

The Dalles Dam Fishway Status Report

4/12/2015

Inspection Period: 4/5/2015 to 4/11/2015

THE DALLES DAM



US Army Corps
of Engineers
Portland District

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: 49.2 F
			Comments		Secchi: 4.5 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'	Average	1.4	
Entrance weir N1	0	depth (≥ 8')	Average	9.5	
Entrance weir N2	0	Closed	Bulkhead installed.		
PUD Intake differential	0	≤ 0.5'			
EAST FISHWAY					
Exit differential	0	≤ 0.5'			
Removable weirs 154-157	1	Per forebay	Auto adjusts 1' increments. OOC; weir 156 out at forebay 158.1		
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')	Average	11.8	
East entrance differential	0	1.0' - 2.0'	Average	1.6	
Entrance weir E1	0	No criteria	Average No criteria; manually adjusted as needed.		
Entrance weir E2	3	depth (≥ 8')	Average	10.7	; OOC at 6.7-7.4' Maintenance notified and fixed on 4/7/15
Entrance weir E3	0	depth (≥ 8')	Average	10.6	
Collection channel velocity	0	1.5 - 4 fps	Average	3.5	
Transportation channel velocity	0	1.5 - 4 fps	Average	3.2	
North channel velocity	0	1.5 - 4 fps	Average	2.3	
South channel velocity	0	1.5 - 4 fps	Average	4.0	
West entrance differential	0	1.0' - 2.0'	Average	1.5	
Entrance weir W1	0	depth (≥ 8')	Average	12.1	
Entrance weir W2	0	depth (≥ 8')	Average	12.1	
Entrance weir W3	0	No criteria	Average No criteria; manually adjusted as needed.		
South entrance differential	0	1.0' - 2.0'	Average	1.5	
Entrance weir S1	0	depth (≥ 8')	Average	9.2	
Entrance weir S2	0	depth (≥ 8')	Average	9.1	
JUVENILE PASSAGE					
Sluicelgate operation	0	Units 1, 8, 18	Sluicelgates 1-1,2,3, 8-1,2, and 17-2 open. MU18 RTS 4/10 and 18-2 open.		
Turbine trashrack drawdown	0	<1.5', wkly	Range: 0.3' - 0.8'.		
Spill volume	3	40%+-1%	Average	39.4	Percentages represent spot checks, not average for day.
Spill Pattern	0				
Turbine Unit Priority.	7	per FPP	West to east block priority started Apr 1		MU 6, 16 & 18 are unavailable
Turbine 1% Efficiency	0	per FPP			

OTHER ISSUES:**Birds/Sea lions:**

Bird observation data collected once daily. Refer to Avian Zone Map. California sea lion observed near west entrance on 4/6 and 4/9.
No sightings inside fishway entrance to date.

Operations:

Calibration check 4/10. East entrance tailwater out of calibration (Not OOC) TDE fixed
Spill for juvenile passage started Apr 10. Percentages represent spot checks and do not represent daily average.

Current Outages:

T8 (MU15 & MU16) de-rated to 85MW ops through 9/14/2017.
MU2 out of service 3/23/2015 to 4/6/2015 for Annual.
MU6 out of service 3/30/2015 to 5/7/2015 for overhaul.
MU18 OOS at 4/6 0001 hrs. for annual maintenance.
MU18 RTS, 4/10 1536 hrs. from annual maintenance.

Maintenance:

Sluiceway configured for Unit 1 and 2 annual maintenance. Returned to normal operation per Fish Passage Plan.
East fishway entrance weir E2 cable failure over weekend. TDS repairing. East fishway exit weir 156 brake failed. TDM repaired.
Entrance weir wheel and guide work to resume next winter outage.
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 for installation next outage season.
Future repair plans; Upgrade east exit weirs 154-157, removal/permanent closure of collection channel diffusers, repair 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 project. No new development.
Fish count video at north count station completed. Recordings to be used for improved software technology.
Meetings continue for scheduling east AWS backup, tailrace crane rehab and crane rail replacement. Fish way impacts being assessed and coordinated as needed.
East AWS backup (auxiliary water system) plans and specifications underway. Hydroacoustic survey of the forebay wall occurred Apr 9 and 10.
PUD 'freedom' second turbine study proposal cancelled until further notice.

Research/Contractors:

Normandau fish counters started 01 April with 2-8 hour shifts per day.
PSMFC PUD weekly sampling Apr 9; 97 Chinook yearling, one subyearling smolt, 43 fry, and three steelhead.
WDFW to conduct hook and line removals of predatory northern pikeminnow from the BRZ adjacent to the project 5/1/2015 through 10/15/2015.
USGS equipment installed Mar 18 for total dissolved gas monitoring,
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 .
Scheduling for EFL AWS backup, crane rail rehab and deck rail replacement being determined for next winter. FPOM coordination expected.

Approved by: Ron Twiner

Operation Project Manager The Dalles Dam

Columbia River DART

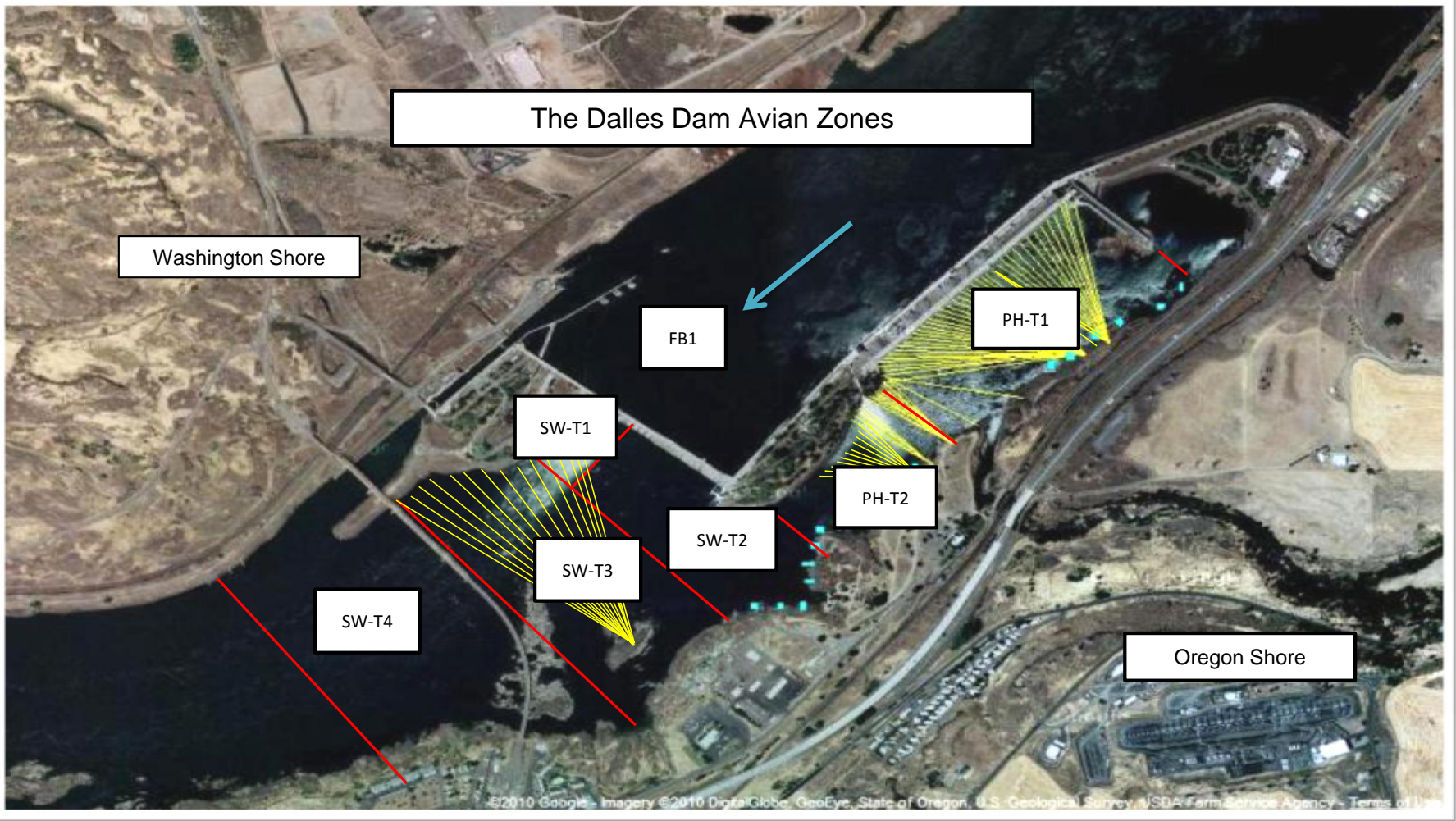
2015 Adult Passage Daily Ladder Counts at The Dalles

with Spill Percent and Outflow

4/5/2015 - 4/11/2015

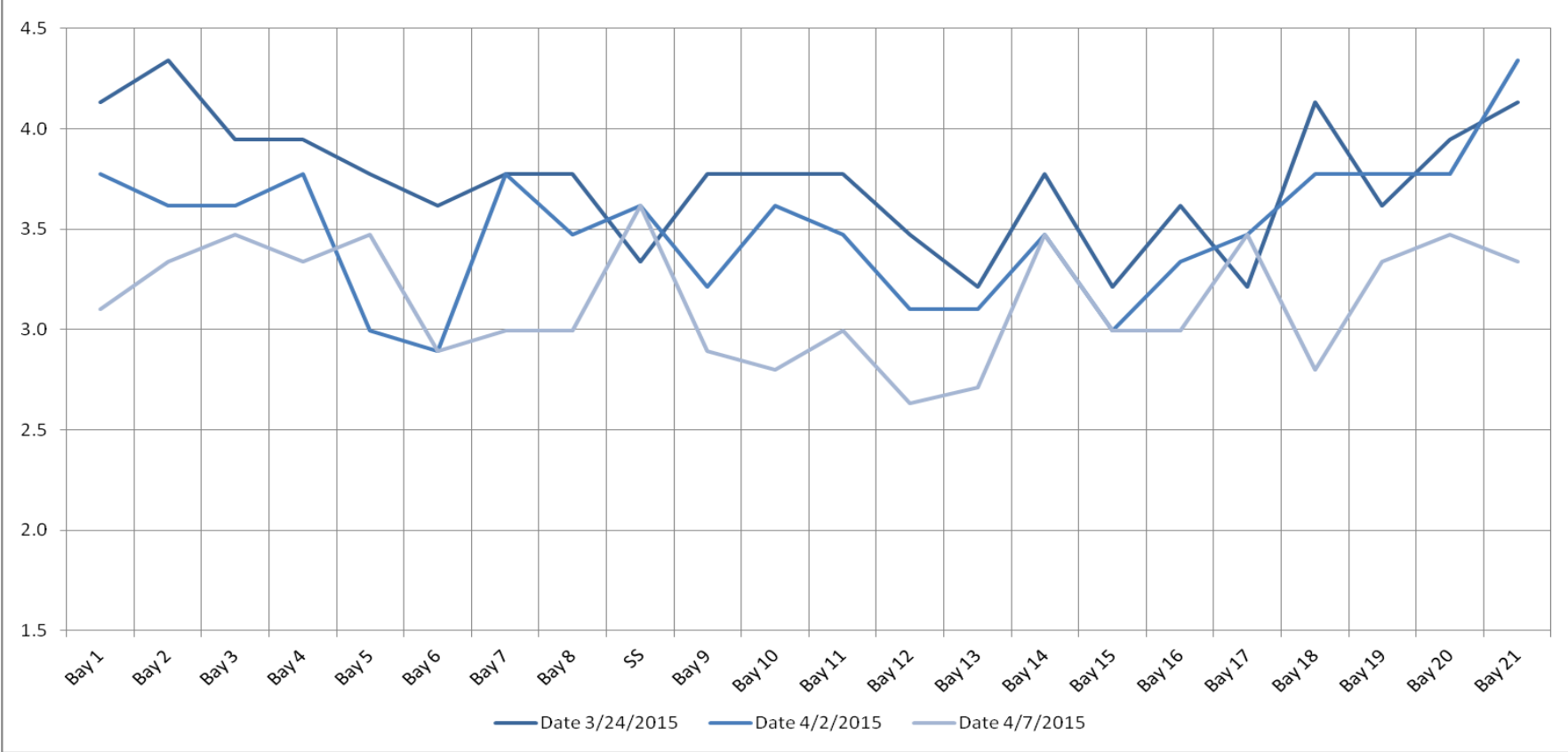
Date	Chinook				Jack Chinook				Steelhead				Wild Steelhead				Sockeye				Coho				Jack Coho				Shad				Lamprey				Bull Trout				Spill	Outflow				
	Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder	Right Ladder	Pct [Left]	(kcfs)										
	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#		
5-Apr-15	93	128	7	10		0		0	67	8	33	4	60	6	40	4		0		0		0		0		0		0		0		0		0		0		0		0		0		0		
6-Apr-15	92	132	8	11		6		0		11		-9		10		-10		0		0		0		0		0		0		0		0		0		0		0		0						
7-Apr-15	96	172	4	7		5		0		7		-1		2		-2		0		0		0		0		0		0		0		0		0		0		0		0						
8-Apr-15	85	169	16	31		1		0	85	11	15	2	88	7	13	1		0		0		0		0		0		0		0		0		0		0		0		0						
9-Apr-15	83	298	17	60		13		0		12		-4		7		-4		0		0		0		0		0		0		0		0		0		0		0		0						
10-Apr-15	77	227	23	67		0		0	92	11	8	1	88	7	13	1		0		0		0		0		0		0		0		0		0		0		0		0	251	66				
11-Apr-15	69	398	31	181		12		0	53	9	47	8	25	2	75	6		0		0		0		0		0		0		0		0		0		0		0		0	250	62				
YTD	Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder		Left Ladder		Right Ladder															
	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#	Pct	#										
	81	1524	19	367		37		0	99	69	1	1		41		-4		0		0		0		0		0		0		0		0		0		0		0		0						
Date	Chinook				Jack Chinook				Steelhead				Wild Steelhead				Sockeye				Coho				Jack Coho				Shad				Lamprey				Bull Trout				Spill Pct	Outflow				

Ladder orientations reference the side of the river when facing downstream

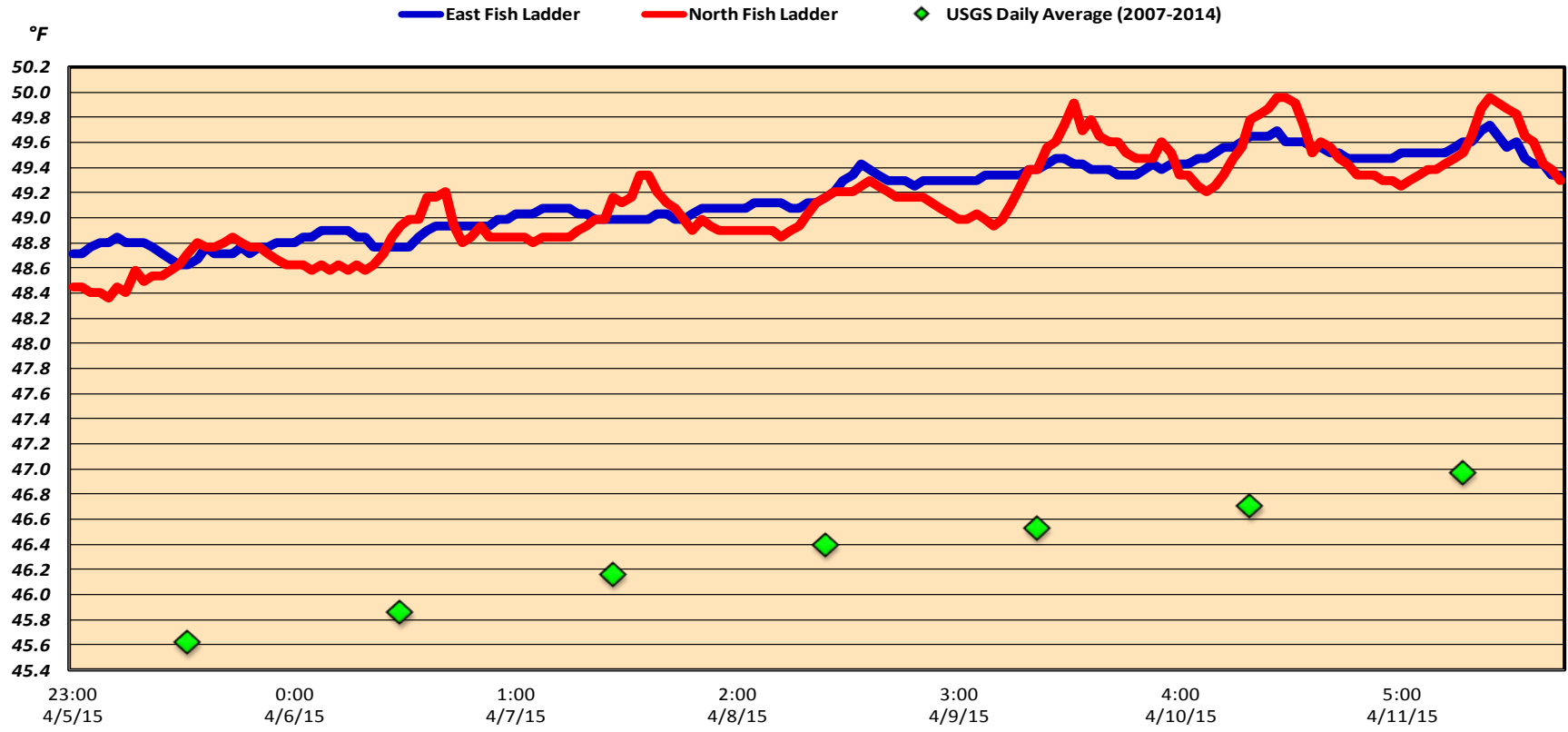


Avian lines in yellow, zones in red, river flow in blue.

The Dalles Dam Collection Channel Velocites (In criteria 1.5 - 4.0 fps)



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



USGS:	http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201504.lcol.html		
Temperatures		Secchi:	
48.8	Sun	4.5	
49.0	Mon	4.0	
49.2	Tue	5.0	
49.2	Wed	5.0	
49.4	Thurs	4.0	
49.5	Fri	4.0	
49.6	Sat	5.0	
AVG:	49.2	AVG	4.5

**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				% Spill
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		
4/5/15			1.4	2.5	8.2	13.0		1.6	13.5	13.4		1.6	9.5	9.5		
	1.5	9.3	1.5	2.5	8.2	13.0	14.0	1.6	13.5	13.4		1.6	9.4	9.4		
	1.4	9.5	1.7	1.6	7.3	12.1	13.1	1.6	13.4	13.4		1.5	9.6	9.6		
4/6/15			1.8	1.4	7.1	11.9						1.7	9.4	9.5		
	1.4	9.5	1.7	4.1	7.0	11.8	12.8	1.4	13.5	13.5		1.5	9.8	9.8		
	1.5	9.4	1.7	8.2	6.7	8.2	12.5	1.4	13.5	13.5		1.5	9.8	9.8		
4/7/15			1.5	10.0	7.3	8.6		1.5	12.5	12.6		1.5	9.8	9.7		
	1.5	9.5	1.5	10.1	7.4	8.7	13.2	1.3	12.5	12.4		1.3	9.8	9.7		
	1.5	9.4	1.5	3.7	14.8	8.5	12.5	1.8	11.5	11.5		1.6	9.1	8.5		
4/8/15			1.6	5.1	12.1	8.6		1.6	12.0	12.1		1.7	8.6	8.5		
	1.5	9.3	1.5	0.5	12.0	12.5	13.0	1.6	12.5	12.5		1.5	9.0	9.0		
	1.5	9.3	1.6	1.2	11.4	11.7	12.2	1.5	12.4	12.3		1.6	9.2	9.2		
4/9/15			1.6	1.9	11.9	10.4		1.5	11.5	11.4		1.6	9.3	9.2		
	1.4	9.4	1.6	2.0	13.1	11.0	11.0	1.5	11.0	11.0		1.6	8.8	8.8		
	1.4	9.5	1.5	2.0	12.9	11.0	11.0	1.5	11.0	11.0		1.6	8.8	8.8		
4/10/15			1.7	2.0	13.1	10.8		1.6	11.0	11.0		1.5	8.7	8.9		
	1.4	9.5	1.7	3.0	13.0	10.8	10.7	1.6	11.0	11.0		1.5	8.8	8.8	39.7	
	1.4	9.5	1.6	3.0	13.0	10.9	10.9	1.4	11.3	11.4		1.5	8.8	8.8	40.1	
4/11/15			1.5	2.9	12.9	9.6		1.3	11.3	11.2		1.5	8.7	8.7		
	1.4	9.6	1.7	3.1	13.1	9.6	9.5	1.3	11.3	11.5		1.4	8.9	8.9	37.6	
	1.4	9.6	1.6	3.1	13.0	9.5	9.4	1.3	11.3	11.1		1.6	8.6	8.7	40.1	
AVG:	1.4	9.5	1.6	No criteria	10.7	10.6	11.8	1.5	12.1	12.1	No criteria	1.5	9.2	9.1	39.4	

Fishways are inspected twice daily plus one SCADA inspection. Spill started Apr 10 for juvenile passage.



Water velocity and multibeam survey at the forebay east fish ladder exit for emergency auxiliary water supply April 9 and 10.