0	1.5 - 4 fps	3.70			
West entrance differential	0	1.0' - 2.0'	1.5			
Entrance weir W1	0	depth (≥ 8')	10.3			
Entrance weir W2	0	depth (≥ 8')	10.3			
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						
Sluiceway operation	0	Units 1, 8, 18				
Turbine trashrack drawdown	0					
spill off						
Turbine Unit Priority	8	per FPP	Units 3, 9, 10, 15 and 16 out of service, affecting block priority			
Turbine 1% Efficiency	0	per FPP				

Birds/Sea lions:

Bird numbers and species increasing with emergence of juvenile shad - Refer to Avian Zone map and bird count
Bird observation data collected once daily. No sea lions observed.
Two of 13 spillway avian lines broke closest to bridge. Awaiting USDA cost estimate.

Operations:

Calibration 11/03, some discrepancies found. Maintenance notified

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
MU 9 and 10 out for annual maintenance

Maintenance:

New east exit weir electrical panel FCQ7 installation ~50% complete. Work continues 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.
Modifying west entrance bulkheads in preparation for 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.

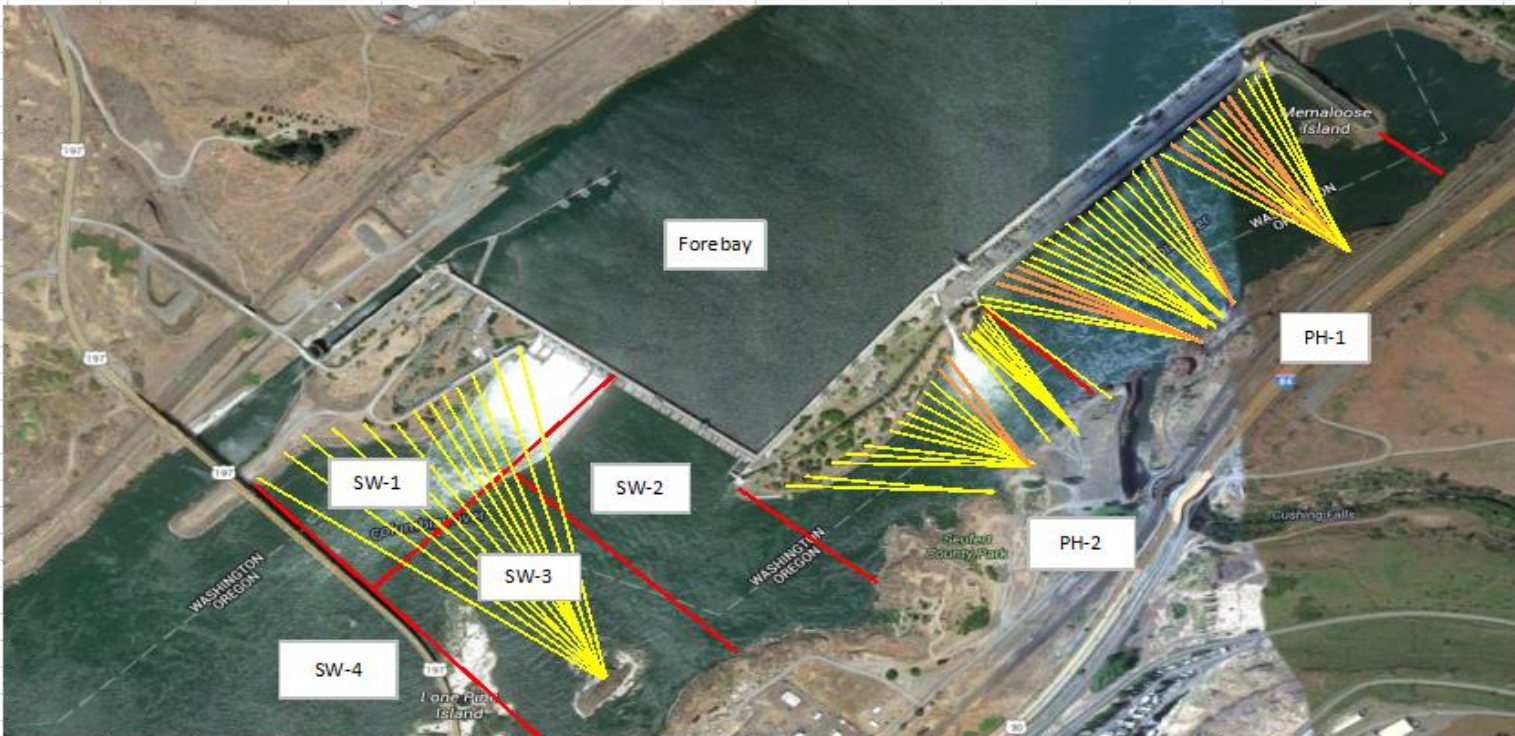
Studies/Construction:

Environmental acceptable grease testing on unit 1 continues. MOC coordinated through FPOM.
North fishladder rehab/rock wall stabilizing - Awaiting funding.
East fishladder emergency backup - Mobilization and prefab continues on north side staging area. Heavy work start in Nov 1 nights Dec 1 days
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. Swtich 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 - Awaiting final.
Fish unit rehab - Award planned for 2020. Completeion 2022.
Fish unit breaker replacement - Start in water work period 2017/18
Lamprey minor mods - Rounded weir caps planned for all entrances 2018. Awaiting design specs. Project labor for install.

Research/Contractors:

Normandeau fish counters done for season Oct 31.

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			
10/30/16	EHK	AM	FB	0	4	0	0	0	0	0	0	0	0	0	0	0	4	COME
			PH1	0	0	0	15	0	0	0	0	0	0	0	0	28	43	
			PH2	12	0	0	0	0	0	0	0	0	0	0	0	0	12	
			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	38	0	82	0	0	0	0	0	0	0	0	0	120	
			SW4	0	37	0	30	0	0	0	0	0	0	0	0	0	67	
10/31/16	EHK	PM	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	COME
			PH1	0	0	0	21	0	0	0	0	0	0	0	16	37		
			PH2	17	0	0	0	0	0	0	0	0	0	0	0	17		
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0		
			SW2	8	0	0	0	0	0	0	0	0	0	0	0	8		
			SW3	0	37	0	62	0	0	0	0	0	0	0	0	99		
			SW4	0	0	0	24	0	0	0	0	0	0	0	0	24		
11/1/16	EHK	AM	FB	0	0	0	0	0	0	0	0	0	0	0	2	2	BAEA COME	
			PH1	0	0	0	24	0	0	0	0	0	0	0	11	35		
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0		
			SW1	0	1	0	0	0	0	0	0	0	0	0	0	1		
			SW2	2	0	0	1	0	0	0	0	0	0	0	0	3		
			SW3	0	16	0	26	0	0	0	0	0	0	0	0	42		
			SW4	0	110	0	0	0	0	0	0	0	0	0	0	110		
11/2/16	EHK	PM	FB	0	1	0	0	0	0	0	0	0	0	0	1	2	BAEA COME GBHE	
			PH1	0	0	0	12	0	0	0	0	0	0	0	33	45		
			PH2	0	0	0	0	0	0	0	0	0	0	0	0	0		
			SW1	0	42	0	1	0	0	0	0	0	0	0	0	4		
			SW2	2	0	0	0	0	0	0	0	0	0	0	0	2		
			SW3	0	40	0	66	0	0	0	0	0	0	0	0	106		
			SW4	0	185	0	72	0	0	0	0	0	0	0	0	257		
11/3/16	JWR	AM	FB	0	0	0	86	0	0	0	24	0	0	0	0	110	COME	
			PH1	0	1	0	22	0	0	0	0	0	0	0	35	58		
			PH2	1	0	0	0	0	0	0	0	0	0	0	0	1		
			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	8	0	89	0	0	0	0	0	0	0	0	12		
			SW4	0	47	0	1	0	0	0	0	0	0	0	0	48		
11/4/16	JWR	PM	FB	0	24	0	0	0	0	0	9	0	0	0	0	33	COME GBHE	
			PH1	0	1	0	17	0	0	0	0	0	0	0	46	64		
			PH2	9	0	0	0	0	0	0	0	0	0	0	0	9		
			SW1	0	29	0	0	0	0	0	0	0	0	0	3	32		
			SW2	0	3	0	5	0	0	0	0	0	0	0	0	8		
			SW3	0	25	4	110	0	0	0	0	0	0	0	0	139		
			SW4	0	14	0	1	0	0	0	0	0	0	0	0	15		
11/5/16	JWR	AM	FB	0	2	1	17	0	0	0	24	0	0	0	0	44	COME	
			PH1	0	0	2	5	0	0	0	0	0	0	0	12	19		
			PH2	2	0	1	0	0	0	0	0	0	0	0	0	3		
			SW1	0	2	0	0	0	0	0	0	0	0	0	0	2		
			SW2	0	0	0	0	0	0	0	0	0	0	0	0	0		
			SW3	0	0	1	24	0	0	0	0	0	0	0	0	25		
			SW4	0	0	0	0	0	0	0	0	0	0	0	0	0		
<i>daily averages</i>				<i>1.1</i>	<i>13.6</i>	<i>0.2</i>	<i>16.6</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>1.2</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>4.1</i>	<i>36.8</i>		

The Dalles East

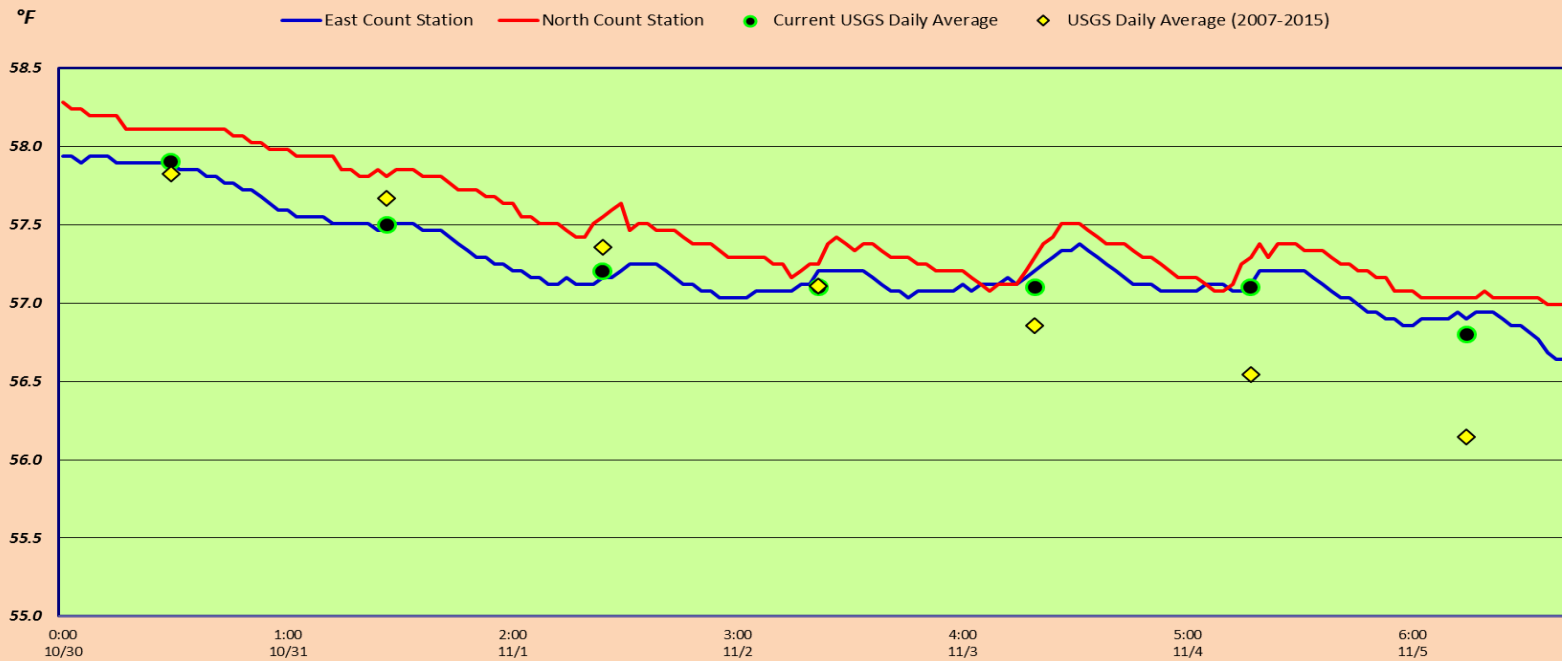
Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
10/30	378	293	85	118	78	40	0	0	0	0	0	0	1
10/31	221	199	22	79	56	23	4	4	0	0	0	0	0
11/1	Fish counts resume April 1st												
11/2													
11/3													
11/4													
11/5													
Total	599	492	107	197	134	63	4	4	0	0	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
10/30	26	24	2	17	17	0	6	4	2	0	0	0	0
10/31	12	11	1	17	16	1	4	4	0	0	0	0	0
11/1	Fish counts resume April 1st												
11/2													
11/3													
11/4													
11/5													
Total	38	35	3	34	33	1	10	8	2	0	0	0	0
% North	6.0	6.6	2.7	14.7	19.8	1.6	71.4	66.7	100.0	0.0	0.0	0.0	0.0

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

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



Analyzing fish counts from Oct 13 powerhouse outage.

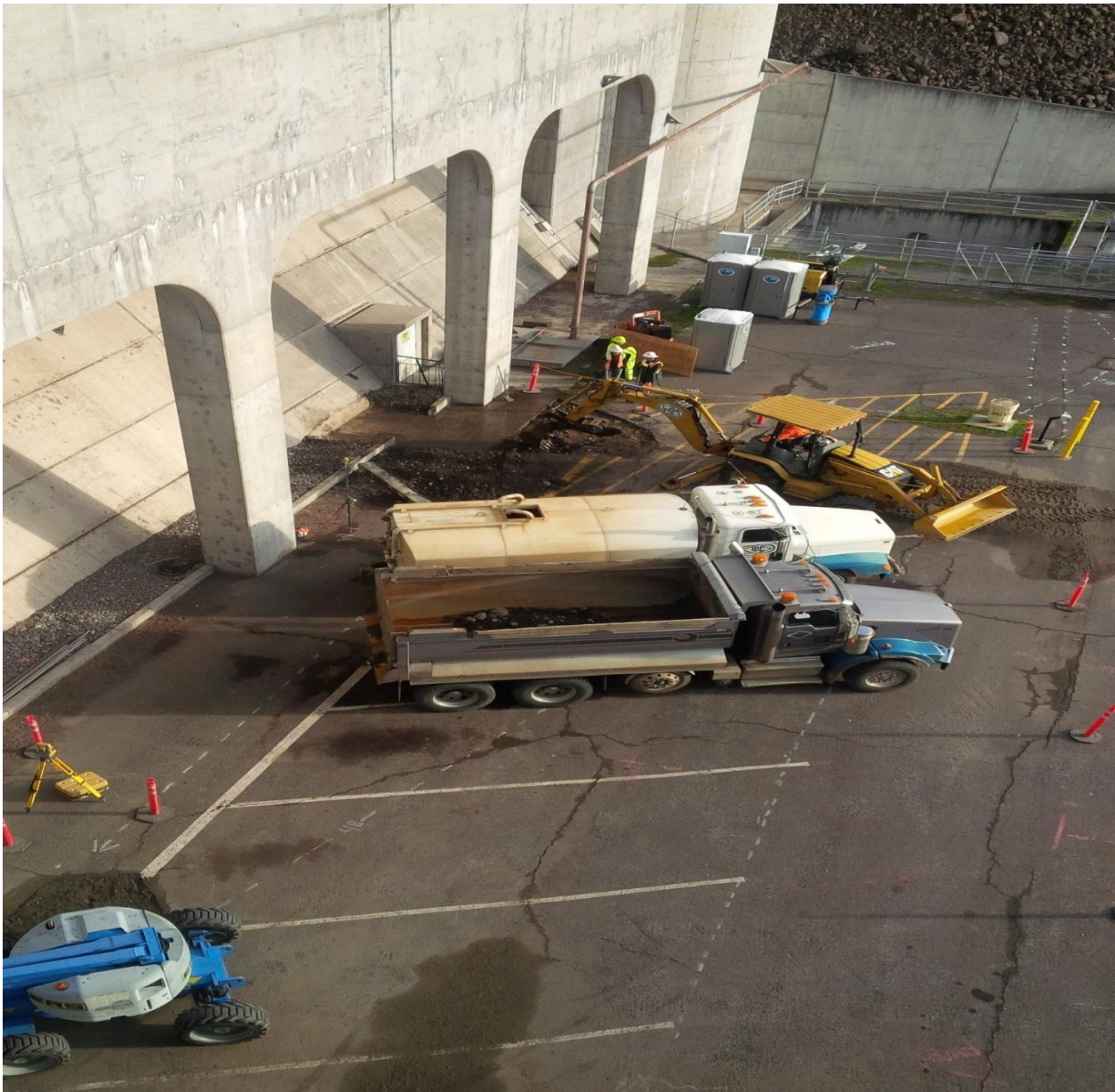
	USGS:	(Oct) http://www.nwd-wc.usace.army.mil/tml/documents/ops/temp/201610.lcol.html
Secchi:		Temperatures
10/30	6.0	Sun 57.9
10/31	6.0	Mon 57.5
11/1	6.0	Tue 57.2
11/2	5.0	Wed 57.1
11/3	5.0	Thurs 57.1
11/4	5.0	Fri 57.1
11/5	5.0	Sat 56.8
	5.4	AVG 57.2

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

= Out of criteria

Date:	North Ladder			East Ladder											SPILL OFF
	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	
10/30			1.6	7.3	12.8	12.9	11.3	1.5	10.1	10.1		1.5	8.3	8.2	
	1.4	9.1	1.5	7.4	13.0	13.0	11.4	1.5	10.0	10.0		1.4	8.4	8.3	
	1.4	9.2	1.5	7.5	13.0	12.9	11.3	1.5	10.0	10.0		1.5	8.3	8.4	
10/31			1.3	7.5	13.1	13.1	10.9	1.4	10.1	10.1		1.5	8.3	8.2	
	1.4	9.1	1.4	7.6	13.0	13.0	11.0	1.3	10.0	10.0		1.4	8.4	8.4	
	1.4	9.1	1.4	6.4	12.1	12.1	10.9	1.5	10.0	10.0		1.5	8.3	8.3	
11/1			1.5	6.7	12.0	12.1	11.2	1.6	10.0	10.0		1.5	8.3	8.4	
	1.3	9.2	1.5	6.6	11.9	12.0	11.1	1.5	9.9	9.9		1.5	8.3	8.2	
	1.5	9.2	1.4	7.2	12.1	12.1	11.7	1.6	10.0	10.0		1.6	8.3	8.3	
11/2			1.4	6.5	12.1	12.1	11.0	1.6	10.0	10.0		1.5	8.3	8.3	
	1.6	9.2	1.5	2.0	13.0	13.0	12.1	1.5	10.5	10.5		1.5	9.4	9.4	
	1.4	9.2	1.6	0.6	13.1	13.1	11.4	1.6	10.1	10.1		1.5	8.4	8.4	
11/3			1.1	2.1	13.0	13.0	9.7	1.2	10.6	10.6		1.3	8.3	8.3	
	1.3	9.3	1.5	0.6	12.6	12.6	12.1	1.5	10.9	10.9		1.6	8.8	8.8	
	1.5	9.1	1.5	0.1	12.6	12.6	11.0	1.5	10.4	10.4		1.5	8.4	8.4	
11/4			1.4	0.1	12.5	12.5	10.4	1.4	10.4	10.4		1.5	8.6	8.6	
	1.4	9.3	1.5	0.5	13.0	13.0	11.6	1.5	10.7	10.7		1.5	8.7	8.7	
	1.5	9.1	1.6	0.6	13.0	13.0	11.9	1.6	10.7	10.7		1.5	8.5	8.5	
11/5			0.9	0.5	13.0	13.0	10.1	1.3	10.6	10.6		1.4	8.6	8.6	
	1.3	9.2	1.5	0.0	12.5	12.5	10.7	1.6	10.0	10.0		1.5	8.5	8.5	
	1.4	10.0	1.5	0.1	12.6	12.6	10.8	1.4	10.4	10.4		1.5	8.5	8.5	
AVG:	1.4	9.2	1.4	3.7	12.7	12.7	11.1	1.5	10.3	10.3		1.5	8.5	8.5	

Fishways are inspected twice daily plus one SCADA inspection.



EFL AWS work on tailrace side. Preparing to drill.



EFL AWS work on forebay side. Installing dive/work platform.