

**Stockton Deep Water Ship Channel (DWSC)
Demonstration Dissolved Oxygen Aeration Facility
February 2010 Monthly Report**

This report includes monthly plots for the Stockton Deep Water Ship Channel (DWSC) Demonstration Dissolved Oxygen (DO) Aeration Facility remote monitoring stations (Navigation Aid (NA) 40, 42, 43 and 48), handheld instrument data, California Data Exchange Center (CDEC) Rough and Ready Island (RRI) station data, and CDEC San Joaquin River at Garwood Bridge (SJG) station data for the month of February 2010. All reported data is provisional and subject to change.

Summary:

The Aeration Facility has not been operated for testing and evaluation since October 26th, 2009. The average monthly DO levels at all monitoring stations for February were above the California Regional Water Quality Control Board (RWQCB) San Joaquin River Basin Plan minimum water quality objective, for DO of 5.0 mg/L from December 1st through August 31st. The monthly average DO concentrations ranged from approximately 7.88 mg/L at RRI to 8.21 mg/L at NA48 for February. Minimum 15-minute DO concentrations recorded for all monitoring stations were above the 5.0 mg/L minimum water quality objective (see Table1).

Data recorded in February shows no sign of noticeable instrumentation drift. The monthly average remote monitoring station DO concentrations were within 0.03 to 0.33 mg/L of the RRI station data. There is no substantial difference between the DO measurements recorded with the handheld instrument and the remote stations. The monthly average handheld measured DO (at 12 foot depth) and the remote monitoring stations DO values were within -0.22 to -0.55 mg/L of each other.

The average monthly water temperature increased 4.7 degrees Fahrenheit (°F) from 49.7°F to 54.4°F compared to January.

The February monthly average SJG flow was 669 cubic feet per second (cfs). The monthly average flow decreased 172 cfs from the January monthly average flow of 841 cfs.

Figures 1, 2, 3, and 4, and Tables 1 and 2 below present a summary of monthly data, and illustrates the discussion topics above.

Figure 1

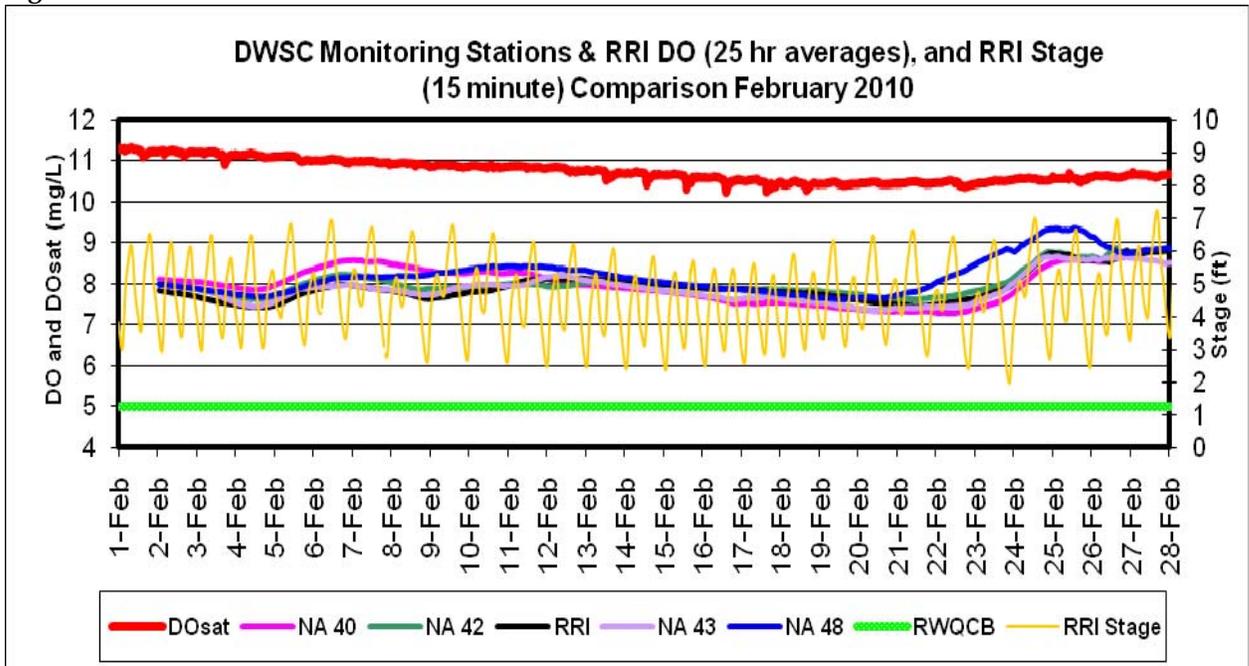


Figure 2

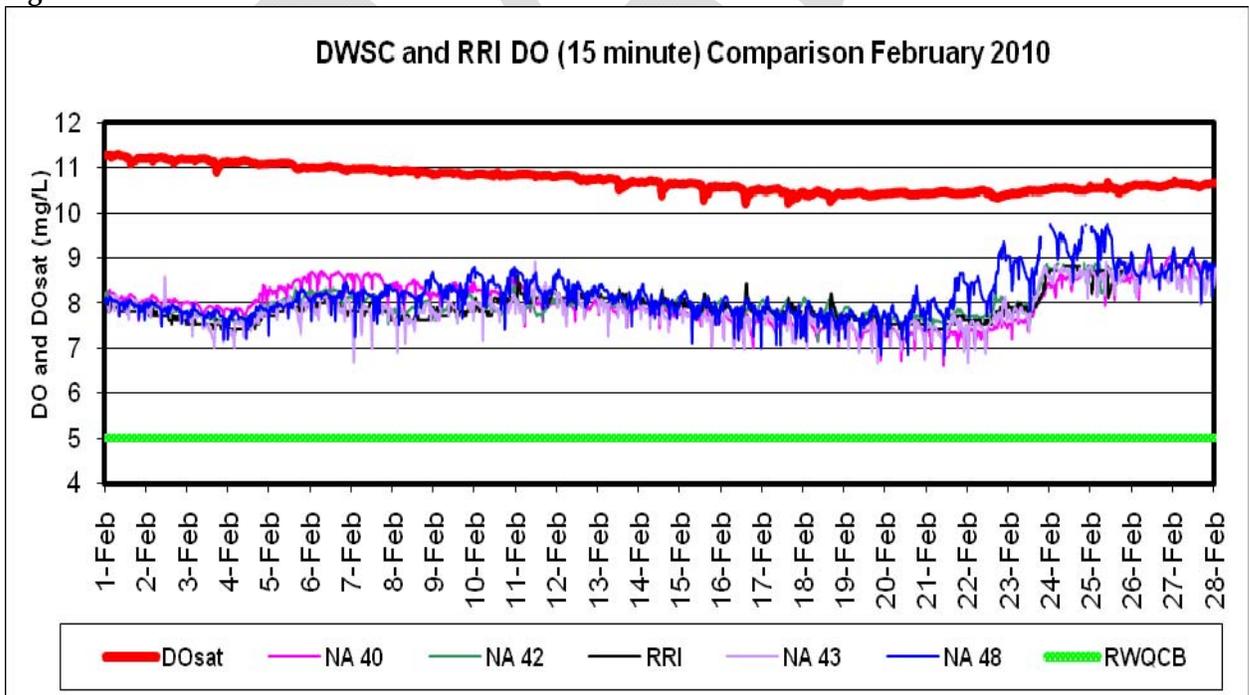


Figure 3

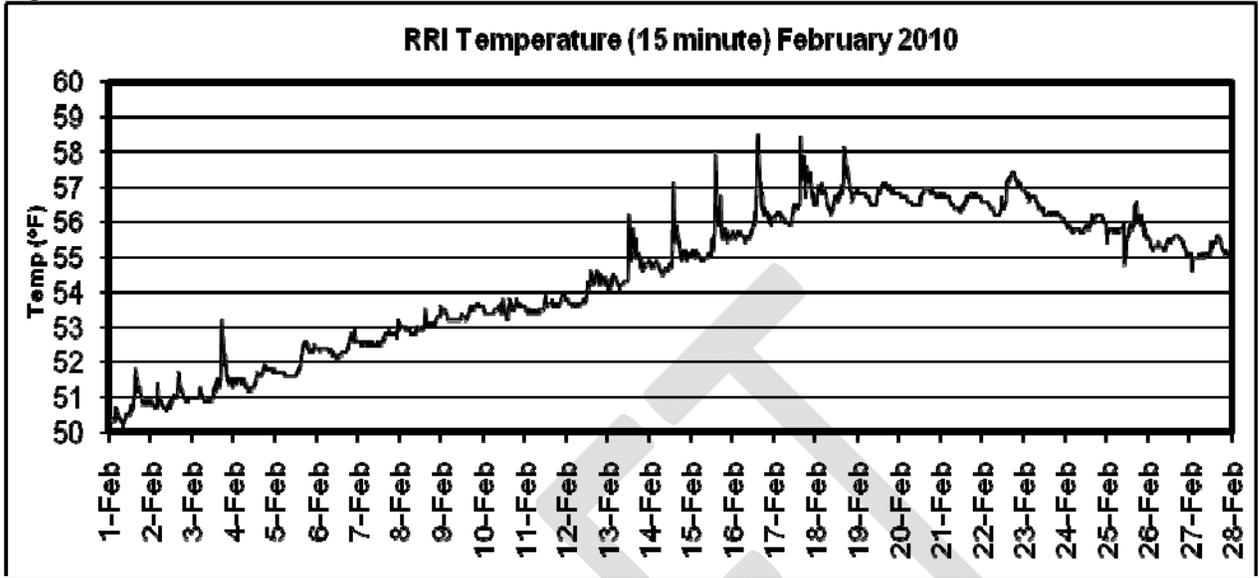


Figure 4

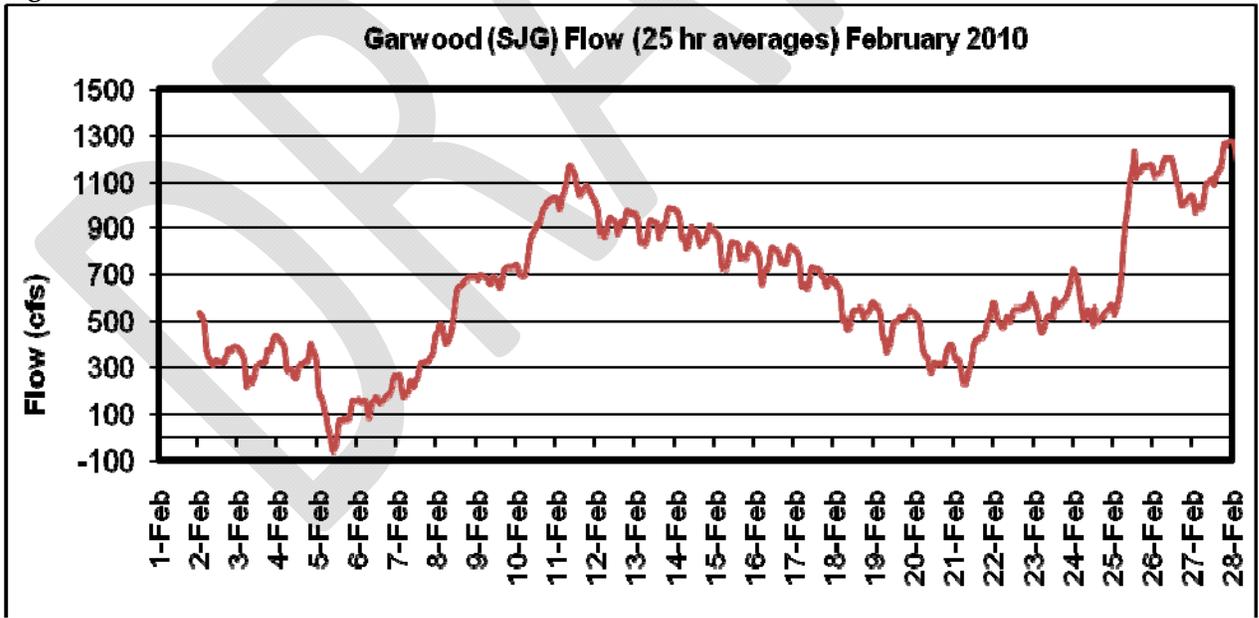


Table 1

YSI Remote Stations and RRI DO ¹ (mg/L) & Temp ¹ (°F)						
Feb-2010						
	RRI ² DO (mg/L)	NA40 DO (mg/L)	NA42 DO (mg/L)	NA43 DO (mg/L)	NA48 DO (mg/L)	RRI Temp (°F)
Monthly DO & Temp Averages	7.88	8.02	7.95	7.91	8.21	54.4
NA Stations and RRI Monthly Average Difference		0.14	0.07	0.03	0.33	
Monthly Min DO	7.30	6.62	7.14	6.66	6.86	
Monthly Max DO	8.80	9.03	8.88	8.91	9.73	
Monthly DO STDEV	0.34	0.47	0.28	0.42	0.48	
Monthly DO Median	7.80	8.02	7.92	7.86	8.13	

¹Z-Score outlier test was applied to remove anomalous recorded values.

²RRI DO data is from 3 foot depth. NA DO data is from 12 foot depth.

Table 2

Handheld DO Measurements @ 12 ft Depth and YSI DO Measurements Comparison					
Feb-2010					
		NA40 DO (mg/L)	NA42 DO (mg/L)	NA43 DO (mg/L)	NA48 DO (mg/L)
Handheld Monthly ³ Averages		8.24	8.23	8.44	8.76
NA Stations and Handheld Monthly Average Difference		-0.22	-0.28	-0.53	-0.55

³Handheld monthly averages are based on the average weekly readings for the month

Additional Aeration Facility Associated Information:

DWSC Aeration Facility Operation

The Aeration Facility was briefly operated without oxygen for a routine monthly system inspection on February 1st, 2010.

Head of Old River Barrier Status

N/A

Port of Stockton Dredging Activity

None

San Joaquin River Flow Changes

The average monthly flow at SJG increased from approximately 500 cfs at the beginning of the month to approximately 1300 cfs at the end of the month due to increased precipitation.

Port of Stockton Dock 19/20 Ship Activity

Days	Arrival	Departure
1	02/01/10	02/1/10

Please provide your feedback concerning our observations as well as your independent observations.