

The Dalles Dam Fishway Status Report

11/4/2017

Inspection Period: 10/29/2017-11/04/2017

THE DALLES DAM



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: 57.3 °F
			Comments	Secchi: 0.0 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')	9.0	
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 Work cleaning circuit boxes performed.	
Weir 158-159 differential	0	1.0' ± 0.1'	158 calibrated and adjusted.	
Count station differential	0	≤ 0.3'	Picket leads raked as needed. Debris load light.	
Weir crest depth	0	1.0' ± 0.1'		
Junction pool weir JP6	0	0.0	9.6	
East entrance differential	0	1.0' - 2.0'	1.5	
Entrance weir E1	0	No criteria		
Entrance weir E2	0	depth (≥ 8')	11.2	
Entrance weir E3	0	depth (≥ 8')	11.2	
Collection channel velocity	0	1.5 - 4 fps	2.58	
Transportation channel velocity	0	1.5 - 4 fps	2.45	
North channel velocity	0	1.5 - 4 fps	2.52	
South channel velocity	0	1.5 - 4 fps	3.52	
West entrance differential	0	1.0' - 2.0'	1.5	
Entrance weir W1	0	depth (≥ 8')	8.7	
Entrance weir W2	0	depth (≥ 8')	8.8	
Entrance weir W3	0	No criteria		
South entrance differential	0	1.0' - 2.0'	1.5	
Entrance weir S1	0	depth (≥ 8')	8.3	
Entrance weir S2	0	depth (≥ 8')	8.3	
JUVENILE PASSAGE				
Sluiceway operation	0	Units 1, 8, 18		
Turbine trashrack drawdown	0	<1.5', wkly	range: 0.1-0.8'	
Spill volume/pattern	0		Spillway closed midnight Aug31	
Turbine Unit Priority	14	per FPP	MU 13-16 oos	
Turbine 1% Efficiency	0	per FPP		

OTHER ISSUES:

Birds/Sea lions:

No sea lion sightings. Hundreds of gulls on site, increased foraging in PH2 at sluiceway outfall

Recent discovery of high predation rates on Miller Island causing concern. To be presented at FPOM task group Nov8 and Inland avian predation work group Nov29.

Operations

North and east fishladders in full operation.

Sluiceway open with 6 gates (units 1, 8 and 18)

Current Outages;

T8 (MU15 & MU16) out for transformer failure. Transformer replacement 7/5/18.

MU17 out for overhaul. Return 12/14/17.

MU14 out for disconnect maint. Return 12/8/17

MU13 out for overhaul. Return 12/8/17

Maintenance;

East exit weir electrical panel FCQ7 partially installed. Engineering design and CADD drawings continues. Further installation possible this winter.

Rebuilding entrance weir and east exit weir spare gearboxes.

East exit oil boom installation by AWS contract this winter. Scope being reviewed.

Designing fish lock upper and lower bulkhead replacement with concrete for improved isolation and fishladder protection.

Fishway dewater work list; Diffuser valve rehab scope, dewater pump rehab, south weir rehab, Weir caps (lamprey), east exit weir 155,156,158 gearbox rehab

Other repair maintenance plans for upcoming fiscal years; 154 -157 rehab/weir wheel replace, diffuser valve overhaul (rehab and decommission).

Fish related /non-fish funded items; Spillway assessment, spillway crane replace and spillgate 9. All awaiting funding.

All spillway items on Critical Infrastructure. Spillgate 9 on large cap list, projected for 2022. Charter in place for comprehensive spillway assessment.

Research/Construction/Contractors:

Fish Counters - Normandau counters on site through Oct 31. Video review counting through the winter.

Pikeminnow dam angling - Done for season with a total catch at 1776

AWS construction - Extensions Oct/Nov night work and mid Nov day work FPOM approved. Commissioning testing set for Mar 31.

Lamprey minor mods - Rounded entrance weir cap parts for all entrances recieved. Moorings fabricating. Tribal lamprey trap hoist design pending.

Railroad track removal - Tailrace deck start Nov nights (FPOM approved)

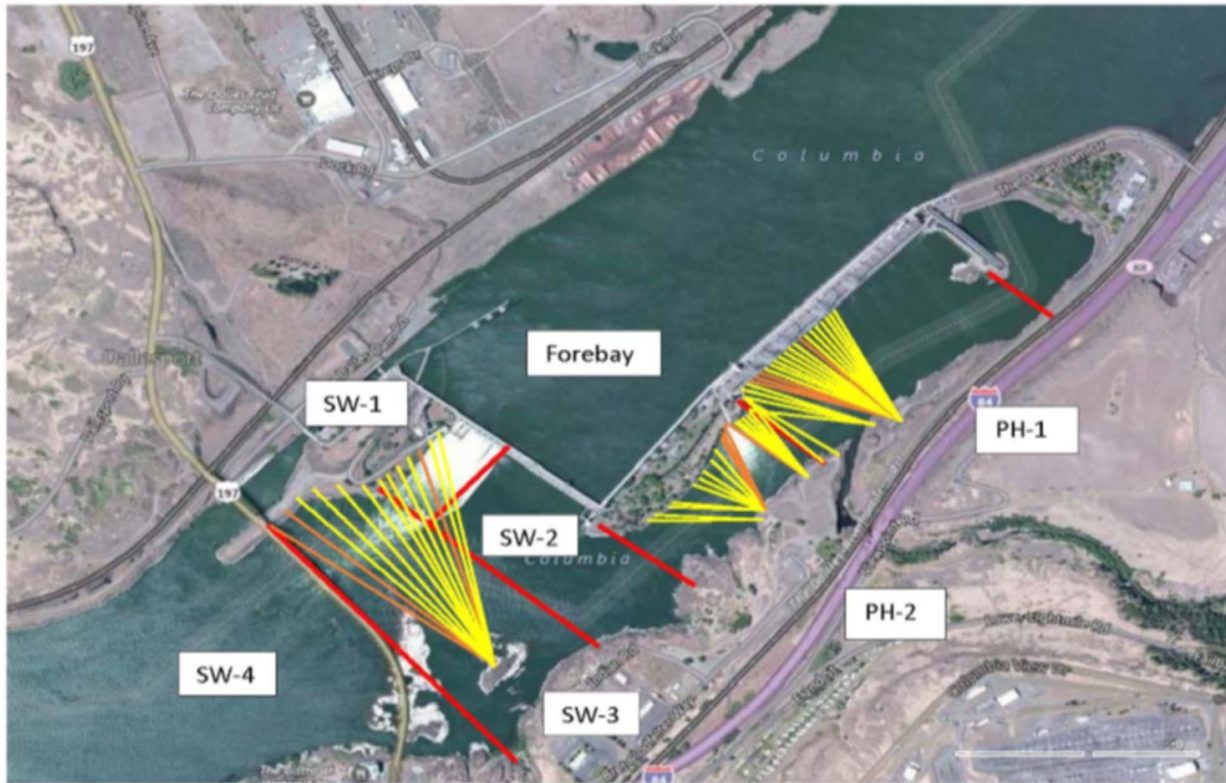
Fish unit breaker replace.- Start behind schedule. Install Dec-Feb 2017. Switchover Feb 2018.

Fish unit rehab - Phase 1A report Jan 2018. Award 2020. Completion 2022.

Transformer replacement - Install start May 2018.

Approved by: Ron Twiner

Operation Project Manager The Dalles Dam



Red lines = avian zones

Yellow lines = current wires

Orange lines = down or missing wires

2017 Piscivorous Bird Counts

F=foraging, NF=non-foraging

Date	observer	time	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		
10/29	JWR	AM	FB	0	1	2	8	0	0	0	3	0	0	0	0	14	
			PH1	0	0	0	2	0	0	0	0	0	0	0	0	2	
			PH2	0	4	0	0	0	0	0	0	0	0	0	0	4	
			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	2	33	0	0	0	0	0	0	0	0	35	
10/30	JWR	PM	FB	1	1	0	0	0	0	0	7	0	0	0	0	9	
			PH1	0	0	4	0	0	0	0	0	0	0	0	0	4	
			PH2	6	0	0	0	0	0	0	0	0	0	0	0	6	
			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	44	0	0	0	0	0	0	0	0	52	
10/31	BC	PM	FB	0	0	1	0	0	0	9	0	0	0	0	10	spillwall	
			PH1	0	0	0	34	0	0	0	0	0	0	0	24		58
			PH2	0	0	0	0	0	0	0	0	0	0	0	0		0
			SW1	0	39	0	0	0	0	0	0	0	0	0	0		39
			SW2	0	42	0	0	0	0	0	0	0	0	0	0		42
			SW3	0	0	0	0	0	0	0	0	0	0	0	0		0
11/1	JWR	PM	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	Very windy
			PH1	0	0	3	11	0	0	0	0	0	0	0	0	14	
			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	43	0	0	0	0	0	0	0	0	44	
11/2	JWR	AM	FB	0	0	0	0	0	0	0	0	0	0	0	0	0	
			PH1	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	
			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	0	0	0	0	0	0	0	0	0	0	
11/3	GJF	PM	FB	0	19	4	8	0	0	0	0	0	0	0	0	31	
			PH1	0	3	0	16	0	0	0	0	0	0	0	0	19	
			PH2	45	0	4	0	0	0	0	0	0	0	0	0	49	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	8	0	2	0	0	0	0	0	0	0	0	0	10	
			SW3	0	24	0	37	0	0	0	0	0	0	0	0	61	
11/4	GJF	AM	FB	0	22	0	49	0	0	0	16	0	0	0	0	87	
			PH1	2	4	6	11	0	0	0	0	0	0	0	0	23	
			PH2	12	0	4	0	0	0	0	0	0	0	0	0	16	
			SW1	0	0	1	0	0	0	0	0	0	0	0	0	1	
			SW2	7	0	1	2	0	0	0	0	0	0	0	0	10	
			SW3	0	2	0	37	0	0	0	0	0	0	0	0	39	

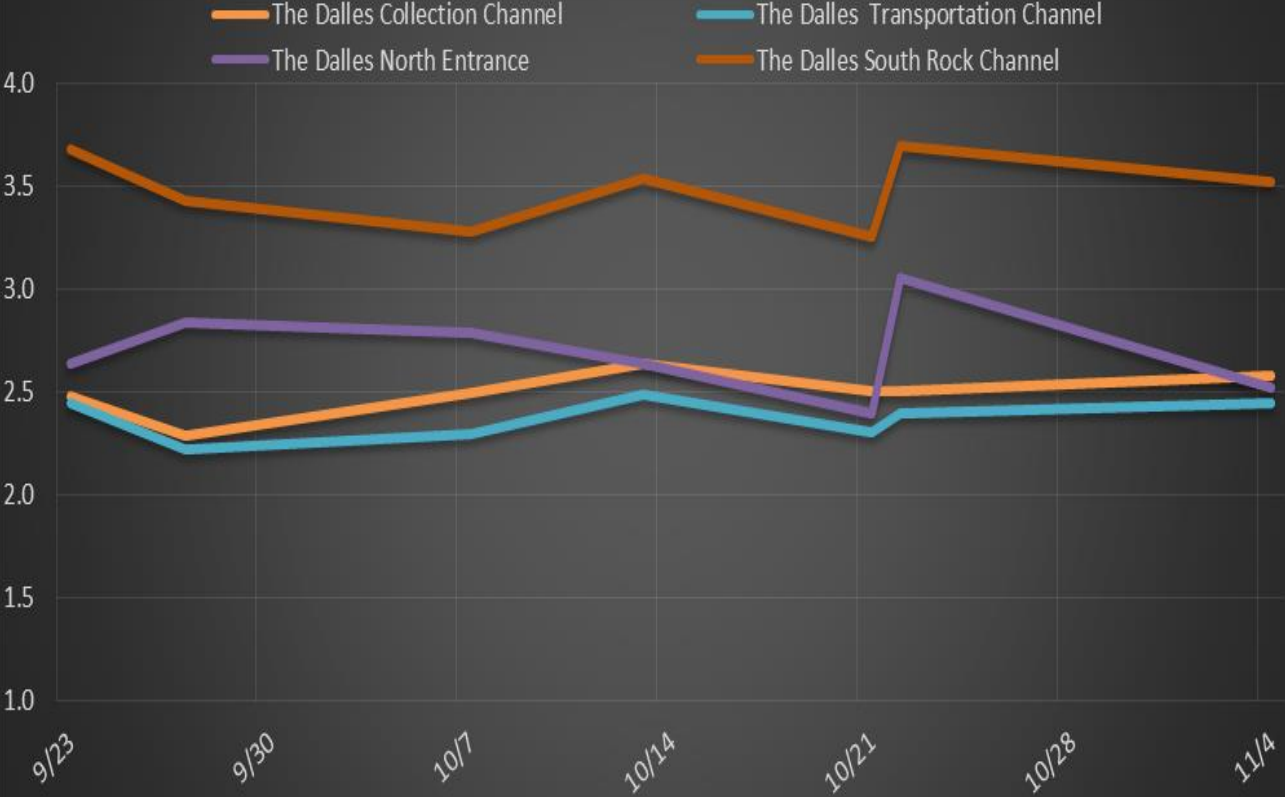
Key: BAEA = Bald Eagle; GBH = Great Blue Heron; COME = Common Merganser

The Dalles Dam Collection Channel Velocities (In Criteria 1.5 - 4.0 fps)

4-Nov 21-Oct 22-Oct



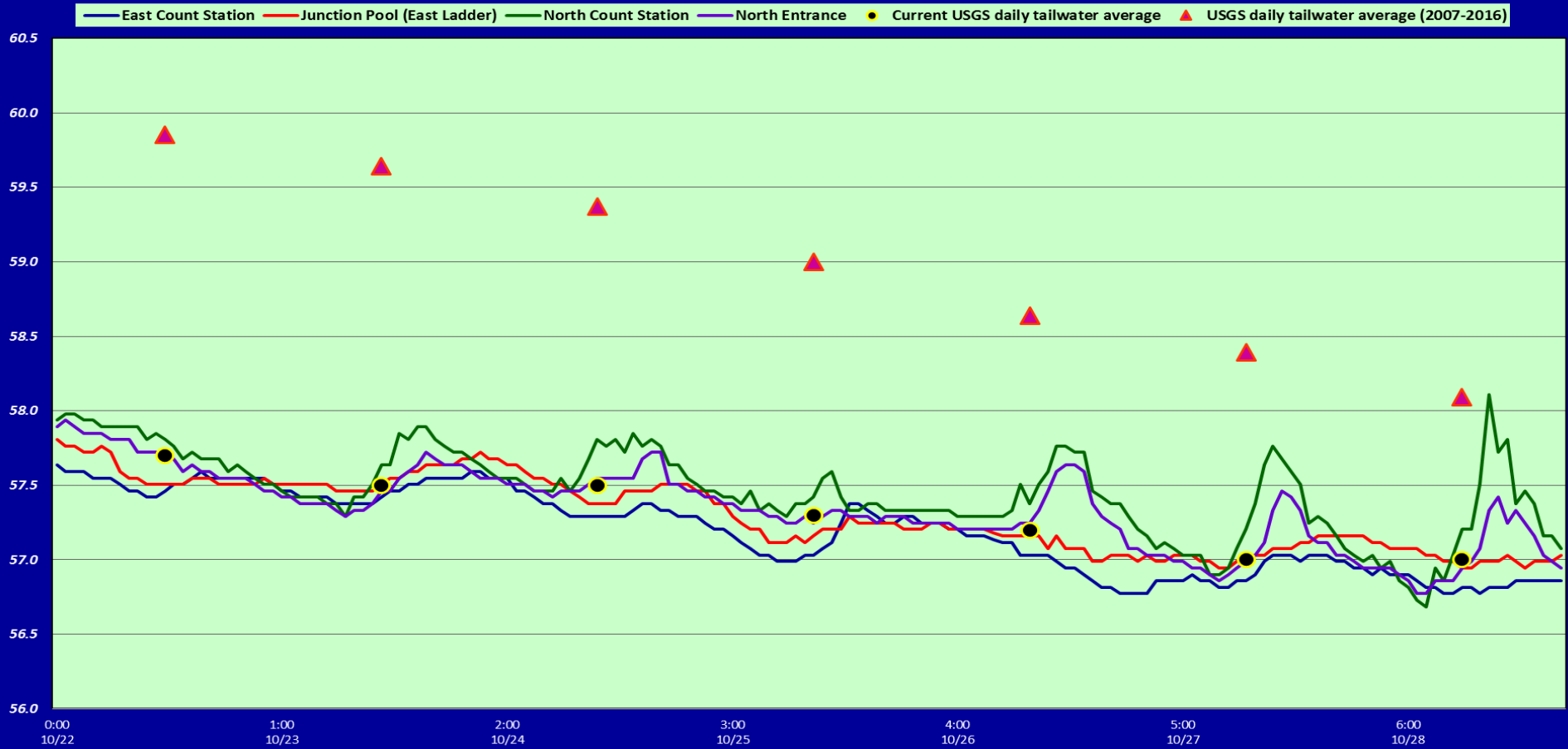
The Dalles Dam Average Velocities (In criteria 1.5 - 4.0 fps)



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
10/29	276	258	18	34	29	5	28	24	4	0	0	0	0
10/30	402	372	30	25	17	8	2	1	1	0	0	0	0
10/31	349	317	32	30	16	14	5	4	1	0	0	0	0
total	1027	947	80	89	62	27	35	29	6	0	0	0	0
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
10/29	70	64	6	4	2	2	4	4	0	0	0	0	0
10/30	56	43	13	9	7	2	8	8	0	0	0	0	0
10/31	36	31	5	7	5	2	6	6	0	0	0	0	0
total	162	138	24	20	14	6	18	18	0	0	0	0	0
% North	13.6	12.7	23.1	18.3	18.4	18.2	34.0	38.3	0.0	0.0	0.0	0.0	0.0

Salmon http://www.fpc.org/environment/fcounts.asp?fr_cdy=2017&fr_cdm=10&fr_cdd=29&to_cdm=11&to_cdd=4&subbtn=salmon&op=sdaily
Lamprey http://www.fpc.org/environment/fcounts.asp?fr_cdy=2017&fr_cdm=10&fr_cdd=29&to_cdm=11&to_cdd=4&subbtn=salmon&op=sdaily

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



USGS: <http://pweb.crohms.org/im/documents/ops/temp/201710.tbl.html>

Secchi:		Temperatures
10/29	4.0	Sun 57.7
10/30	5.0	Mon 57.5
10/31	5.0	Tue 57.5
11/1	5.0	Wed 57.3
11/2	4.5	Thurs 57.2
11/3	4.0	Fri 57.0
11/4	4.0	Sat 57.0
	4.0	AVG 57.3

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

= Out of criteria

Date:	North Ladder			East Ladder										
	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
10/29			1.6	4.4	11.2	11.2	7.6	1.6	8.9	8.9		1.5	8.3	8.3
	1.2	8.7	1.6	4.4	11.4	11.4	7.6	1.5	9.0	9.0		1.4	8.3	8.3
	1.2	8.7	1.5	5.0	11.4	11.4	7.7	1.4	9.1	9.1		1.4	8.4	8.4
10/30			1.5	5.0	11.7	11.7	7.9	1.6	9.0	9.0		1.4	8.3	8.3
	1.3	9.1	1.6	9.9	9.9	9.9	8.2	1.6	8.9	8.9		1.5	8.3	8.3
	1.3	8.6	1.5	9.9	9.9	9.9	7.8	1.5	9.0	9.0		1.4	8.3	8.3
10/31			1.8	10.1	10.1	10.1	10.2	1.4	9.1	9.1		1.5	8.3	8.3
	1.4	9.1	1.5	9.0	10.9	10.9	10.2	1.4	9.0	9.0		1.5	8.4	8.4
	1.4	9.0	1.6	9.1	11.0	11.0	10.3	1.1	8.6	9.0		1.6	8.2	8.2
11/1			1.7	9.0	11.0	11.0	10.1	1.5	9.0	9.0		1.4	8.3	8.3
	1.4	9.0	1.4	9.1	11.5	11.5	10.2	1.4	8.9	8.9		1.4	8.3	8.3
	1.3	9.1	1.4	8.9	11.5	11.5	10.0	1.4	9.0	9.0		1.5	8.2	8.2
11/2			1.5	9.0	11.4	11.4	10.4	1.3	8.9	8.9		1.6	8.2	8.2
	1.4	9.0	1.6	9.1	11.5	11.5	10.1	1.5	8.4	8.4	1.4	8.4	8.4	
11/3			1.4	9.4	11.4	11.5	10.0	1.5	8.2	8.2	1.5	8.2	8.2	
	1.2	9.1	1.4	9.4	11.4	11.4	11.0	1.5	8.3	8.4	1.4	8.4	8.4	
	1.3	9.0	1.7	9.5	11.6	11.5	11.2	1.6	8.2	8.2	1.5	8.4	8.4	
11/4			1.5	9.6	11.7	11.7	10.9	1.5	8.4	8.4	1.5	8.3	8.3	
	1.4	9.1	1.6	9.5	11.5	11.5	10.7	1.6	8.3	8.3	1.5	8.4	8.4	
	1.2	9.2	1.4	9.5	11.6	11.6	10.8	1.5	8.3	8.3	1.5	8.4	8.4	
AVG:	1.3	9.0	1.5	NO CRITERIA	11.2	11.2	9.6	1.5	8.7	8.8	NO CRITERIA	1.5	8.3	8.3

Fishways are inspected twice daily plus one SCADA inspection.



Small bedrock section that required rock hammer.