

The Dalles Dam Fishway Status Report

11/11/18

Inspection Period: Nov. 4th, - Nov. 10th, 2018

THE DALLES DAM



US Army Corps
of Engineers
Portland District

The Dalles Project-Fisheries
P.O. Box 564
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The Dalles Dam	Inspections Out of Criteria	Criteria Limit	Total Number of Inspections: Comments	20	Temperature: 56.0 °F	Secchi: 5+ 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')	9.9			
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	156 malfunctioning; set to manual temporarily			
Weir 158-159 differential	0	1.0' ± 0.1'				
Count station differential	0	≤ 0.3'				
153 Weir crest depth	0	1.1' ± 0.1'				
Junction pool weir JP6	0	0.0				
East entrance differential	1	1.0' - 2.0'	1.4	Fish unit failure 11/4, 0623 - 0848, turbine bearing low flow		
Entrance weir E1	0	No criteria				
Entrance weir E2	0	depth (≥ 8')	12.2			
Entrance weir E3	0	depth (≥ 8')	12.2			
Collection channel velocity	0	1.5 - 4 fps	2.43 fps	Range: MU12, 2.87 fps to SS, 1.83 fps		
Transportation channel velocity	0	1.5 - 4 fps	2.77 fps			
North channel velocity	0	1.5 - 4 fps	2.56 fps			
South channel velocity	1	1.5 - 4 fps	4.22 fps			
West entrance differential	1	1.0' - 2.0'	1.4	Fish unit failure 11/4, 0623 - 0848, turbine bearing low flow		
Entrance weir W1	0	depth (≥ 8')	8.3			
Entrance weir W2	0	depth (≥ 8')	8.3			
Entrance weir W3	0	No criteria				
South entrance differential	1	1.0' - 2.0'	1.4	Fish unit failure 11/4, 0623 - 0848, turbine bearing low flow		
Entrance weir S1	0	depth (≥ 8')	8.6			
Entrance weir S2	0	depth (≥ 8')	8.5			
JUVENILE PASSAGE						
Sluiceway operation	11	Units 1, 8, 18	MU1 (1-1,1-2, 1-3) MU8 (8-1,8-3) & MU18 (18-2) and endgate open; Unit 8 OOS			
Turbine trashrack drawdown	0	<1.5', biweekly				
Spill volume/pattern	0	None				
Turbine Unit Priority	0	per FPP				
Turbine 1% Efficiency	0	per FPP				

OTHER ISSUES:

Predators;

Eagle, Gull and Merganser numbers increasing as expected per seasonal trend

Awaiting NWD determination of using lethal means to support gull hazing next season.

Release of invasive bass/walleye bycatch by WDFW dam anglers continued through this angling season. Catch dropped from last 2 seasons.

Lethal removal being discussed at FPOM.

Operation:

East and north fishway in full operation.

Sluiceway open with 6 sluiceway operation (3, 8 & 18). Unit 8 sluice gates moved to unit 6 for open over a operating unit.

Current Outages;

MU5 forced OOS blade seals. RTS 1/21/2018

MU7 and MU8 OOS annual and double 11/5/2018. RTS 11/15/2018

MU15 OOS transformer replacement. RTS 11/5/2018

MU16 OOS transformer replacement. RTS 3/28/2019

MU19 & MU20 FOOS 1700 10/24/2019 due to T10 Acetylene Production

Maintenance

Dewatering schedule; East ladder dewater Dec3 (previously Dec4). North ladder dewater Jan 15.

East count station brush out of service, TDE awaiting parts.

Collection channel dewatering pumps 3 and 4 out for rehab. Pump 4 requires pump/motor replacement. RTS by 12/1/18.

Planning near complete for fishway automation replacement. Planning some installation this winter.

Planning 154 -157 rehab/weir wheel replace this winter.

Weir 156 lost automation. Will be operated manually through remainder of season.

Diffuser valve rehab beyond project maintenance capability. Exploring options. Diffuser valve long term plan in FPOM review.

Fish related /non-fish funded items; Spillway assessment underway. Spillway crane replace and spillgate 9 repair included.

All spillway items on Critical Infrastructure. Spillgate 9 on large cap list, projected for 2022. Comprehensive spillway assessment review underway.

Research/Construction/Contractors:

Bathymetry of spillwall and spill basin completed 11/6 and 11/7, awaiting results

Zebra mussel velliger sampling resumes next spring.

Lower Columbia River Forebay Temperature Monitoring – Done for season.

AWS construction - Commissioning test complete. AWS operation with single fish unit to be tested Nov28. Closure gate lift beam failed during lift. Modification completed by project maintenance. Lift test next week in prep for Nov28 AWS operation test.

PSMFC weekly sampling completed for the North Wasco County PUD's. New sample collection tank design in review. Installation postponed to winter 2019/20.

PITAGS North and east fishladder data collection at count stations continues.

Fish Counters - Continues through Oct31.

Pikeminnow dam angling - Done for season. Catch total 1785 pikeminnow, 54 bass and 12 walleye.

ODFW monthly fishway inspections done for year.

Lamprey minor mods - Rounded entrance weir caps installed south, west, north entrances. East weir to be complete December, 2018.

Univ of Idaho lamprey radiotelemetry track underway through November. Coordinating antenna maintenance this winter.

Lamprey trapping by tribes completed for season. Awaiting final numbers. Project to construct lift hoist mechanism for next trapping season.

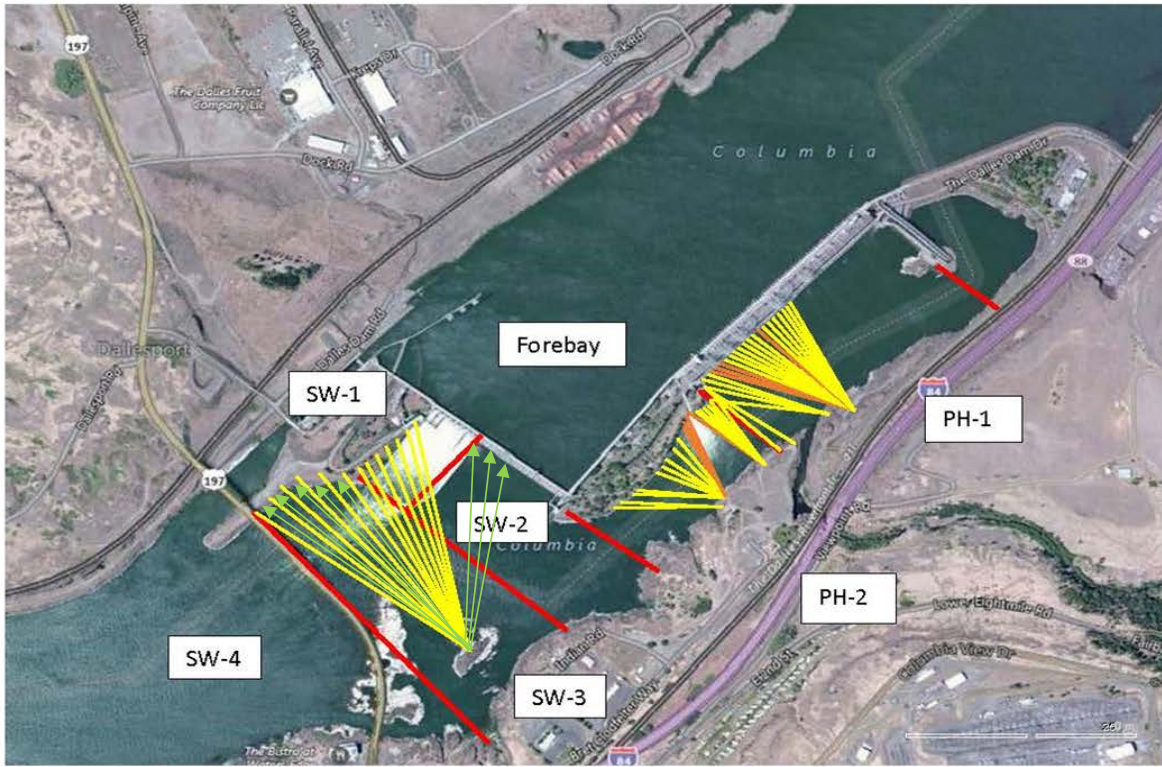
Fish unit breaker replace - Prep work in progress. Installation 12/1/18 - 1/14/19.

Fish unit rehab - Development plan continues. Alternatives in review. Test of AWS backup with single fish unit Nov28.

Transformer replacement - Install T8 underway (units 15 and 16). Sequence schedule modified from original

Approved by: Mike Colesar acting for Ron Twiner

Operation Project Manager The Dalles Dam



Red lines = avian zones

Yellow lines = current wires

Orange lines = down or missing wires



Additional avian lines installed 9/2018

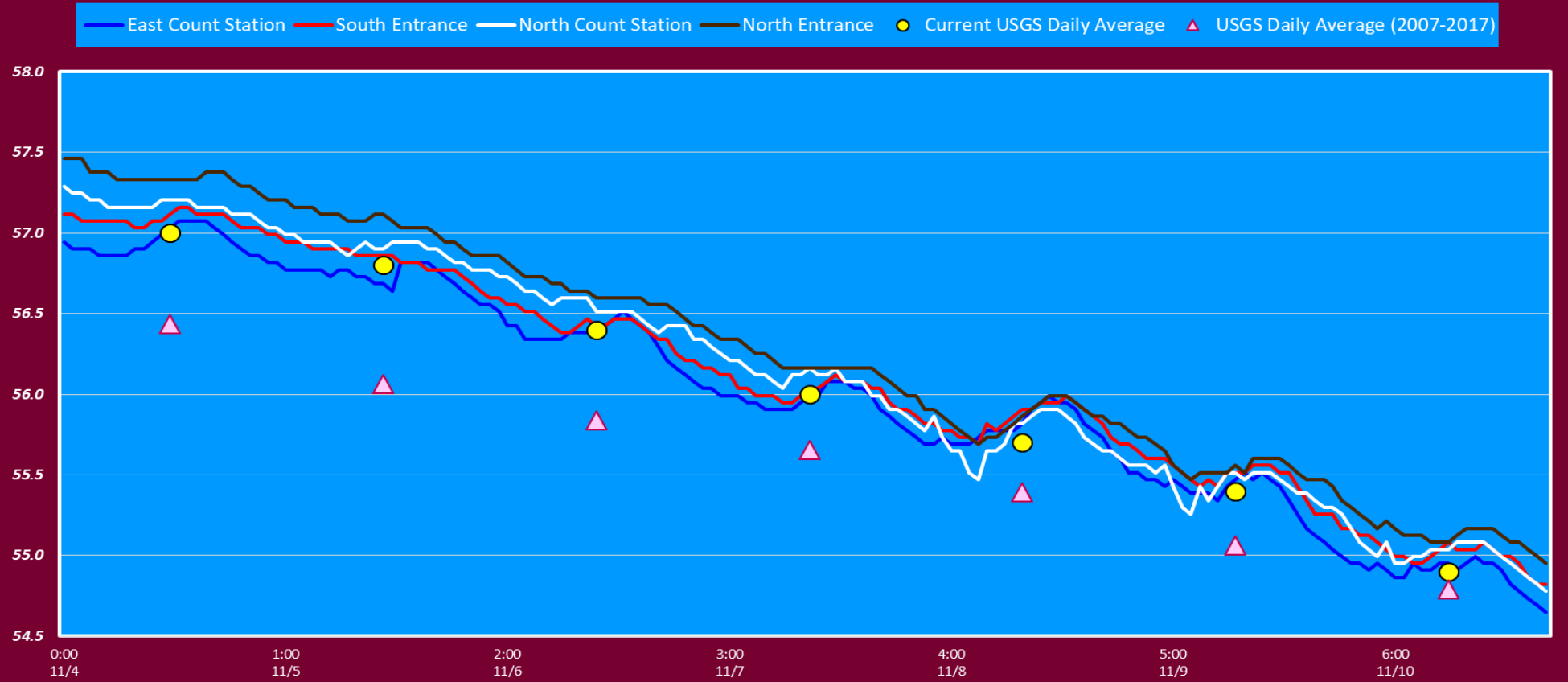
2018 Piscivorous Bird Counts

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		
11/4	JED	AM	FB	1	0	0	0	0	0	0	0	0	0	0	0	1	COME Sunny, warm, 20mph W
			PH1	0	0	2	12	0	0	0	0	0	0	15	5	34	
			PH2	30	0	4	0	0	0	0	0	0	0	0	0	34	
			SW1	0	0	0	0	0	0	0	0	0	0	0	0	0	
			SW2	30	0	0	0	0	0	0	0	0	0	0	0	30	
			SW3	0	0	15	75	0	0	0	0	0	0	0	0	90	
11/5	JED	PM	FB	1	70	15	0	0	0	4	0	0	0	1	91	GBHE COME Not present in lined area. sunny, windy, cool Juv. Shad passing? COME	
			PH1	0	0	0	11	0	0	0	0	0	27	35	73		
			PH2	40	0	0	0	0	0	0	0	0	0	0	40		
			SW1	0	0	0	0	0	0	0	0	0	0	0	0		
			SW2	60	0	4	0	0	0	0	0	0	0	0	64		
			SW3	10	95	2	47	0	0	0	0	0	0	1	0		155
11/6	JWR	AM	FB	0	26	4	14	0	0	1	0	0	0	0	45	COME	
			PH1	0	0	0	8	0	0	0	0	0	0	0	9		17
			PH2	3	0	0	0	0	0	0	0	0	0	0	0		3
			SW1	0	0	0	0	0	0	0	0	0	0	0	0		0
			SW2	2	1	0	0	0	0	0	0	0	0	0	0		3
			SW3	0	27	6	31	0	0	0	0	0	0	0	0		64
11/7	JWR	PM	FB	0	8	0	0	0	0	0	1	0	0	0	9		
			PH1	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		
			SW1	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		
			SW3	0	0	4	29	0	0	0	0	0	0	0	0		33
11/8	JWR	AM	FB	0	21	0	0	0	0	0	5	0	0	0	26		
			PH1	0	0	0	0	0	0	0	0	0	0	0	0		
			PH2	1	0	1	0	0	0	0	0	0	0	0	0		2
			SW1	0	0	0	0	0	0	0	0	0	0	0	0		
			SW2	4	1	1	0	0	0	0	0	0	0	0	0		6
			SW3	0	2	6	47	0	0	0	0	0	0	0	0		55
11/9	CEA	PM	FB	0	22	5	0	0	0	5	0	0	0	1	33	BAEA BAEA COME, GBHE GBHE	
			PH1	0	0	3	31	0	0	0	0	0	37	38	109		
			PH2	9	0	0	0	0	0	0	0	0	0	1	10		
			SW1	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		
			SW3	0	60	0	27	0	0	0	0	0	2	1	90		
11/10	CEA	AM	FB	0	0	0	0	0	0	2	0	0	0	1	3	COME GBHE COME, GBHE	
			PH1	0	0	6	6	0	0	0	0	0	56	5	73		
			PH2	0	0	0	0	0	0	0	0	0	0	0	0		
			SW1	0	0	0	0	0	0	0	0	0	0	2	2		
			SW2	0	0	0	0	0	0	0	0	0	0	0	0		
			SW3	3	0	2	56	0	0	0	0	0	0	8	69		

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

The Dalles Dam Adult Fish Ladder(s) River Temperatures



		USGS:	USGS River Temps
Secchi:		Temperatures	
11/4	5+	Sun	57.0
11/5	5+	Mon	56.8
11/6	5+	Tue	56.4
11/7	5+	Wed	56.0
11/8	5+	Thurs	55.7
11/9	5+	Fri	55.4
11/10	5+	Sat	54.9
	5+	AVG	56.0

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

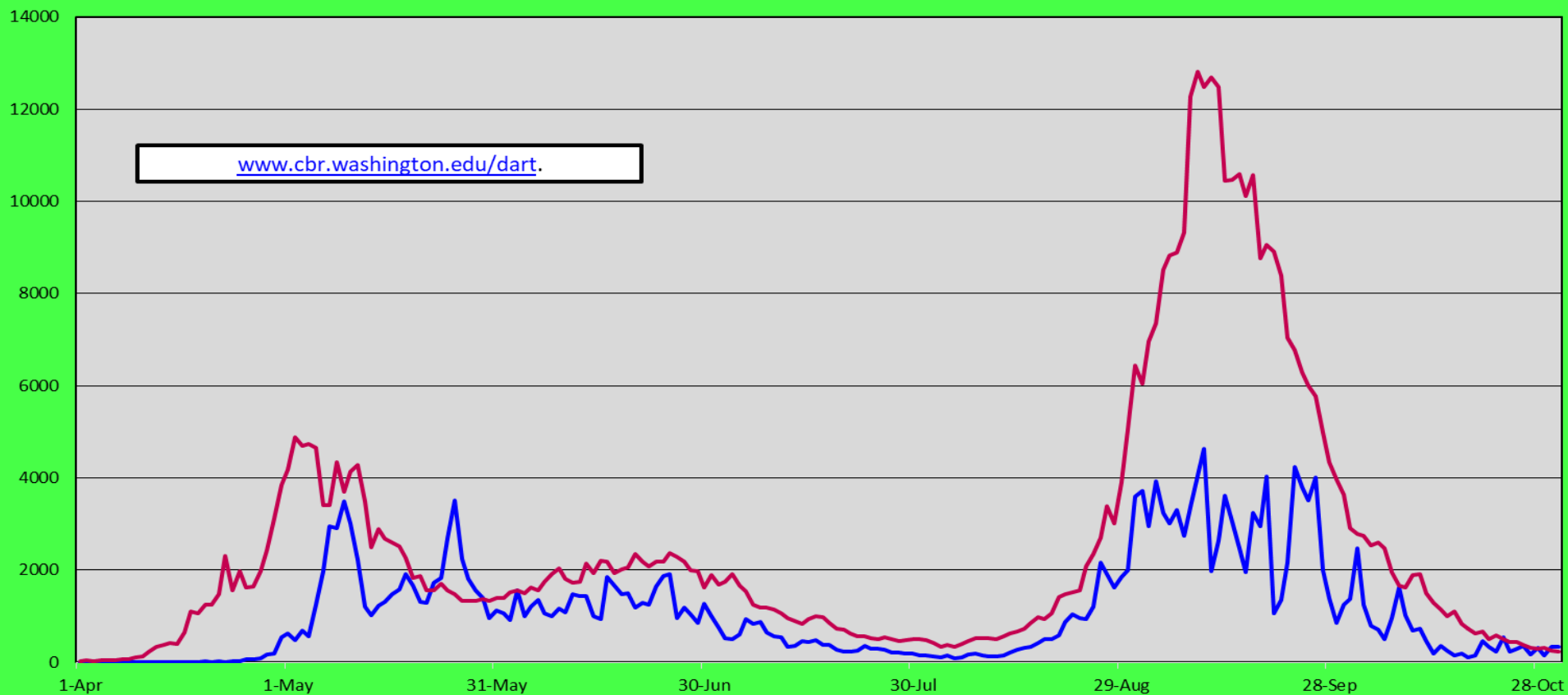
SCADA INSPECTION
= Out of criteria

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
11/4			0.0	9.1	12.0	12.0	10.8	0.0	8.4	8.4		0.6	8.5	8.5
	1.4	9.7	1.5	8.0	11.5	11.5	10.0	1.4	8.3	8.3		1.3	8.5	8.5
	1.5	9.7	1.5	8.5	12.0	12.0	10.4	1.4	8.4	8.4		1.3	8.7	8.7
11/5			1.3	8.5	11.9	11.9	9.9	1.5	8.3	8.3		1.3	8.6	8.6
	1.4	9.8	1.5	8.4	12.0	12.0	10.2	1.4	8.3	8.3		1.3	8.6	8.6
	1.4	11.8	1.4	8.5	12.1	12.1	11.1	1.5	8.4	8.4		1.4	8.7	8.7
11/6														
	1.3	9.9	1.4	5.8	12.0	12.0	10.2	1.5	8.3	8.3		1.4	8.5	8.5
	1.4	9.7	1.6	6.0	12.0	12.0	10.6	1.6	8.2	8.2		1.5	8.5	8.5
11/7			1.3	6.1	12.1	12.1	9.1	1.3	8.3	8.3		1.2	8.7	8.7
	1.3	9.9	1.4	6.2	12.1	12.1	10.5	1.5	8.4	8.4		1.4	8.6	8.6
	1.3	9.8	1.4				10.5	1.5				1.4		
11/8			1.4	0.8	12.9	13.0	10.4	1.4	8.3	8.3		1.3	8.6	8.6
	1.4	9.8	1.6	6.1	12.0	12.0	11.1	1.6	8.3	8.3		1.5	8.5	8.5
	1.4	9.7	1.7	0.8	12.5	12.5	10.3	1.5	8.2	8.2		1.4	8.5	8.5
11/9			1.8	1.1	12.6	12.6	10.8	1.6	8.4	8.4		1.4	8.5	8.5
	1.5	9.7	1.7	2.7	12.6	12.6	11.0	1.6	8.4	8.4		1.6	8.4	8.4
	1.5	9.3	1.6	6.1	12.5	12.5	11.1	1.6	8.3	8.3		1.4	8.6	8.5
11/10			1.5	6.1	12.6	12.6	11.1	1.6	8.3	8.3		1.5	8.5	8.5
	1.5	9.7	1.6	5.9	12.4	12.4	11.1	1.6	8.2	8.2		1.4	8.5	8.5
	1.5	9.7	1.6	6.0	12.5	12.6	11.9	1.6	8.3	8.3		1.5	8.5	8.5
AVG:	1.4	9.9	1.4		12.2	12.2	10.6	1.4	8.3	8.3		1.4	8.6	8.5

Fishways are inspected twice daily plus one SCADA inspection.

— 2018:Chinook (fish/day)

— Avg 08-17:TDA:Chin (fish/day)





Bathymetry of The Dalles spill basin/spill wall