The Dalles Dam Fishway Status Report

3/9/2015

Inspection Period: 3/1/2015 to 3/7/2015

THE DALLES DAM

US Army Corps of Engineers
Portland District

The Dalles Project-Fisheries
P.O. Box 564
The Dalles, OR 97058-9998
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Fishways are inspected twice daily plus one SCADA inspection

The Dalles Dam	Inspections Out of Criteria	Criteria Limit	Total Number of Inspections: 14 / Comments	Temperature: 42.0 F / Secchi: 3.6 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'	Daily differentials and weir depths, see AVGS tab.	
Entrance weir N1	0	depth (≥ 8')	Average 9.6	
Entrance weir N2	0	Closed	Bulkhead installed.	
PUD Intake differential	0	≤ 0.5'	Trash rack raked 3/5.	
EAST FISHWAY				
Exit differential	0	≤ 0.5'		
Removable weirs 154-157	10	Per forebay	Auto adjusts 1' increments. Weir 156 off by 0.2'. Maintenance notified.	
Weir 158-159 differential	0	1.0' ± 0.1'		
Count station differential	0	≤ 0.3'		
Weir crest depth	0	1.0' ± 0.1'		
Junction pool weir JP6	0	depth (≥ 7')	Average 12.0	
East entrance differential	0	1.0' - 2.0'	Average 1.5	
Entrance weir E1	0	No criteria	Average 5.5 Manually adjusted as needed.	
Entrance weir E2	0	depth (≥ 8')	Average 11.7	
Entrance weir E3	0	depth (≥ 8')	Average 11.7	
Collection channel velocity	0	1.5 - 4 fps	Average 2.9	
Transportation channel velocity	0	1.5 - 4 fps	Average 3.0	
North channel velocity	0	1.5 - 4 fps	Average 2.3	
South channel velocity	0	1.5 - 4 fps	Average 3.5	
West entrance differential	0	1.0' - 2.0'	Average 1.5	
Entrance weir W1	0	depth (≥ 8')	Average 11.4	
Entrance weir W2	0	depth (≥ 8')	Average 9.2	
Entrance weir W3	0	No criteria	Average -0.3 Manually adjusted as needed.	
South entrance differential	0	1.0' - 2.0'	Average 1.5	
Entrance weir S1	2	depth (≥ 8')	Average 12.0 OOC 7.9'	
Entrance weir S2	0	depth (≥ 8')	Average 11.6 S2 auto failure, maintenance notified. S1 maintaining diff. criteria	
JUVENILE PASSAGE				
Sluicegate operation	0	Units 1, 18	4 gates open. 6 gates will be open Apr 1 over units 1,8,18	
Turbine trashrack drawdown	0	<1.5', wkly	Resume on March 1	
Spill volume	On Seal.			
Spill Pattern				
Turbine Unit Priority.	0	per FPP	West to east block priority starts Apr 1	
Turbine 1% Efficiency	0	per FPP		

OTHER ISSUES:

Birds/Sea lions:
Bird observation data collected once daily. Refer to Avian Zone Map.

Operations:
Weekly weir calibrations to resumed 3/1. All in criteria.
South entrance weirs auto failure. Operating in manual mode.
Gatewell drawdown completed on 3/2. All values were within criteria.

Current Outages:
T8 (MU15 & MU16) de-rated to 85MW ops through Sept 2017.
MU8 out of service 2/2/2015 to 3/26/2015 for overhaul.
Navigation out of service for annual maintenance 3/7 - 3/21/2015. Upstream gate area dewatered. No fish found.

Maintenance:
Half of east fishway entrance weirs rehabbed with new wheels. 1 of 8 east entrance weir guides rehabbed.
Three collection channel dewatering pumps on deck for rehab, repair delayed due to lack of funding. Two of 6 collection channel pumps remain stuck.
FCQ7 electrical panel for east exit upgrade prep work completed. Planning and parts purchase underway pending funding. Installation next outage season.
Future repair plans ; Upgrade east exit weirs 154-157, removal/permanent closure of collection channel diffusers, repair 6 east and 7 north failed diffusers, Fish related but non-fish funded items; spillway evaluation, spillway crane rehab, spillgate 9 wire rope replacement, HDC update fish unit reliability assessment, planning upgrade fish unit breakers and fish unit transformer replacement.
All spillway items on Critical Infrastructure list and Unfunded Requirement list.

Studies:
North fishladder rock stabilization development team site visit completed. Alternatives for repair to follow. Updates to be provided to FPOM.
Investigating PIT tag 15 mile creek steelhead overshooting The Dalles for possible sluiceway operation in Feb.
North fish count station mods completed for visibility improvement and use of video. March testing underway.
EFL Backup; Plans/Specs underway.1400cfs field test completed. Good east entrance conditions. Possible backflow problem in collection channel.
PUD 'freedom' second turbine; Field test proposal summer 2015 proposed through FPOM and SRWG. Rock plunge pool inspected with no problems found.

Research/Contractors:
University of Idaho maintaining antennas. Continuing downloads of winter steelhead.
Research approval letters forwarded for; ODFW forbay Northern Pikeminnow Management Program, PSMFC sampling at PUD intake structure, University of Idaho monitoring fallback movements of steelhead outfitted with radio tags and adult Pacific Lamprey outfitted with half-duplex PIT tags, PSMFC for monitoring and maintaining thin walled PIT tag antennas and computer equipment and USGS total dissolved gas monitoring .

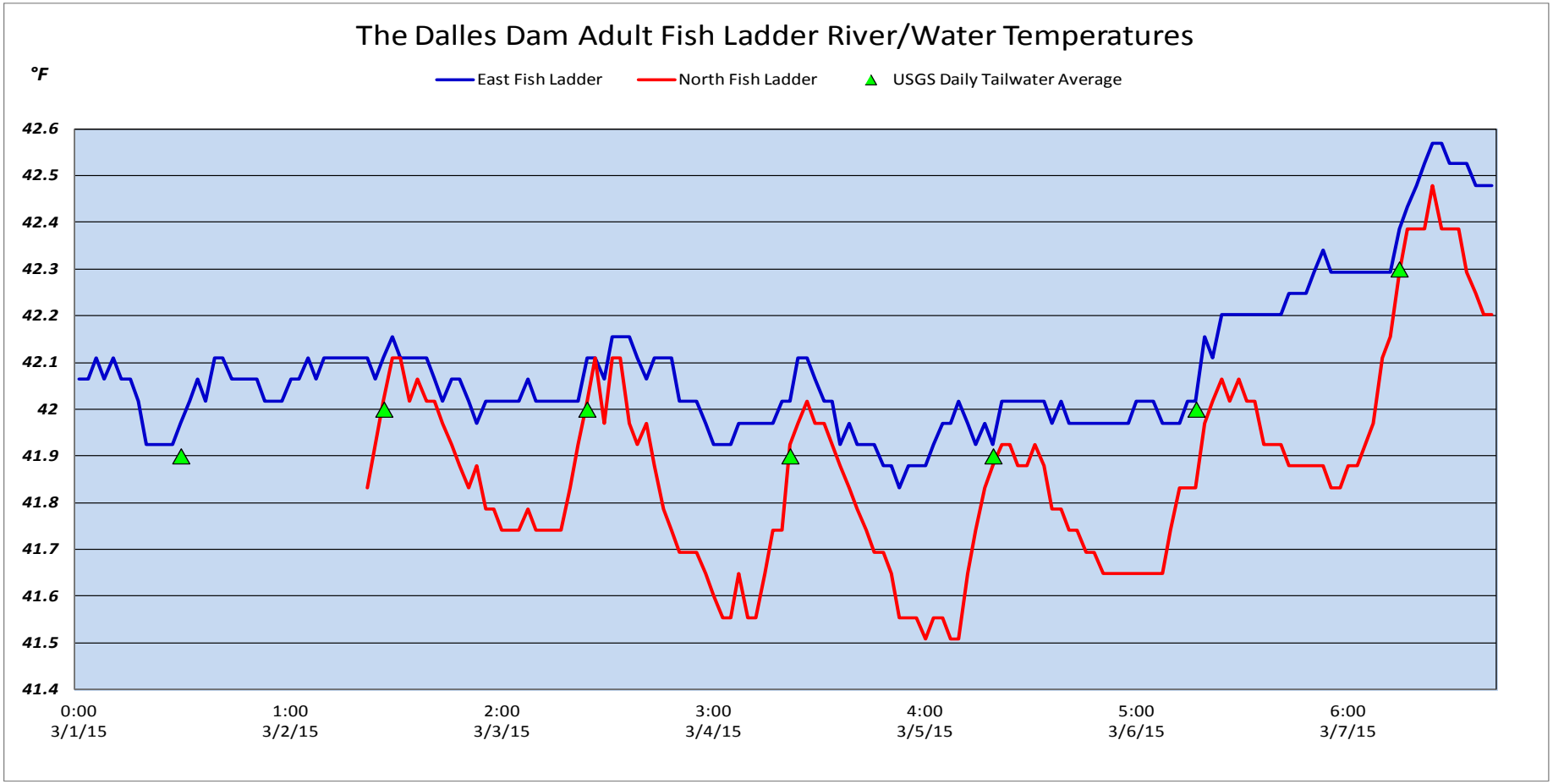
Approved by: Ron Twiner
Operation Project Manager The Dalles Dam

Avian lines in yellow, zones in red, river flow in blue.

2015 Piscivorous Bird Counts

F=foraging, NF=non-foraging

Date	Observer	Time (24 hr)	Zone	Gull		Cormorant		Caspian tern		Other		Total birds in	Notes
				F	NF	F	NF	F	NF	F	NF		
3/1/15	EHK	14:28	FB	0	0	0	0	0	0	0	0	0	
		13:47	PH1	0	0	0	2	0	0	0	0	2	
		13:58	PH2	0	0	0	0	0	0	0	0	0	
		14:30	SW1	0	0	0	0	0	0	0	0	0	
		13:59	SW2	0	0	0	0	0	0	0	0	0	
		14:00	SW3	0	0	0	17	0	0	0	0	17	
		14:01	SW4	0	0	0	0	0	0	0	0	0	
3/2/15	*JWR*	9:52	FB	0	0	0	0	0	0	0	1	1	BAEA
		8:57	PH1	0	0	0	0	0	0	0	0	0	
		9:04	PH2	0	0	0	0	0	0	0	0	0	
		9:46	SW1	0	0	0	0	0	0	0	0	0	
		9:05	SW2	0	0	0	0	0	0	0	0	0	
		9:06	SW3	0	0	0	15	0	0	0	0	15	
		9:07	SW4	0	1	0	1	0	0	0	0	2	
3/3/15	*JWR*	13:05	FB	0	0	0	0	0	0	0	0	0	
		12:30	PH1	0	0	1	0	0	0	0	0	1	
		12:34	PH2	0	0	0	0	0	0	0	0	0	
		13:02	SW1	0	0	0	0	0	0	0	0	0	
		12:37	SW2	0	0	0	0	0	0	0	0	0	
		12:38	SW3	0	0	0	10	0	0	0	0	10	
		12:39	SW4	0	8	0	0	0	0	0	0	8	
3/4/15	*JWR*	13:09	FB	0	0	0	0	0	0	0	1	1	BAEA
		12:48	PH1	0	0	0	0	0	0	0	1	1	COME
		12:52	PH2	0	0	0	0	0	0	0	0	0	
		13:05	SW1	0	0	0	0	0	0	0	0	0	
		12:55	SW2	0	0	0	0	0	0	0	0	0	
		12:56	SW3	0	0	0	12	0	0	0	0	12	
		12:57	SW4	0	0	0	2	0	0	0	0	2	
3/5/15	*JWR*	10:15	FB	0	0	0	0	0	0	0	0	0	
		9:48	PH1	0	0	0	0	0	0	0	2	2	COME
		9:56	PH2	0	0	0	0	0	0	0	0	0	
		10:13	SW1	0	0	0	0	0	0	0	0	0	
		10:05	SW2	0	0	0	0	0	0	0	0	0	
		10:06	SW3	0	0	0	17	0	0	0	0	17	
		10:07	SW4	0	0	0	0	0	0	0	0	0	
3/6/15	PSK	11:11	FB	0	0	0	0	0	0	0	1	1	BAEA
		9:36	PH1	0	0	0	0	0	0	0	0	0	
		10:21	PH2	0	0	0	0	0	0	0	3	3	2 BAEA , 1 Golden eagle
		11:27	SW1	0	0	0	0	0	0	0	0	0	
		10:30	SW2	0	0	0	0	0	0	0	0	0	
		10:33	SW3	0	0	0	10	0	0	0	0	10	
		11:44	SW4	0	0	0	0	0	0	0	0	0	
3/7/15	PSK	15:00	FB	0	0	0	0	0	0	0	0	0	
		13:53	PH1	0	0	0	0	0	0	0	0	0	
		14:26	PH2	0	0	0	0	0	0	0	1	1	BAEA
		15:07	SW1	0	0	0	0	0	0	0	0	0	
		14:29	SW2	0	0	0	0	0	0	0	0	0	
		14:32	SW3	0	0	0	22	0	0	0	0	22	
		15:14	SW4	0	0	0	0	0	0	0	0	0	


The Dalles Dam Adult Fish Ladder River/Water Temperatures
°F
East Fish Ladder
North Fish Ladder
USGS Daily Tailwater Average
42.6
42.5
42.4
42.3
42.2
42.1
42
41.9
41.8
41.7
41.6
41.5
41.4
0:00
3/1/15
1:00
3/2/15
2:00
3/3/15
3:00
3/4/15
4:00
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3/6/15
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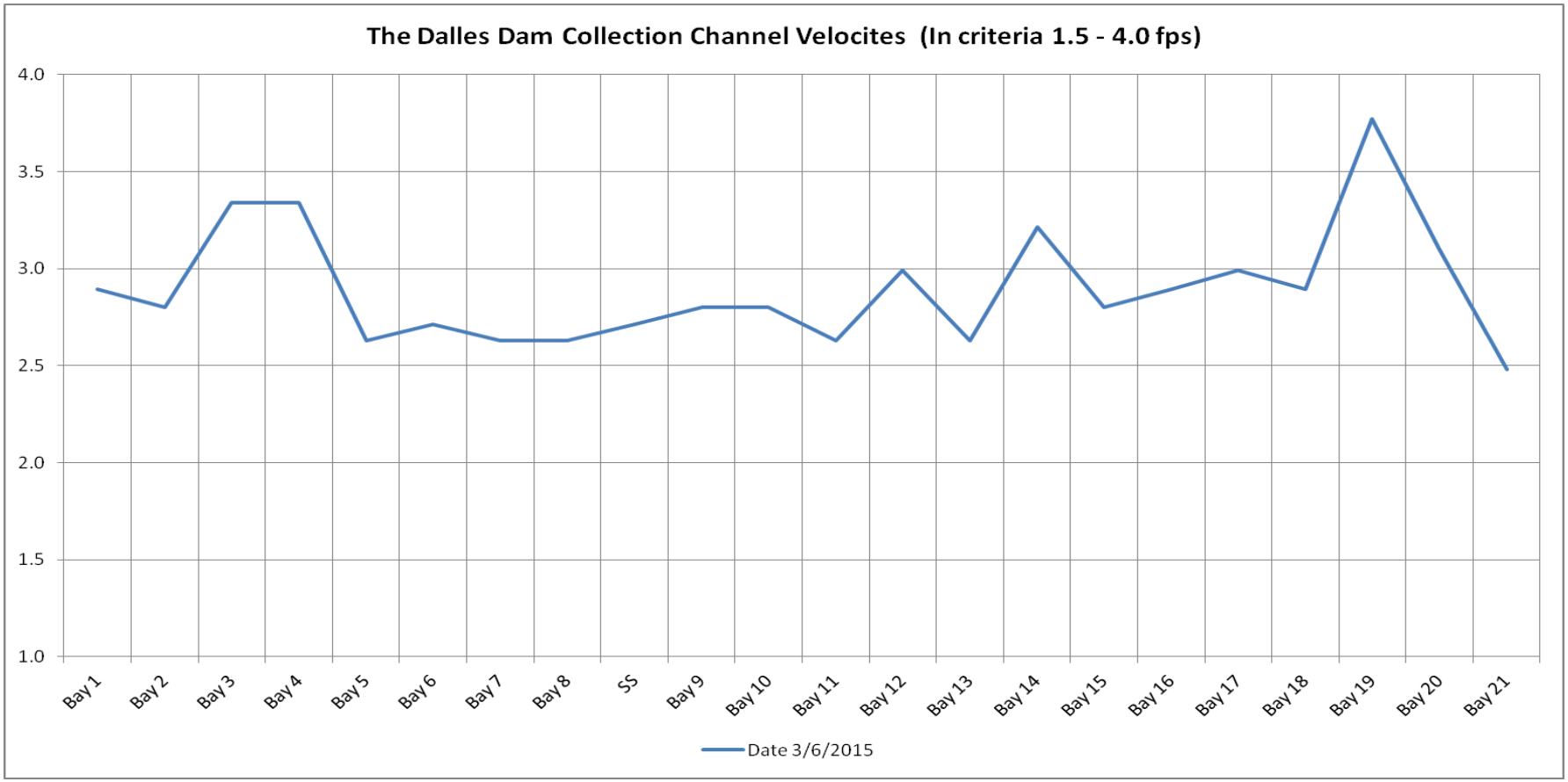
3/7/15


The Dalles Dam Collection Channel Velocites (In criteria 1.5 - 4.0 fps)
4.0
3.5
3.0
2.5
2.0
1.5
1.0
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
Date 3/6/2015

Temperatures		Secchi:
41.9	Sun	3.0
42.0	Mon	3.0
42.0	Tue	3.5
41.9	Wed	4.0
41.9	Thurs	3.5
42.0	Fri	3.5
42.3	Sat	4.5
AVG: 42.0	AVG	3.6

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	Spill KCFS
3/1/15	1.2	9.9	1.6	5.0	11.3	11.4	10.5	1.4	11.5	11.5		1.5	13.2		
	1.3	9.8	1.5	5.0	11.5	11.4	10.1	1.3	11.4	11.4		1.5	12.8		
3/2/15	1.3	9.8	1.5	5.0	11.6	11.6	11.2	1.4	11.5	11.6	-0.7	1.4	13.3		
	1.3	9.8	1.4	4.9	11.6	11.5	8.4	1.1	11.4	11.4		1.5	11.7		
3/3/15	1.3	9.8	1.6	5.0	11.5	11.5	11.2	1.4	11.4	11.5	-0.6	1.4	13.4		
	1.5	9.3	1.7	4.9	11.4	11.5	9.0	1.2	11.5	11.5	-1.8	1.4	12.4		
															On Seal
3/4/15	1.1	9.4	1.7	5.1	11.6	11.6	12.6	1.6	11.5	11.6		1.3	14.7		
	1.9	9.3	1.4	6.1	12.0	12.1	11.2	1.4	11.5	11.4	-0.6	1.3	13.5		
3/5/15	1.4	9.6	1.4	6.0	11.9	12.0	12.3	1.4	11.4	11.4	0.4	1.6	12.0	14.0	
	1.4	9.6	1.5	6.0	12.0	12.0	10.9	1.3	11.5	11.6		1.4	7.9	12.0	
3/6/15	1.5	9.4	1.4	5.9	11.9	12.0	13.8	1.6	11.3	11.3	1.2	1.5	9.2	11.0	
	1.5	9.5	1.5	6.0	12.0	12.0	12.1	1.5	11.4	11.4	0.3	1.5	8.7	10.9	
3/7/15	1.4	9.6	1.4	6.0	11.9	11.9	12.1	1.4	11.4	11.5		1.8	8.5	10.9	
	1.4	9.7	1.4	5.9	11.9	11.9	11.7	1.4	11.6			1.6	7.9	11.0	
AVG:	1.5	9.6	1.5	5.5	11.7	11.7	12.0	1.5	11.4	9.2	-0.3	1.5	12.0	11.6	

Fishways are inspected twice daily plus one SCADA inspection; SCADA OOS, TDE working on repair. S2 auto failure, maintenance notified. S1 maintaining differential criteria