

# CE-QUAL-W2 Model for Lake Murray— Update on Calibration and Applications

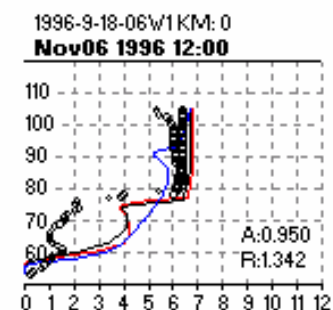
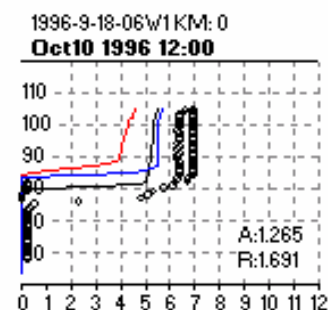
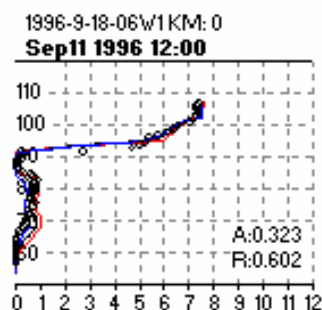
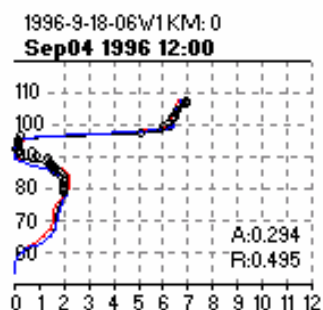
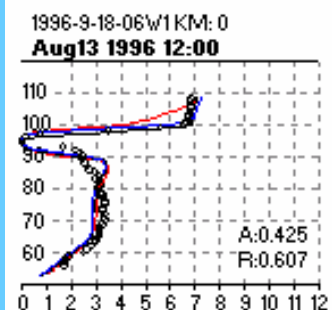
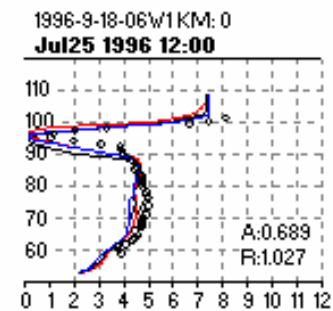
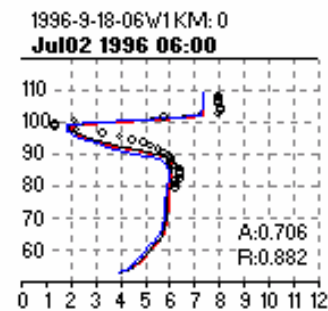
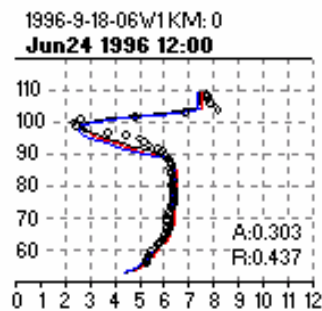
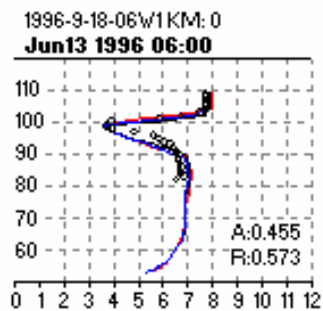
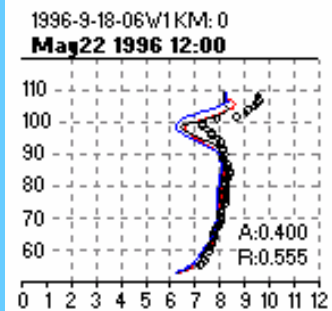
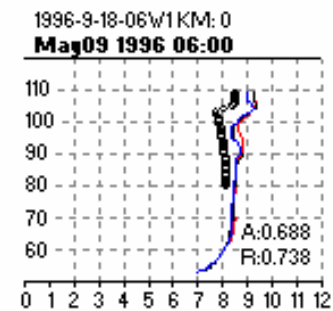
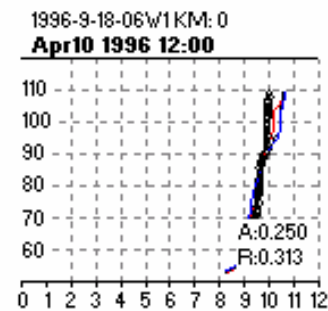
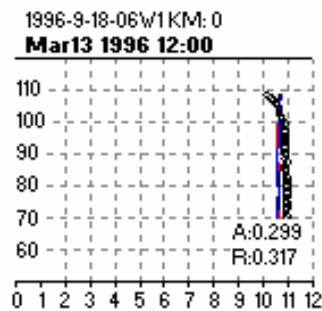
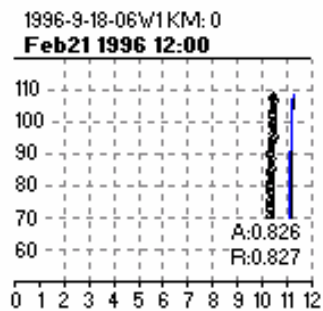
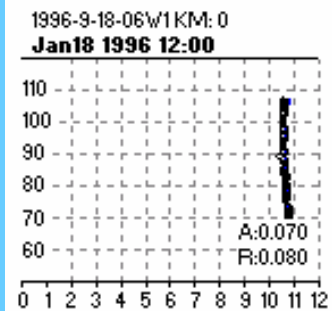
Presented by Andy Sawyer and Jim Ruane

Reservoir Environmental Management, Inc

November 13, 2006

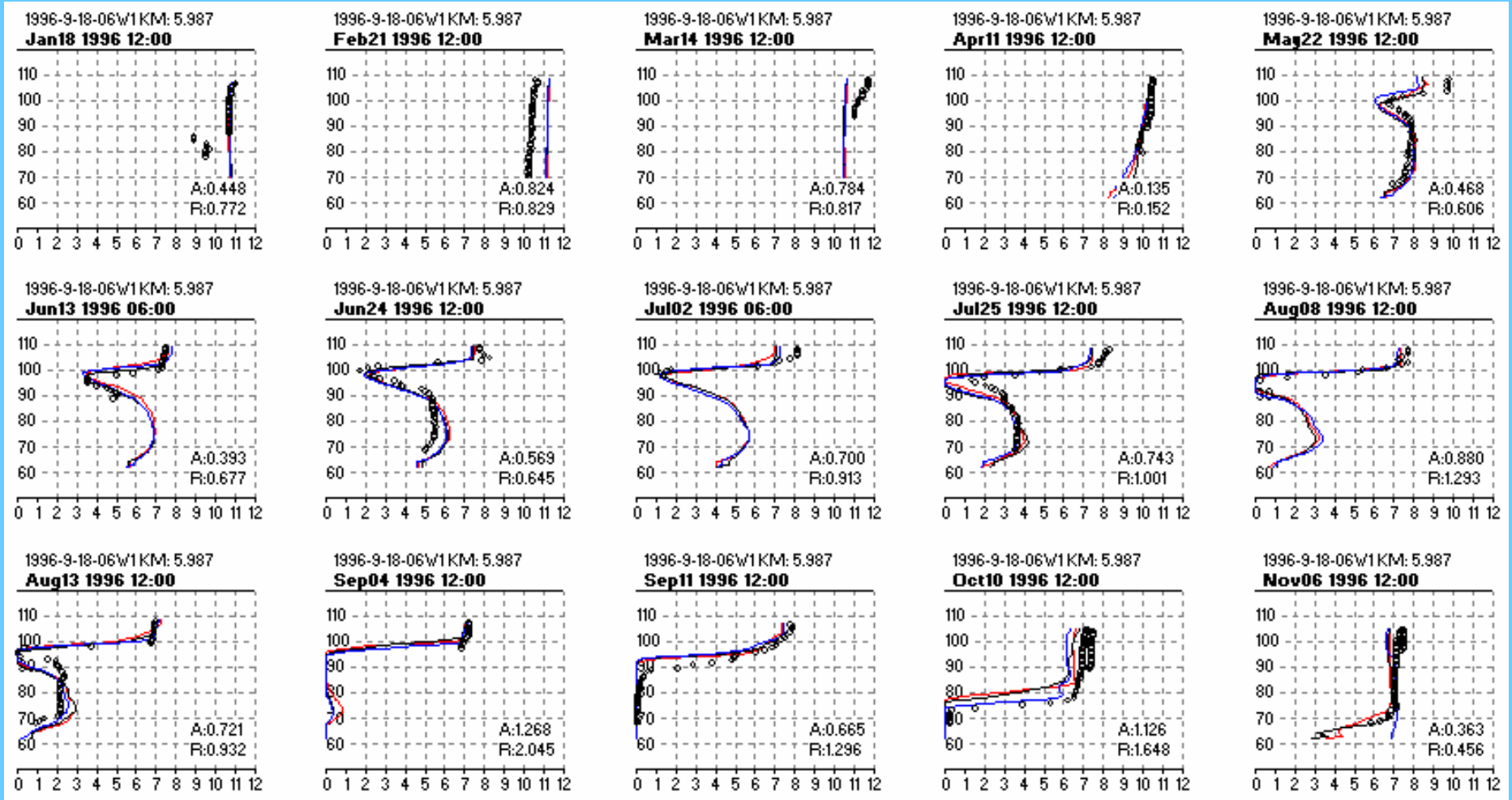
# 1996 Lake Murray Forebay DO Profiles

Model vs. Data [Overall Statistics: ABS = 0.57, RMS = 0.89]



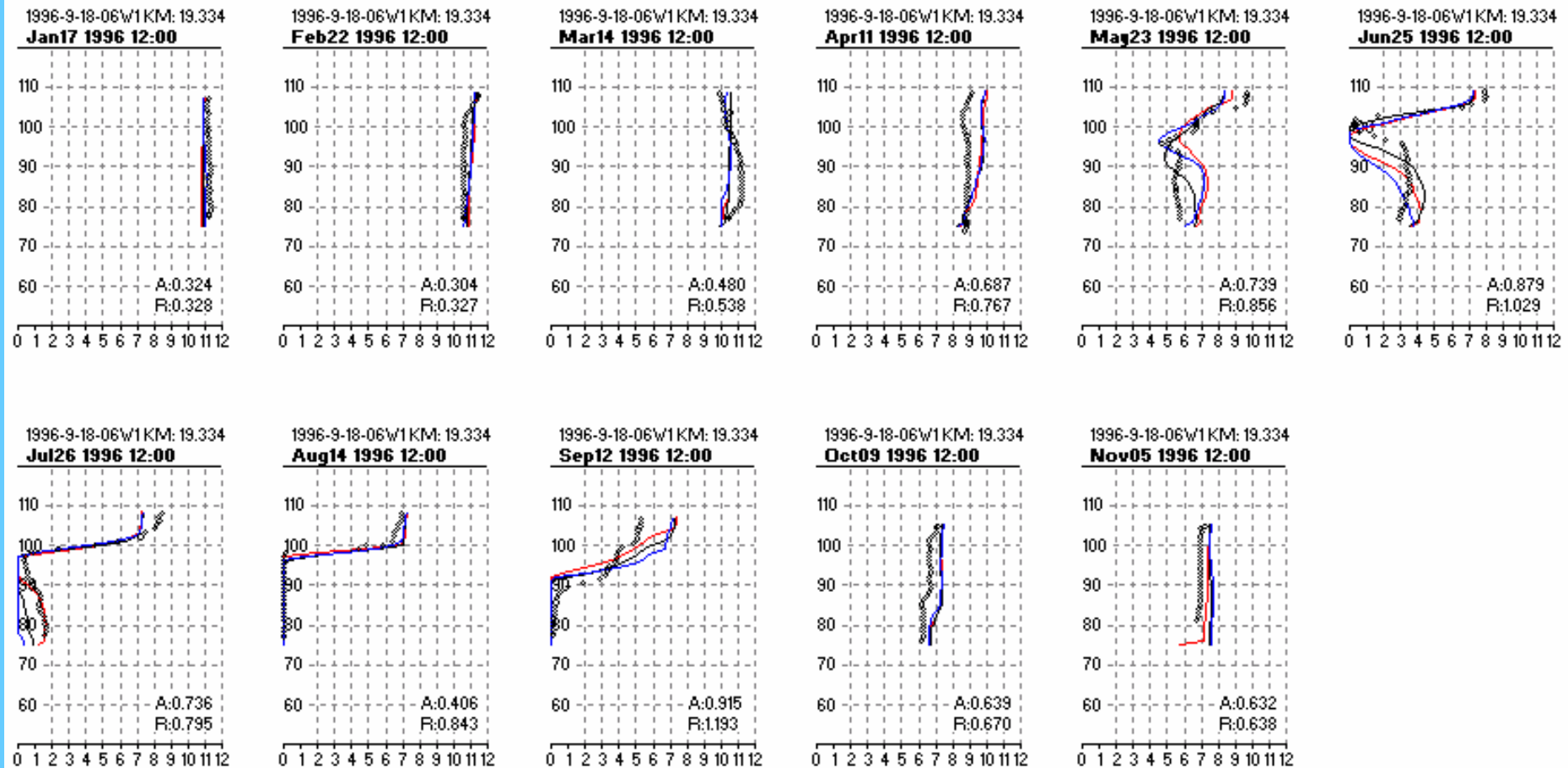
# 1996 Lake Murray DO Profiles – 6 Km Upstream of Dam

Model vs. Data [Overall Statistics: ABS = 0.65, RMS = 1.00]



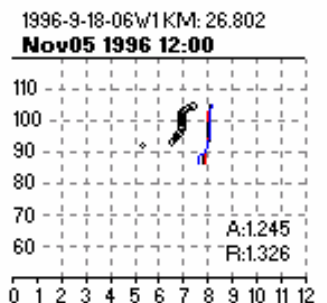
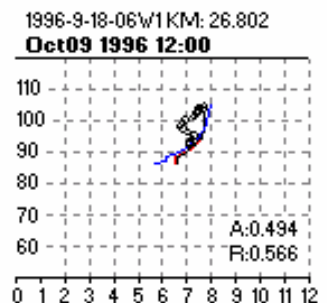
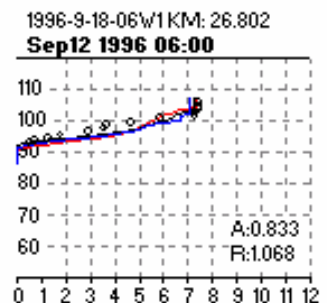
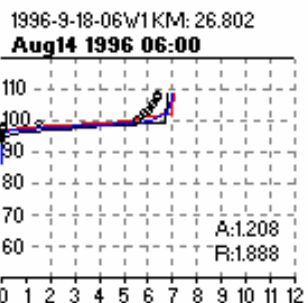
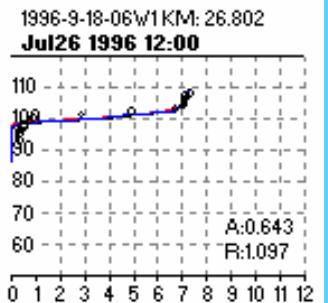
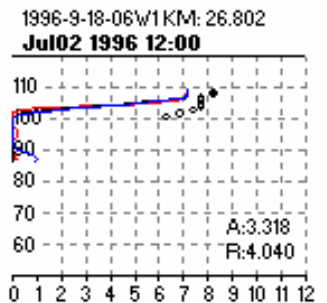
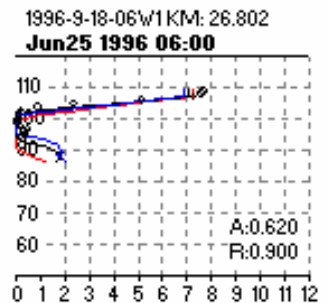
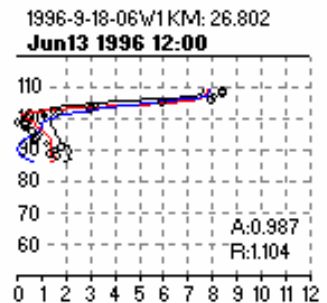
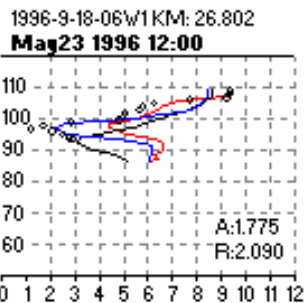
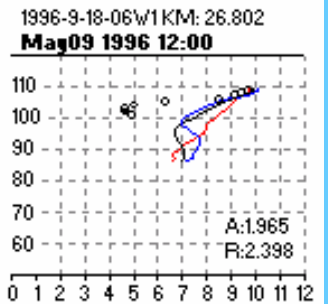
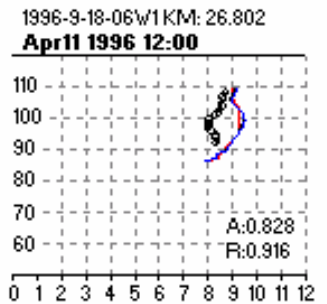
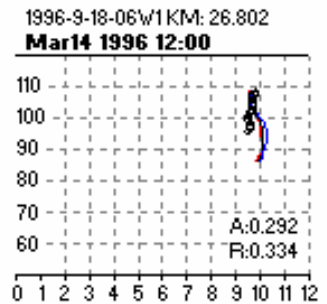
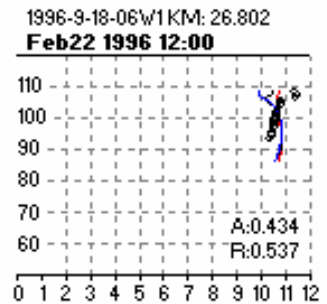
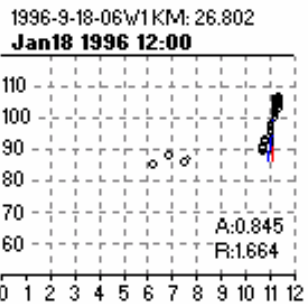
# 1996 Lake Murray DO Profiles – 19 Km Upstream of Dam

Model vs. Data [Overall Statistics: ABS = 0.61, RMS = 0.77]



# 1996 Lake Murray DO Profiles – 27 Km Upstream of Dam

## Model vs. Data [Overall Statistics: ABS = 1.01, RMS = 1.54]



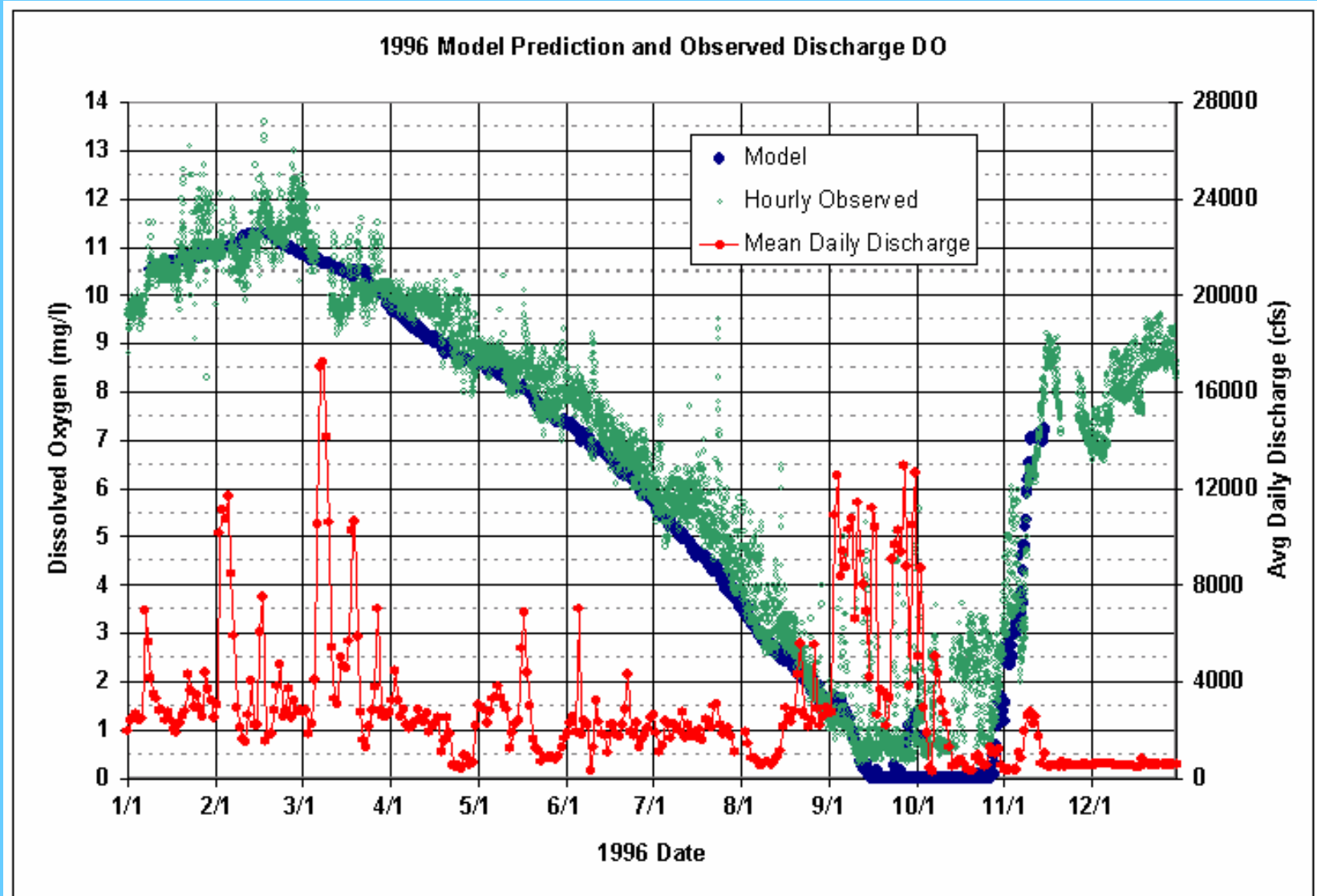
# 1996 Statistics

	Kilometers From Dam									
	0.0		6		19		27		Overall	
	AME	RMS	AME	RMS	AME	RMS	AME	RMS	AME	RMS
Temperature	0.49	0.67	0.57	0.80	0.63	0.84	0.94	1.28	0.66	0.90
DO	0.56	0.86	0.86	1.21	0.56	0.75	0.68	0.99	0.67	0.95

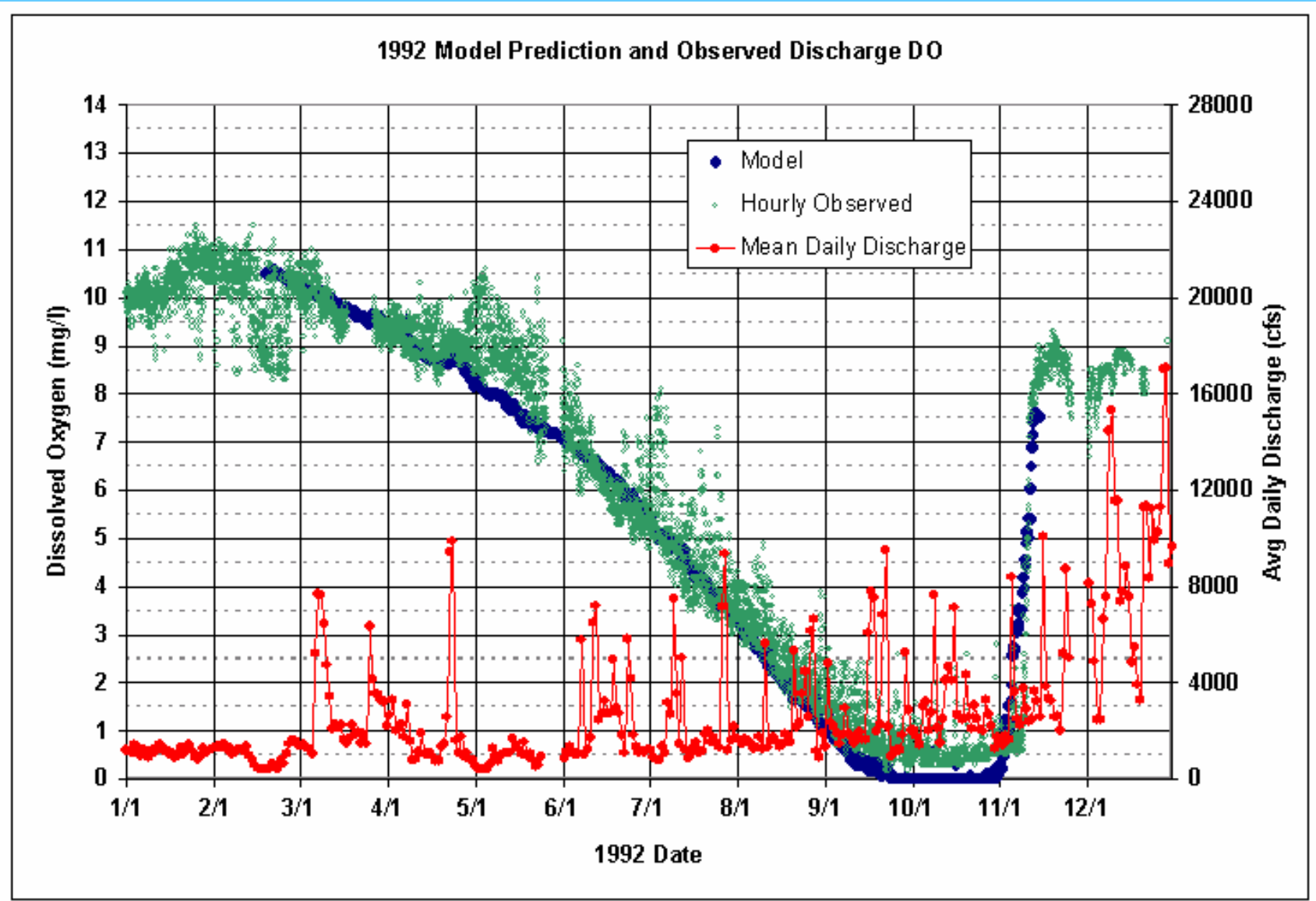
## 1996 DO

Date	Julian Day	Kilometers From Dam									
		0.0		6.0		19.3		26.8		Average	
		AME	RMS	AME	RMS	AME	RMS	AME	RMS	AME	RMS
1/17-18	17-18	0.07	0.08	0.45	0.77	0.32	0.33	0.85	1.66	0.42	0.71
2/21-22	52-53	0.83	0.83	0.82	0.83	0.30	0.33	0.43	0.54	0.60	0.63
3/13-14	73-74	0.30	0.32	0.78	0.82	0.48	0.54	0.29	0.33	0.46	0.50
4/10-11	101-103	0.25	0.31	0.14	0.15	0.69	0.77	0.83	0.92	0.48	0.54
5/9-10	130-131	0.69	0.74	0.47	0.61			1.97	2.40	1.04	1.25
5/22-23	143-144	0.40	0.56	0.39	0.68	0.74	0.86	1.78	2.09	0.83	1.04
6/13	165	0.46	0.57	0.57	0.65			0.99	1.10	0.67	0.77
6/24-25	176-177	0.30	0.44	0.70	0.91	0.88	1.03	0.62	0.90	0.63	0.82
7/2	184	0.71	0.88	0.74	1.00			3.32	4.04	1.59	1.97
7/25-26	207-208	0.69	1.03	0.88	1.29	0.74	0.80	0.64	1.10	0.74	1.05
8/13-14	226-227	0.43	0.61	0.72	0.93	0.41	0.84	1.21	1.89	0.69	1.07
9/4	248	0.29	0.50	1.27	2.05					0.78	1.27
9/11-12	255-257	0.32	0.60	0.67	1.30	0.92	1.19	0.83	1.07	0.68	1.04
10/9-10	283-284	1.27	1.69	1.13	1.65	0.64	0.67	0.49	0.57	0.88	1.14
11/5-6	310-311	0.95	1.34	0.36	0.46	0.63	0.64	1.25	1.33	0.80	0.94
Overall		0.57	0.89	0.65	1.00	0.61	0.77	1.01	1.54	0.65	1.00

# 1996 Comparison of Modeled versus Measured Saluda Release DO

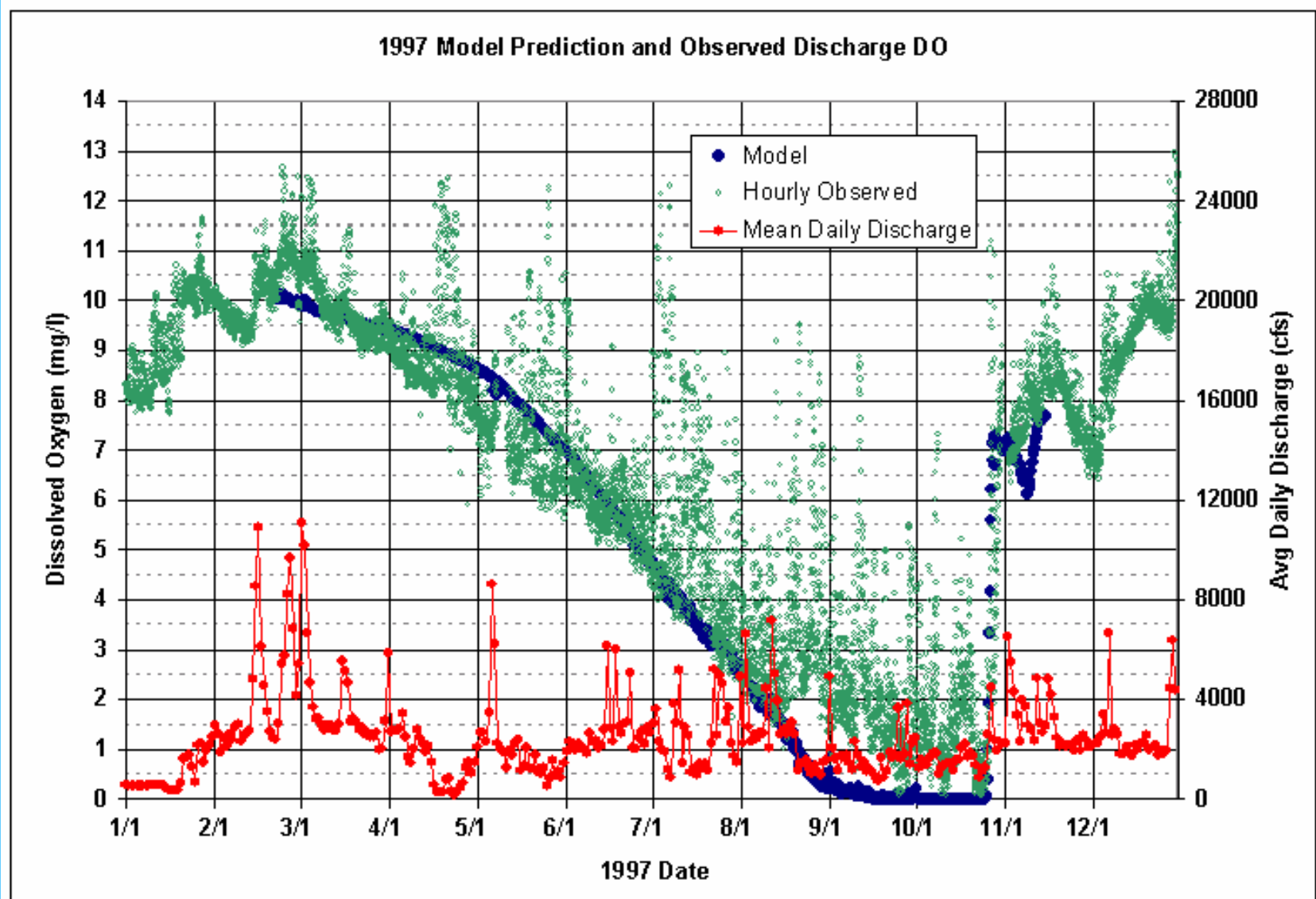


# 1992 Comparison of Modeled versus Measured Saluda Release DO



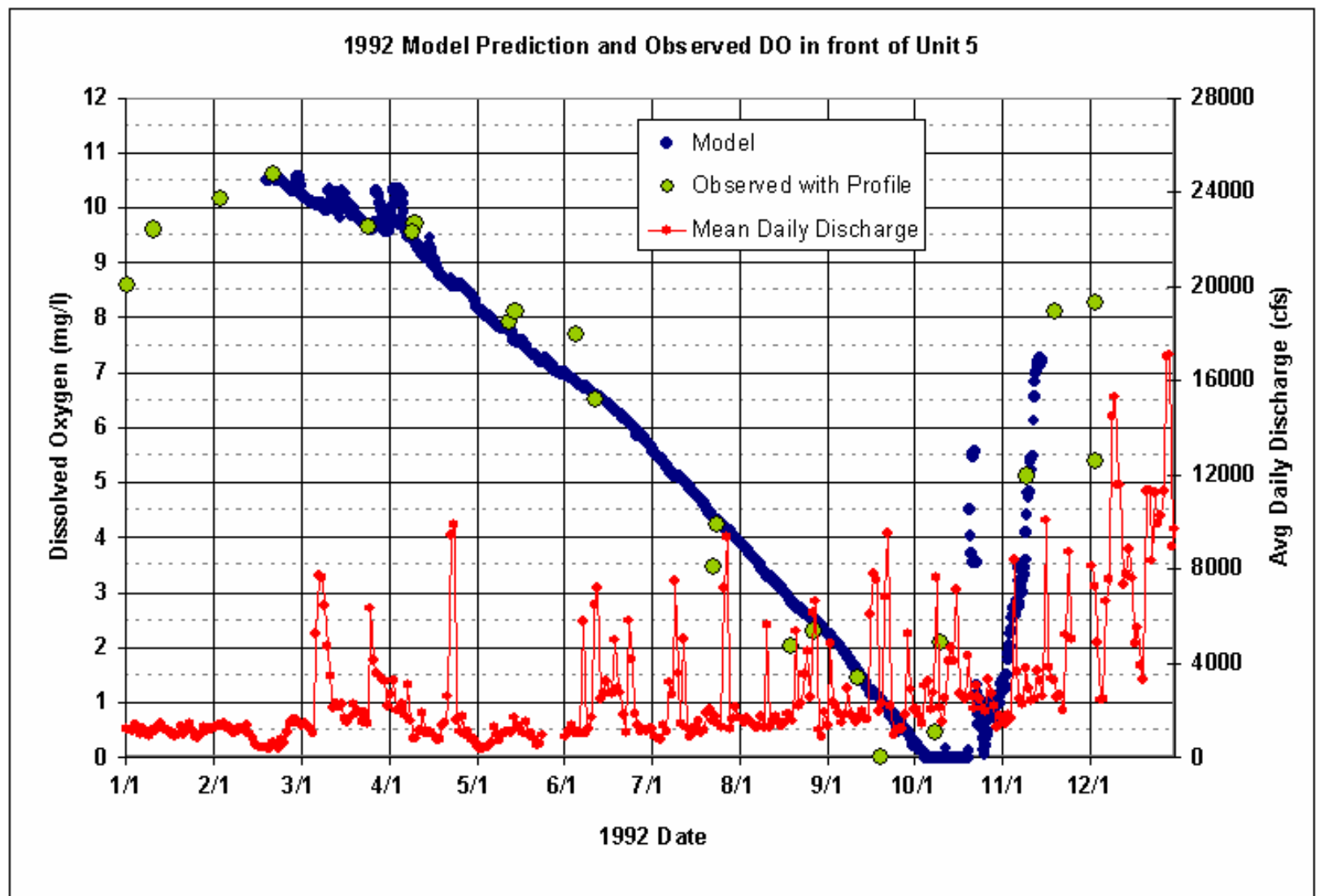


# 1997 Comparison of Modeled versus Measured Saluda Release DO

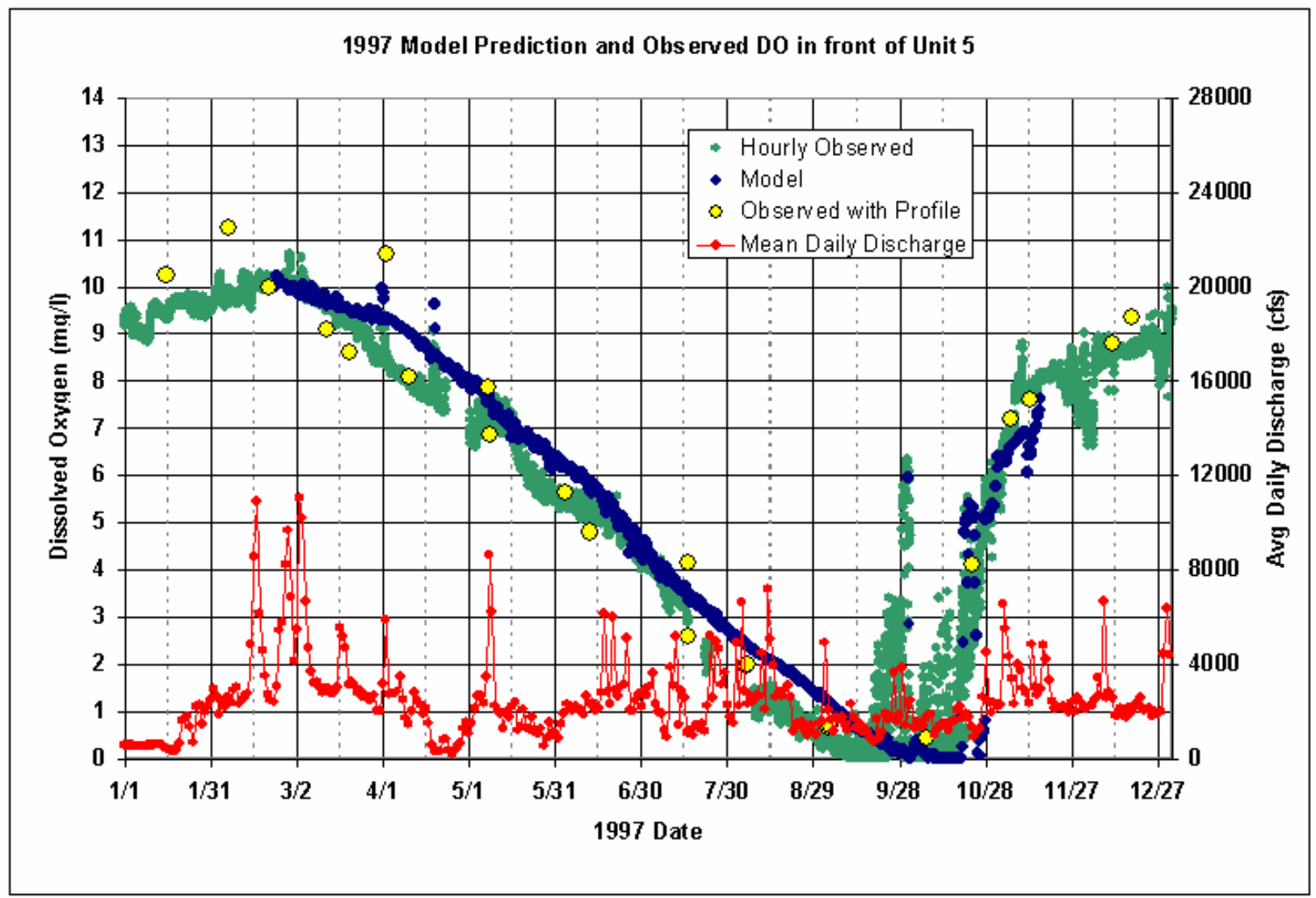


# 1996 Modeled versus Measured DO at the level of the Unit 5 Intake

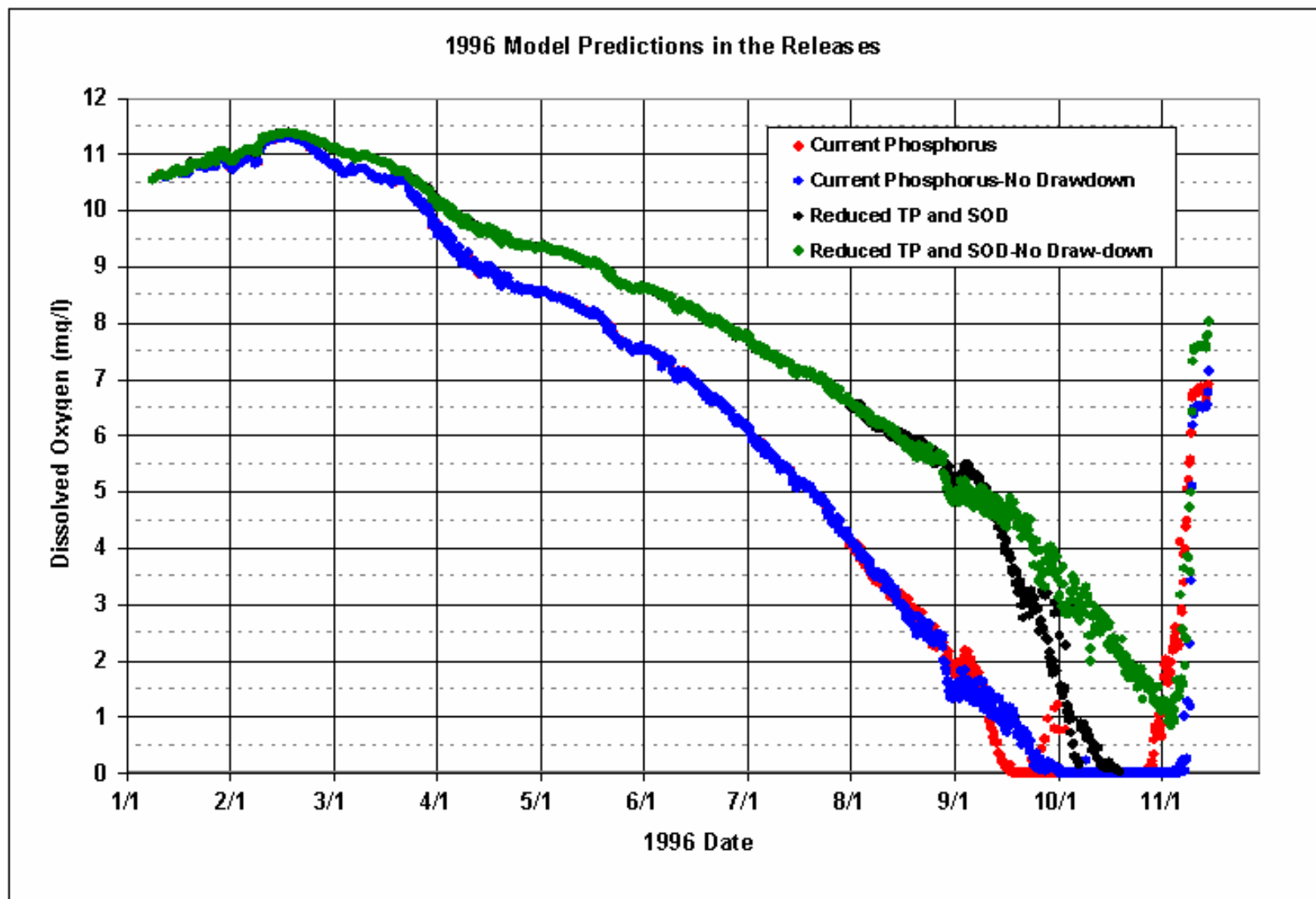
# 1992 Modeled versus Measured DO at the level of the Unit 5 Intake



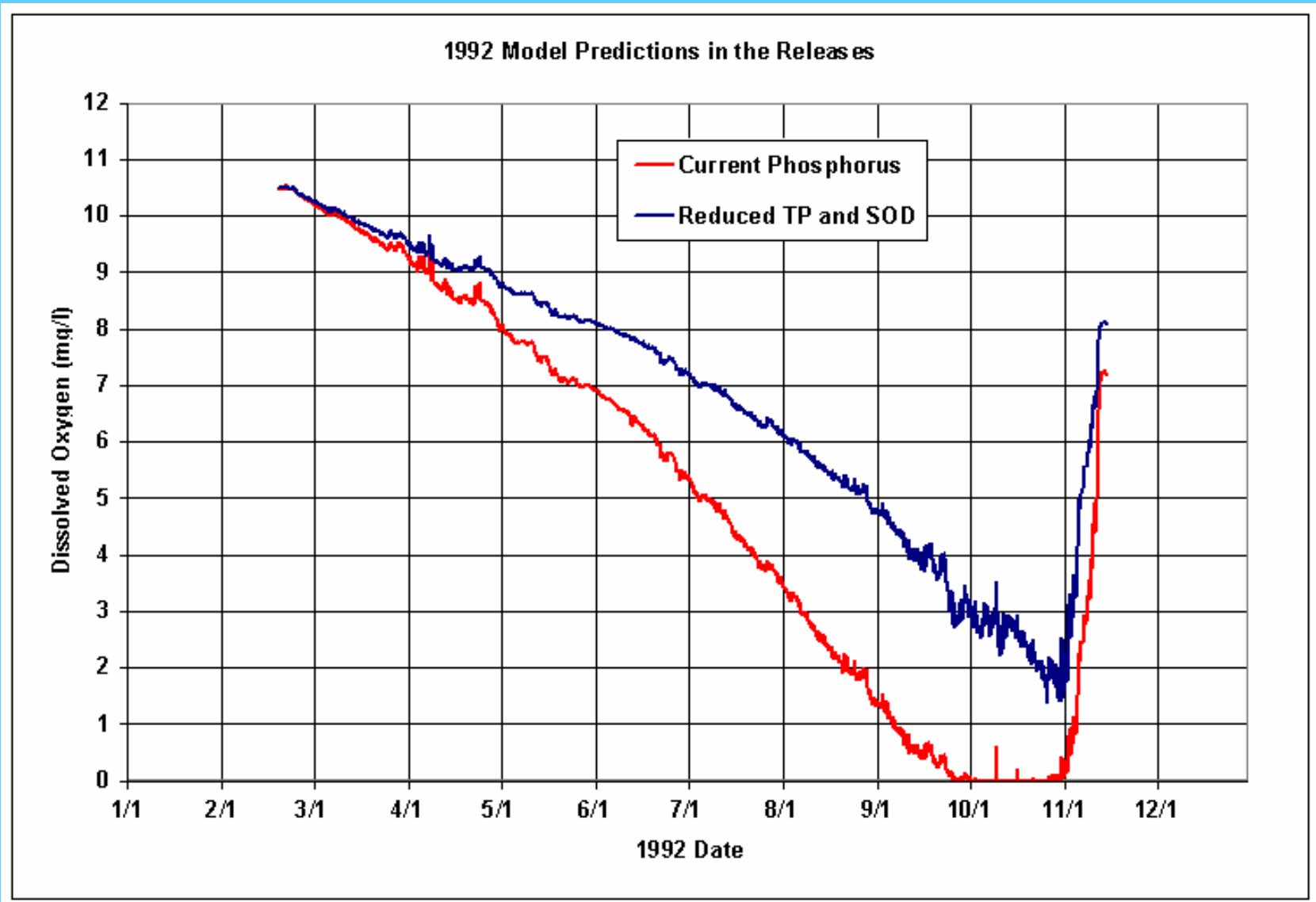
# 1997 Modeled versus Measured DO at the level of the Unit 5 Intake



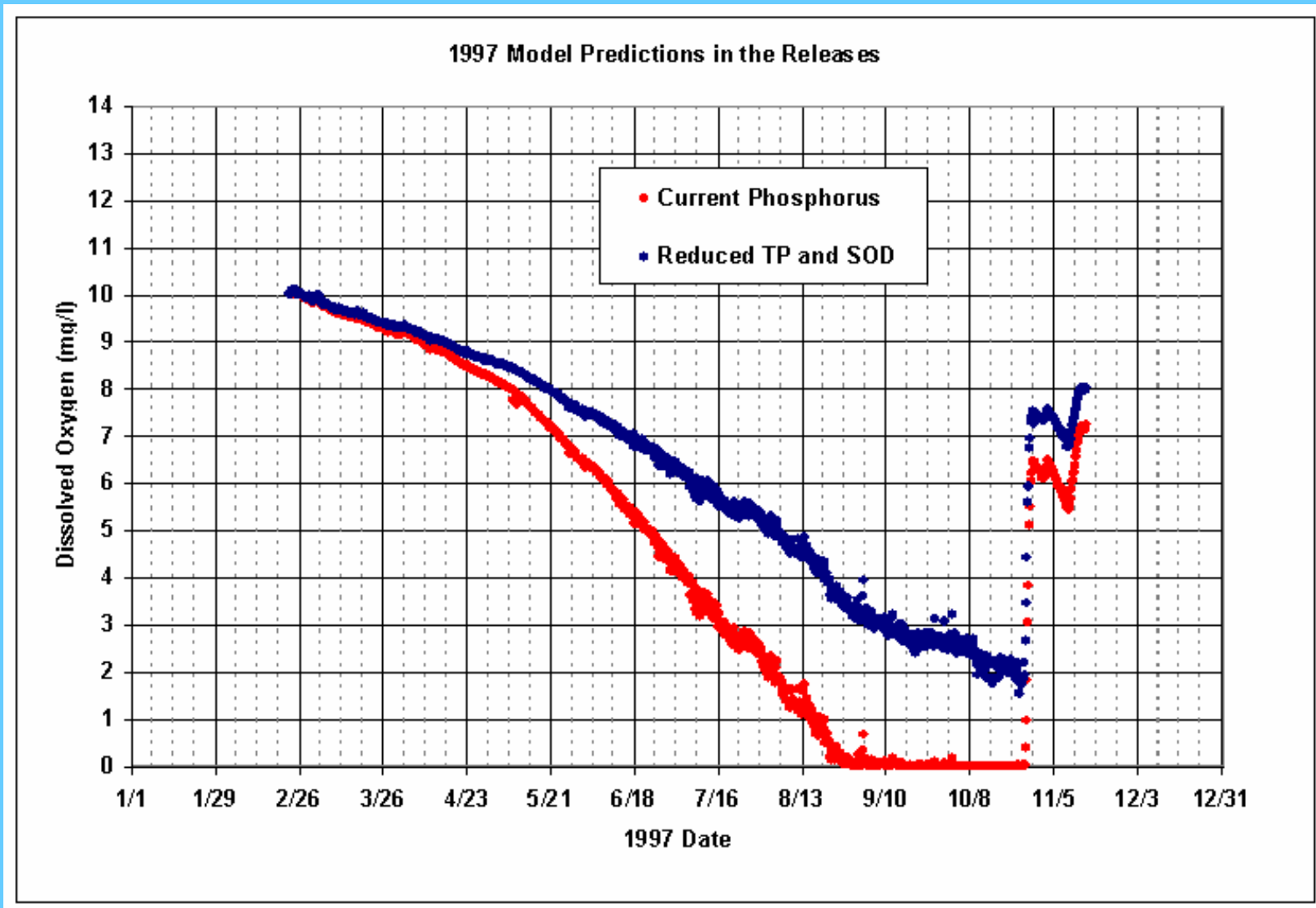
# 1996 Discharge DO for Current and Reduced Phosphorus, and without the Special Drawdown



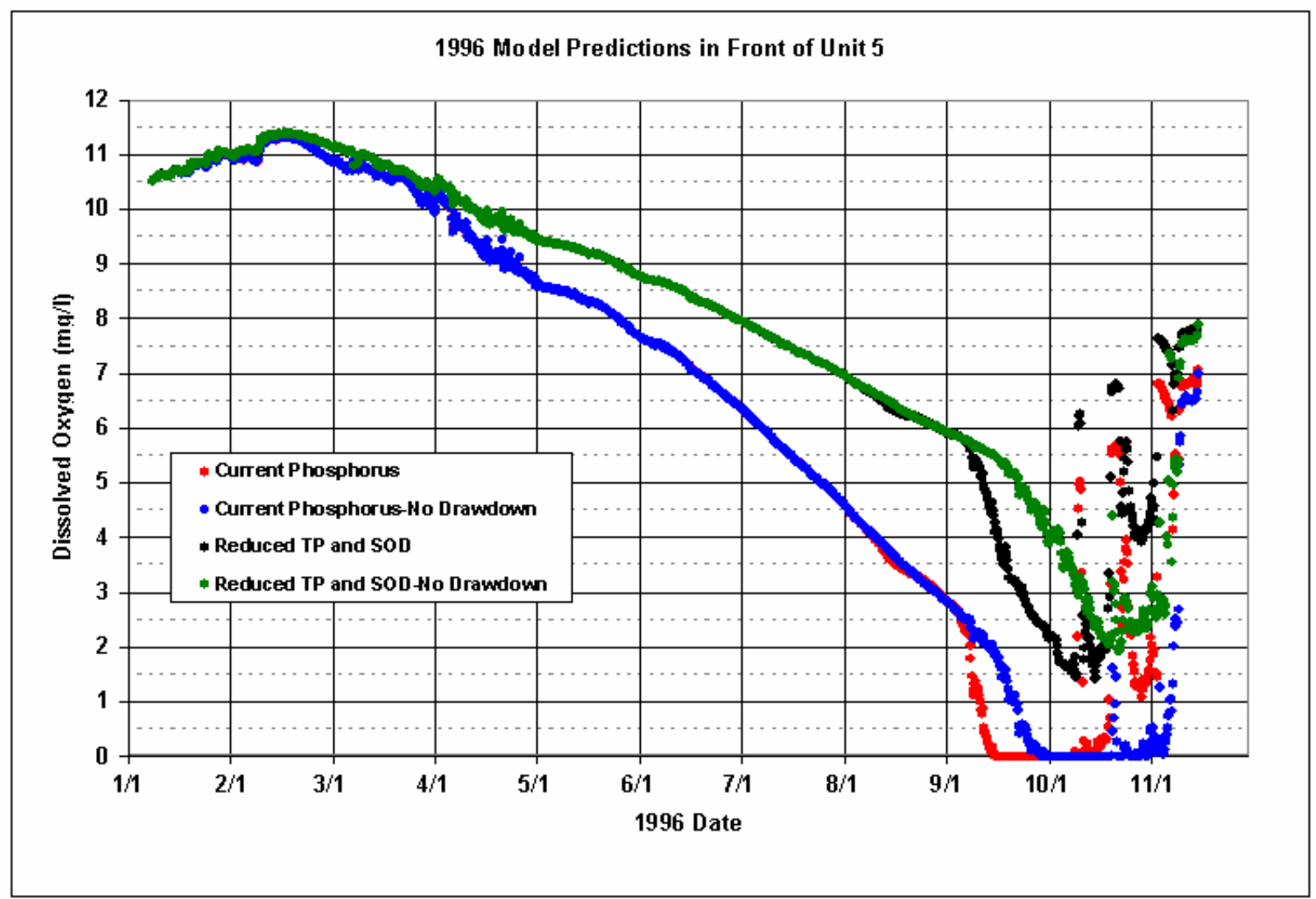
# 1992 Discharge DO for Current and Reduced Phosphorus



# 1997 Discharge DO for Current and Reduced Phosphorus

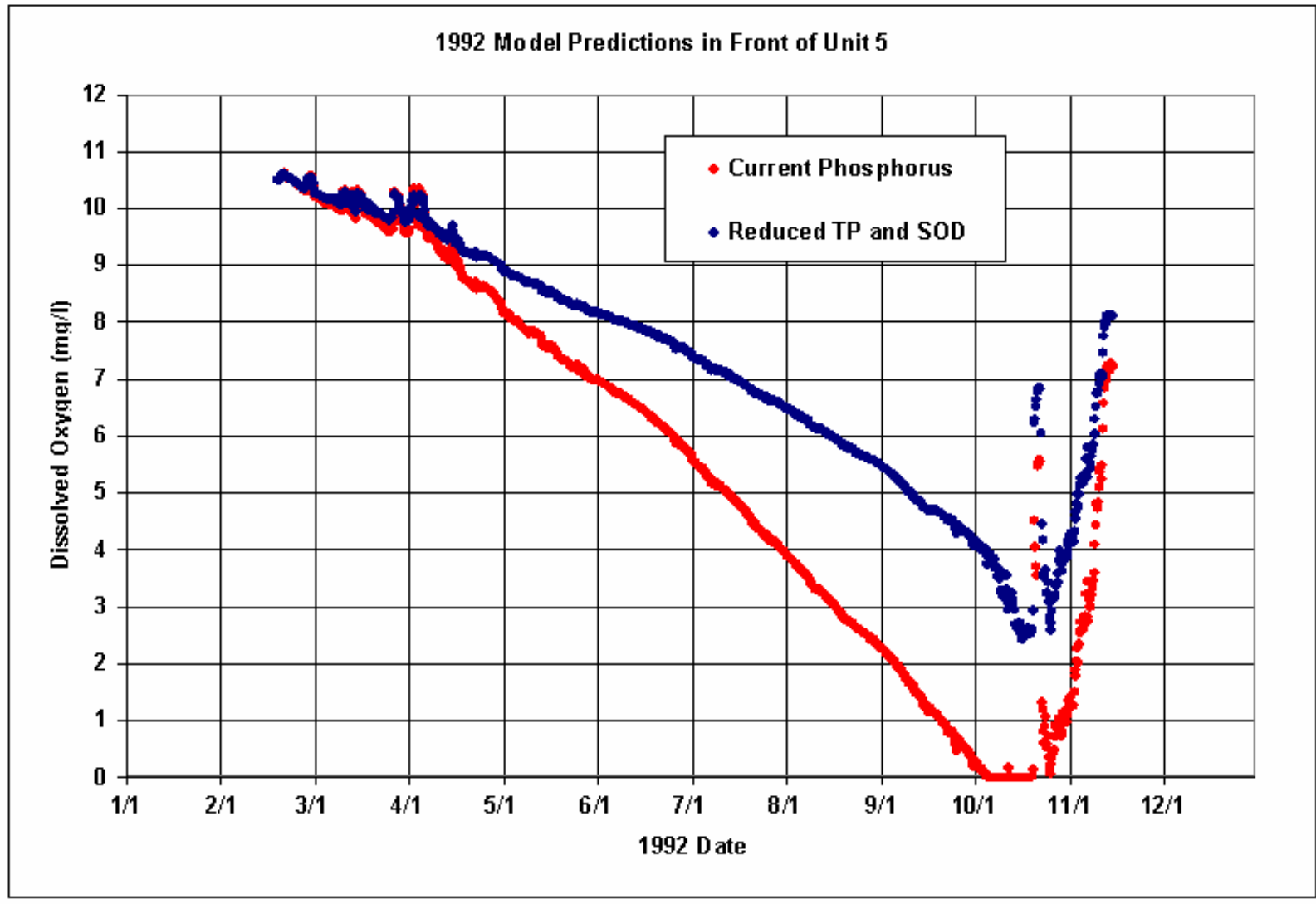


# 1996 DO at the Elevation of the Unit 5 Intake for Current and Reduced Phosphorus, and without the Special Drawdown

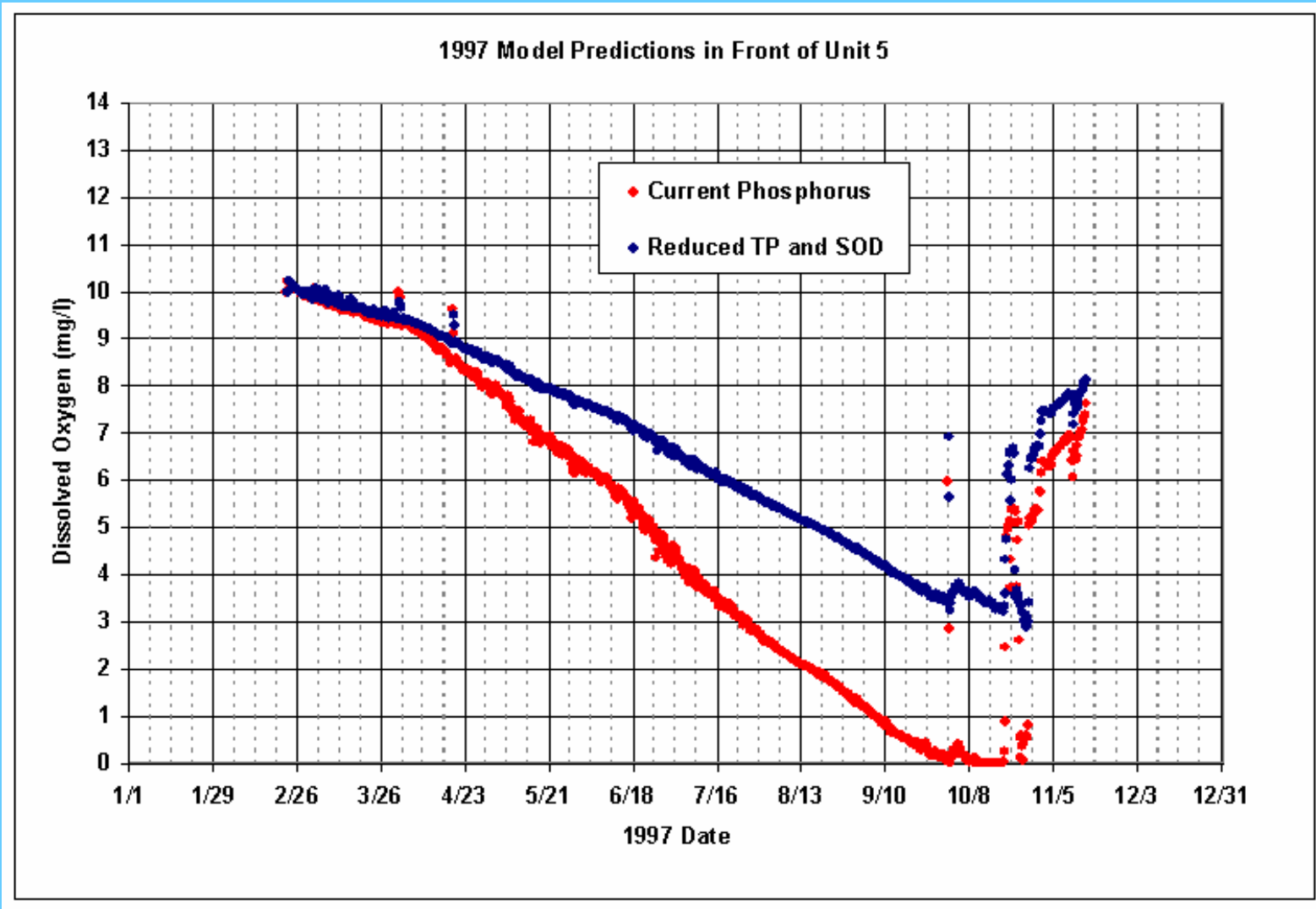




# 1992 DO at the Level of the Unit 5 Intake for Current and Reduced Phosphorus



# 1997 DO at the Level of the Unit 5 Intake for Current and Reduced Phosphorus



The End