

The Dalles Dam Fishway Status Report

8/29/2015

Inspection Period: 8/23/2015 - 8/29/2015

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: 0.0 F
			Comments		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'	Average	1.4	
Entrance weir N1	0	depth (≥ 8')	Average	9.4	
Entrance weir N2	0	Closed	Bulkhead installed.		
PUD Intake differential	1	≤ 0.5'	OOC at 0.6'		
EAST FISHWAY					
Exit differential	0	≤ 0.5'			
Removable weirs 154-157	0	Per forebay	Auto adjusts 1' increments.		
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	12.1	Weir pulled to achieve criteria with low tailwater
East entrance differential	0	1.0' - 2.0'	Average	1.5	
Entrance weir E1	0	No criteria	Average	No criteria; manually adjusted as needed.	
Entrance weir E2	0	depth (≥ 8')	Average	12.0	
Entrance weir E3	0	depth (≥ 8')	Average	12.0	
Collection channel velocity	0	1.5 - 4 fps	Average	3.1	
Transportation channel velocity	0	1.5 - 4 fps	Average	2.8	
North channel velocity	0	1.5 - 4 fps	Average	2.3	
South channel velocity	0	1.5 - 4 fps	Average	3.3	
West entrance differential	0	1.0' - 2.0'	Average	1.5	
Entrance weir W1	0	depth (≥ 8')	Average	11.3	
Entrance weir W2	0	depth (≥ 8')	Average	11.3	
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	8.5	
Entrance weir S2	1	depth (≥ 8')	Average	8.4	OOC at 7.6'
JUVENILE PASSAGE					
Sluiceway operation	1	Units 1, 8, 18	Sluiceways 1-1,2,3, 8-1,2, and 18-2 open.		MU 1 OOS MU 2 running instead
Turbine trashrack drawdown	0	<1.5', wkly	Range: 0-0.4'		
Spill volume	0	40%±1%	Average	39.9	
Spill Pattern	0	per FPP			
Turbine Unit Priority	3	per FPP	T4 line outage on 8/25		
Turbine 1% Efficiency	0	per FPP			

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

Bird observation data collected once daily. Refer to Avian Zone Map. No sea lion sightings.

Operations:

Turbine trashrack drawdown completed 8/29. Forebay/gatewell differential in criteria.

Fishway calibration completed 8/27, most values within criteria

Current Outages:

T8 (MU15 & MU16) de-rated to 85MW ops through 9/14/2017.

MU19 out of service 8/3/2015 to 9/17/2015 for overhaul and Turbine Integrity Testing.

T10 out of service 8/10/2015 to 8/20/2015 for Transformer testing.

T10 and MU20 return to service 8/20/15.

T4 out of service (MU7, MU8) 8/17/2015 for disconnect maintenance, returned 8/17/2015.

Maintenance:

Vertical Barrier Screen found in gatewell of main unit 19 from testing in the early 1990s. All were thought to be removed. Efforts are being made to remove during this months overhaul maintenance. ROV inspection is planned for the remaining units to verify no more remaining.

Three failed collection channel dewatering pumps being repaired.

Two new water sensor units being purchased to replace east exit systems for improved reliability. Installation this winter.

FCQ7 electrical panel for east exit upgrade funding in place and awaiting contracting approval. Installation planned for next outage season.

Purchasing new dewatering pump motor for north fishway entrance.

Investigating cost for 154 -157 weir replacement through project labor.

Preparing workload for upcoming winter maintenance period; entrance weir wheel replace, entrance weir guide repair, exit sensor upgrades.

Long Term repair plans; removal/permanent closure of collection channel diffusers, repair north failed diffusers,

Fish related /non-fish funded items; spillway evaluation, spillway crane rehab, spillgate 9 trunnion pin replace, sluiceway chaingate rehab (approx 50% complete), fish unit breaker replace (in planning), and transformer replace (in planning).

All spillway items on Critical Infrastructure list and Unfunded Requirement list. Spill gate 9 repair planning by small projects team stopped.

Studies:

North fishladder rehab study for rock wall 90% DDR review. Plans/Specs 2017. Construction 2017/18. Alternatives to be reviewed by FPOM.

Fish count video at north count station recording / testing underway. Results to be presented at FPOM.

East fishladder backup system construction start this winter. No plan changes.

Crane rail replacement on tailrace and intake 2016-2017. Locations and timing of work being coordinated through FPOM.

Transformer replacement planning underway. Plans to eliminate need for TA transformers with fish unit tie through T1 with redundancy through T3.

Research/Contractors:

Columbia River Northern Pikeminnow Management Program dam angling; Ninety-two pikeminnow over 230mm this week. Year to date catch 4,372.

ODFW collecting biological data from harvested pikeminnow.

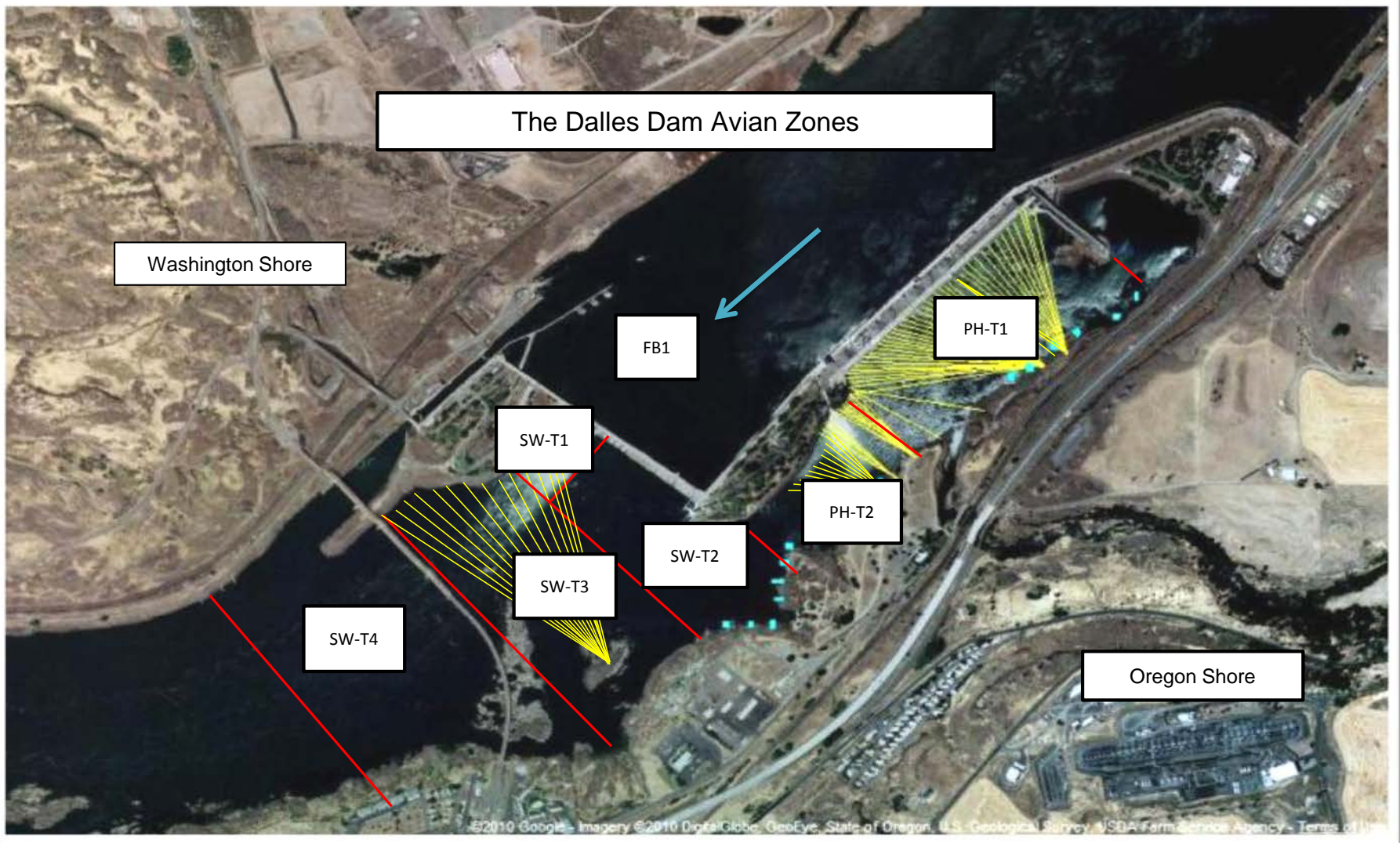
Normandeau fish counters at east and north count stations 16 hr/day through 10/31.

PSMFC Wasco County PUD weekly sampling; finished for season.

Tribal lamprey trapping at count stations completed. Traps removed. Investigating possible improvements for next year.

Approved by: Ron Twiner

Operation Project Manager The Dalles Dam



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

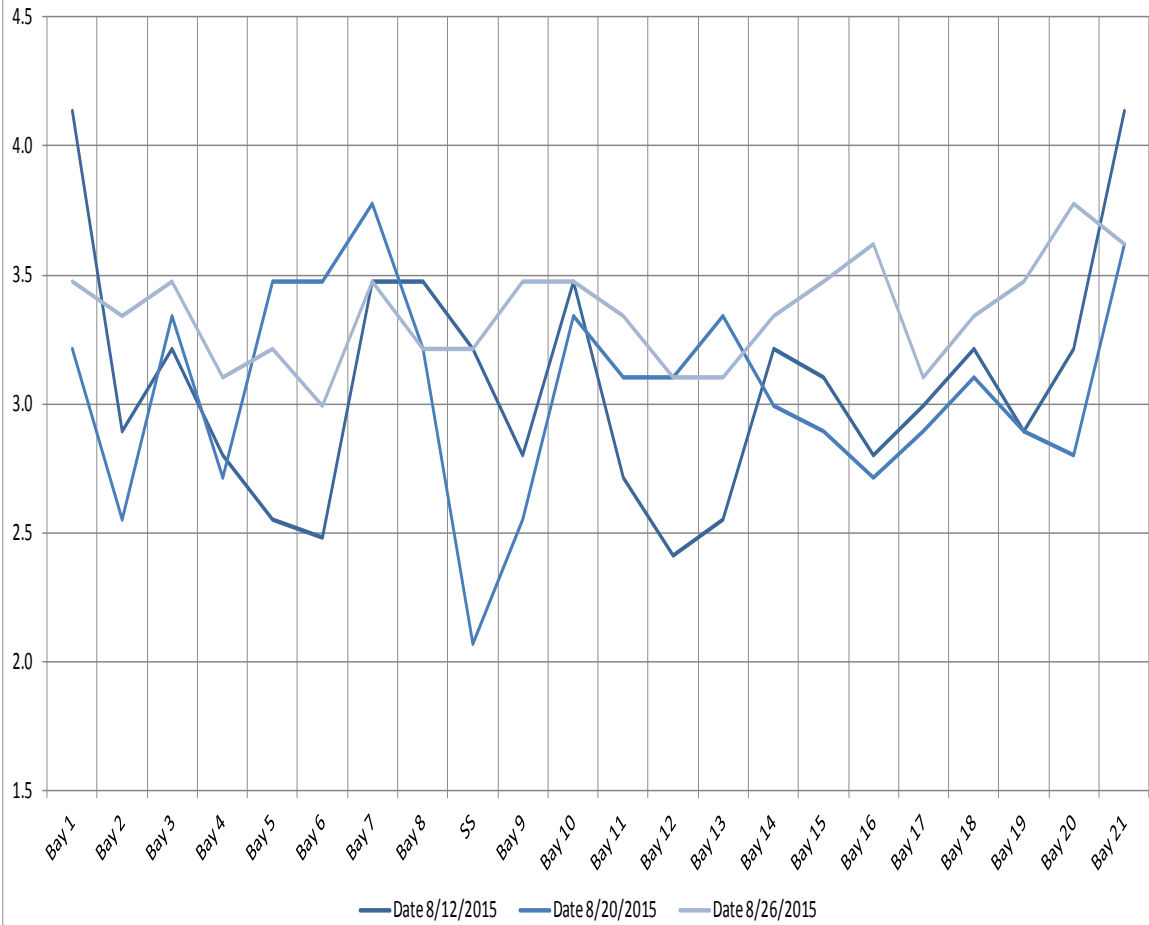
The Dalles East

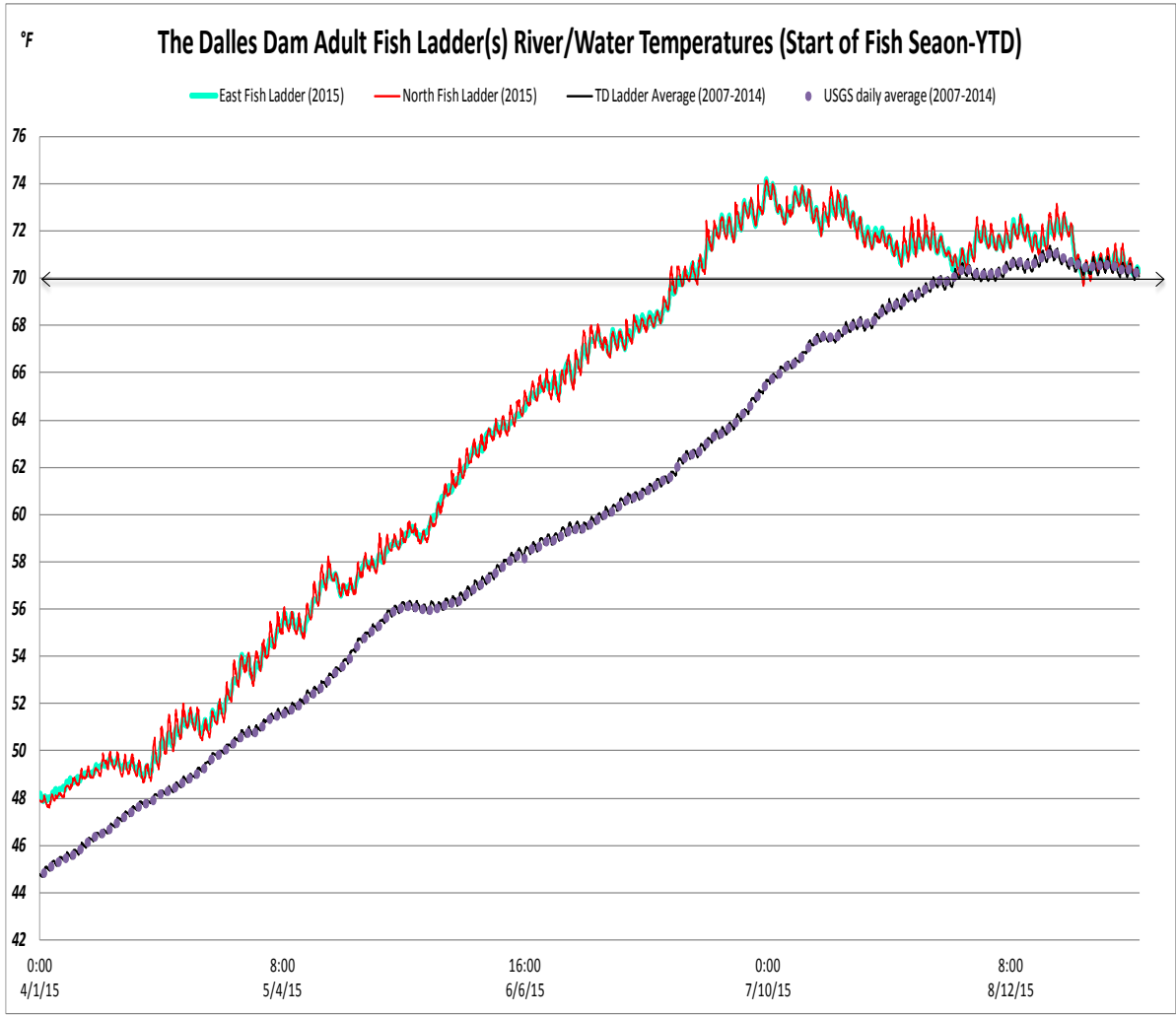
Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink	Lamprey
8/23	25-Dec-05	25-Apr-05	31-Aug-00	22-Feb-03	5-Jan-02	16-Feb-01	10-Jan-00	10-Jan-00	0-Jan-00	5-Feb-00	0-Jan-00	4-Jan-00	13-Feb-00
8/24	10-Jun-04	16-Jan-04	25-May-00	22-Feb-03	31-Dec-01	21-Feb-01	14-Jan-00	10-Jan-00	4-Jan-00	25-Jan-00	0-Jan-00	1-Jan-00	3-Feb-00
8/25	28-May-03	20-Jan-03	7-May-00	8-Feb-02	3-Jun-01	6-Sep-00	5-Feb-00	23-Jan-00	13-Jan-00	13-Jan-00	0-Jan-00	0-Jan-00	31-Jan-00
8/26	30-Jan-05	29-Jun-04	2-Aug-00	19-May-02	19-Jul-01	30-Oct-00	5-Feb-00	31-Jan-00	5-Jan-00	20-Jan-00	0-Jan-00	2-Jan-00	23-Jan-00
8/27	11-Sep-08	30-Dec-07	12-Sep-00	21-Sep-01	21-Mar-01	2-Jul-00	3-Feb-00	17-Jan-00	17-Jan-00	8-Jan-00	0-Jan-00	0-Jan-00	18-Jan-00
8/28	7-Oct-08	30-Nov-07	7-Nov-00	13-Jan-02	7-Jun-01	7-Aug-00	21-Jan-00	14-Jan-00	7-Jan-00	10-Jan-00	0-Jan-00	0-Jan-00	22-Jan-00
8/29	18-Nov-10	18-Dec-09	30-Nov-00	14-Oct-01	2-Mar-01	13-Aug-00	24-Jan-00	19-Jan-00	5-Jan-00	2-Jan-00	0-Jan-00	0-Jan-00	13-Jan-00
total	8-Apr-47	15-Oct-42	23-Jun-04	30-Apr-16	24-Oct-10	7-Jul-05	23-Jun-00	3-May-00	20-Feb-00	23-Apr-00	0-Jan-00	7-Jan-00	3-Jul-00
% North	30.8	31.4	24.2	49.1	49.4	48.4	34.7	36.7	29.2	32.9	0.0	0.0	38.1

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
8/23	18-Mar-01	6-Feb-01	9-Feb-00	30-Jul-02	8-Aug-01	21-Dec-00	14-Jan-00	13-Jan-00	1-Jan-00	12-Jan-00	0-Jan-00	0-Jan-00	31-Jan-00
8/24	1-Aug-01	7-Jun-01	24-Feb-00	1-Nov-02	18-Dec-01	13-Nov-00	0-Jan-00	0-Jan-00	0-Jan-00	7-Jan-00	0-Jan-00	1-Jan-00	11-Jan-00
8/25	20-Aug-01	10-Jul-01	10-Feb-00	1-Jun-02	8-Sep-01	22-Sep-00	2-Jan-00	1-Jan-00	1-Jan-00	16-Jan-00	0-Jan-00	0-Jan-00	22-Jan-00
8/26	23-May-03	10-Mar-03	14-Mar-00	29-Jun-02	27-Jul-01	2-Dec-00	18-Jan-00	8-Jan-00	10-Jan-00	2-Jan-00	0-Jan-00	0-Jan-00	19-Jan-00
8/27	6-Mar-04	2-Dec-03	4-Apr-00	2-Nov-01	25-Mar-01	9-Aug-00	26-Jan-00	22-Jan-00	4-Jan-00	7-Jan-00	0-Jan-00	0-Jan-00	7-Jan-00
8/28	3-Feb-04	25-Oct-03	10-Apr-00	12-Sep-01	29-Jan-01	13-Aug-00	22-Jan-00	18-Jan-00	4-Jan-00	7-Jan-00	0-Jan-00	#####	17-Jan-00
8/29	6-Dec-04	13-Aug-04	24-Apr-00	10-Nov-01	26-May-01	16-Jun-00	11-Jan-00	10-Jan-00	1-Jan-00	5-Jan-00	0-Jan-00	0-Jan-00	7-Jan-00
total	12-Jan-21	10-Aug-19	4-Jun-01	23-Sep-15	18-Jul-10	7-Mar-05	2-Apr-00	12-Mar-00	21-Jan-00	25-Feb-00	0-Jan-00	0-Jan-00	23-Apr-00

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





USGS: <http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/201508.lcol.html>

Temperatures	Secchi:	
70.5	Sun	5.0
70.7	Mon	5.0
70.7	Tue	5.0
70.8	Wed	6.0
70.8	Thurs	6.0
70.6	Fri	5.0
70.5	Sat	5.6
70.6	AVG	5.4

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

= Out of criteria

Date:	North Ladder			East Ladder												% Spill
	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		
8/23			1.5	1.8	12.2	12.2		1.5	11.6	11.6	closed	1.6	8.5	8.4	40.1	
	1.5	9.3	1.5	1.8	12.2	12.2	12.2	1.5	11.5	11.6		1.5	8.6	8.5		
	1.4	9.5	1.4	1.8	12.4	12.4	12.4	1.5	11.6	11.4		1.5	8.5	8.5		
8/24			1.6	1.8	12.2	12.2		1.4	11.6	11.6		1.5	8.6	8.6	39.8	
	1.5	9.4	1.4	1.8	12.6	12.6	12.6	1.5	11.4	11.4		1.5	8.4	8.4		
	1.5	9.3	1.5	0.0	13.0	13.0	13.0	1.6	11.6	11.6		1.5	8.5	8.5		
8/25			1.7	0.0	12.0	12.0		1.4	11.7	11.7		1.5	8.6	8.6	40.0	
	1.4	9.3	1.6	2.0	12.3	12.3	12.3	1.4	11.6	11.6		1.5	8.6	8.6		
	1.5	9.4	1.7	2.0	12.6	12.6	12.6	1.3	11.8	11.8		1.6	8.4	8.3		
8/26			1.6	1.9	11.5	11.5		1.4	11.4	11.4		1.5	8.5	8.5	40.0	
	1.4	9.3	1.5	3.5	11.5	11.5	11.5	1.5	10.9	10.9		1.6	8.4	8.4		
	1.5	9.3	1.5	3.6	12.2	12.2	12.2	1.6	10.9	11.0		1.5	8.5	8.5		
8/27			1.6	3.5	11.5	11.5		1.5	11.0	11.0		1.5	8.4	8.4	39.9	
	1.4	9.3	1.5	3.5	11.8	11.8	11.8	1.5	11.0	11.0		1.5	8.5	8.5		
	1.5	9.4	1.4	3.7	12.2	12.2	12.2	1.5	10.9	10.9		1.4	8.6	8.6		
8/28			1.4	3.6	12.1	12.1		1.6	11.0	11.0	1.4	8.5	7.6	39.9		
	1.1	9.7	1.5	3.5	12.0	12.0	12.0	1.5	11.0	11.0	1.5	8.5	8.5			
	1.4	9.4	1.4	3.5	12.2	12.2	12.2	1.5	11.1	11.1	1.4	8.5	8.5			
8/29			1.6	3.4	11.5	11.5		1.4	11.1	11.1	1.5	8.4	8.4	39.9		
	1.3	9.5	1.5	3.5	11.6	11.6	11.6	1.4	11.0	11.0	1.5	8.5	8.5			
	1.3	9.5	1.6	3.6	11.4	11.4	11.4	1.4	11.1	11.1	1.5	8.5	8.5			
AVG:	1.4	9.4	1.5	No criteria	12.0	12.0	12.1	1.5	11.3	11.3	closed	1.5	8.5	8.4	39.9	

Fishways are inspected twice daily plus one SCADA inspection.