
SABINE RIVER AUTHORITY OF TEXAS

TO: INTERESTED PARTIES
FROM: ENVIRONMENTAL SERVICES DIVISION
RE: JULY 2002 MONTHLY WATER QUALITY REPORT

This is the Sabine River Authority Water Quality Summary for July 2002. Water quality sampling was performed July 9th through July 11th. Recent weather in the Basin was hot with air temperatures in the 90s during the daytime and lows in the 70s at night. The Upper Basin received 3.13 – 3.34 inches of rainfall during the 28 days since the previous sample run as recorded at Lake Tawakoni and Lake Fork respectively. Toledo Bend and Orange received 3.11 and 5.90 inches respectively during the 28 days preceding the sample run. Reservoir profiles indicated stratification of the water column with a distinct thermocline in each reservoir. Samples were taken at all sites for total and dissolved metals in water, and sediment samples were collected at selected sites. Data for metals will be available at a later date pending completion of laboratory analyses.

UPPER SABINE BASIN ABOVE TOLEDO BEND INCLUDING LAKE FORK AND LAKE TAWAKONI

For the July sample run, most of the parameter's values seen at the Upper Basin sites were consistent with water of high quality. The most recent rain was 0.34 inches at Lake Tawakoni and 0.60 inches at Lake Fork six days prior to the first sample date. Surface water temperatures were between 26.5° and 31.5° C. All sites met stream standards for *E. coli*. Four reservoir sites exceeded stream standards for pH. These sites also had elevated chlorophyll *a* and had high dissolved oxygen. Elevated chlorophyll *a* with high dissolved oxygen indicates algal bloom conditions and this combination may lead to elevated pH levels. Algal blooms may be caused by natural conditions or by anthropogenic addition of nitrogen compounds, usually by runoff from fertilized lawns or agricultural operations. Sites on both Lake Fork and Lake Tawakoni had algal blooms and did not have significant levels of available nitrate/nitrite or orthophosphate. The algal bloom and resulting high pH levels are attributed to natural conditions of high water temperature and good water clarity. Surface temperatures near the dams at Lake Tawakoni and Lake Fork were 27.8° and 29.1° C respectively. Bottom temperatures at the same sites were 14.1 and 20.6 C respectively. Both reservoirs were thermally stratified.

SABINE RIVER AUTHORITY OF TEXAS: MONTHLY WATER QUALITY REPORT

LOWER SABINE BASIN INCLUDING TOLEDO BEND TO MORGAN BLUFF

The July monthly sampling results were indicative of water of high quality at most sites. The last significant rainfall occurred over seven days prior to the sampling event. The level of Toledo Bend Reservoir was recorded around 171 feet with no discharge from the spillway gates at the time of sampling, although the generator was operating (July 2002 Generating Schedule: Unit 1 only, 13 hours/day, Monday – Saturday, 10:00 AM – 11:00 P.M; Unit 2 was in a planned outage due to renovation). All lake sites were well stratified with all of the stations showing anoxic conditions at the deepest depths. Stations TB6N and TB6M had oxygen levels that were below the stream standard and station BA4 had a sulfate result that was above the stream standard. Station TB6K also had a pH value that was just slightly above the stream standard.

TIDAL SECTION OF THE SABINE BASIN BELOW MORGAN BLUFF

Stations sampled in the tidal portion of the Sabine Basin had values that were consistent with water of high quality at most sites. The area had only a slight amount of rain in the week prior to sampling. All sites were stratified with respect to dissolved oxygen, but all sites were well mixed with respect to temperature. Surface salinities were found at all but one of the four tidal stations. Station ICW1 recorded a value of 2 ppt, BB1 had a value of 4 ppt, and SRT1 had a value of 4 ppt at the surface. The highest salinity value of 9 ppt was recorded at station SRT1 at a depth of 9 meters. All values recorded in this section of the Basin were within their stream standard.

This Report and additional data for these monitoring stations are available on our World Wide Web site (www.sra.dst.tx.us). If you have any questions or comments concerning this report, please contact:

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SABINE RIVER AUTHORITY OF TEXAS

Monthly Water Quality Report

July 2002

Table of Contents

Upper Sabine Basin

FY2002 Fixed Monitoring Stations	1
Surface Report	2
Profile Report.....	9
<i>Lake Tawakoni (near the dam)</i>	10
<i>Lake Fork (near the dam)</i>	11
Weather, River, and Reservoir Data	12
<i>Lake Tawakoni</i>	12
<i>Lake Fork</i>	14

Lower Sabine Basin

FY2002 Fixed Monitoring Stations	17
Surface Report	18
Profile Report.....	25
<i>Toledo Bend (at Pendleton Bridge)</i>	26
<i>Toledo Bend (above the dam)</i>	27
Weather, River, and Reservoir Data	28
<i>Toledo Bend</i>	28
<i>Burkeville</i>	30
<i>Bon Wier</i>	32
<i>Ruliff</i>	34

Tidal Sabine Basin

FY2002 Fixed Monitoring Stations	37
Surface Report	38
Profile Report.....	42
Weather, River, and Reservoir Data	43
<i>Orange</i>	43

Appendix

FY 2002 Fixed Monitoring Station Maps	
Upper Basin	45
Lower Basin.....	46

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FY2002 Fixed Monitoring Stations

Upper Sabine Basin

<i>SW</i>	<i>Segment</i>	<i>Station</i>	<i>Location</i>
7.00	0507	10440 (LT23C)	LAKE TAWAKONI NR WIND POINT PARK
7.00	0507	10435 (LT23D)	LAKE TAWAKONI IN KITSEE INLET NEAR WHITE POINT CAUSEWAY
7.00	0507	10434 (LT23A)	LAKE TAWAKONI IN THE MAIN LAKE NEAR THE DAM
6.12	0512	10461 (LF3)	LAKE FORK RESERVOIR MID-ARM IN CANEY CREEK ARM AT FM 515
6.12	0512	10462 (LF4)	LAKE FORK RESERVOIR MID-COVE IN LAKE FORK CREEK ARM AT FM515
6.12	0512	10458 (LF2)	LAKE FORK RESERVOIR NEAR DAM IN CREEK CHANNEL
6.10	0515	10469 (LF20)	LAKE FORK CREEK AT US 80
6.02	0514	10467 (BS18)	BIG SANDY CREEK AT US 80
6.00	0506	17065 (SR22)	SABINE RIVER AT FM 17 (SR22)
6.00	0506	10430 (SR21)	SABINE RIVER AT US 69
6.00	0506	10429 (SR19)	SABINE RIVER AT SH 14 S. OF HAWKINS
5.00	0505	10428 (SR17)	SABINE RIVER AT US 271
5.00	0505	10427 (SR16)	SABINE RIVER AT SH 42
5.00	0505	10426 (SR15)	SABINE RIVER AT US 259
5.00	0505	10423 (SR14)	SABINE RIVER AT SH 149
5.00	0505	13628 (SR11)	SABINE RIVER AT US 59
5.00	0505	10415 (SR10)	SABINE RIVER AT FM 2517

SABINE RIVER AUTHORITY OF TEXAS

Upper Sabine Basin Report

July 2002

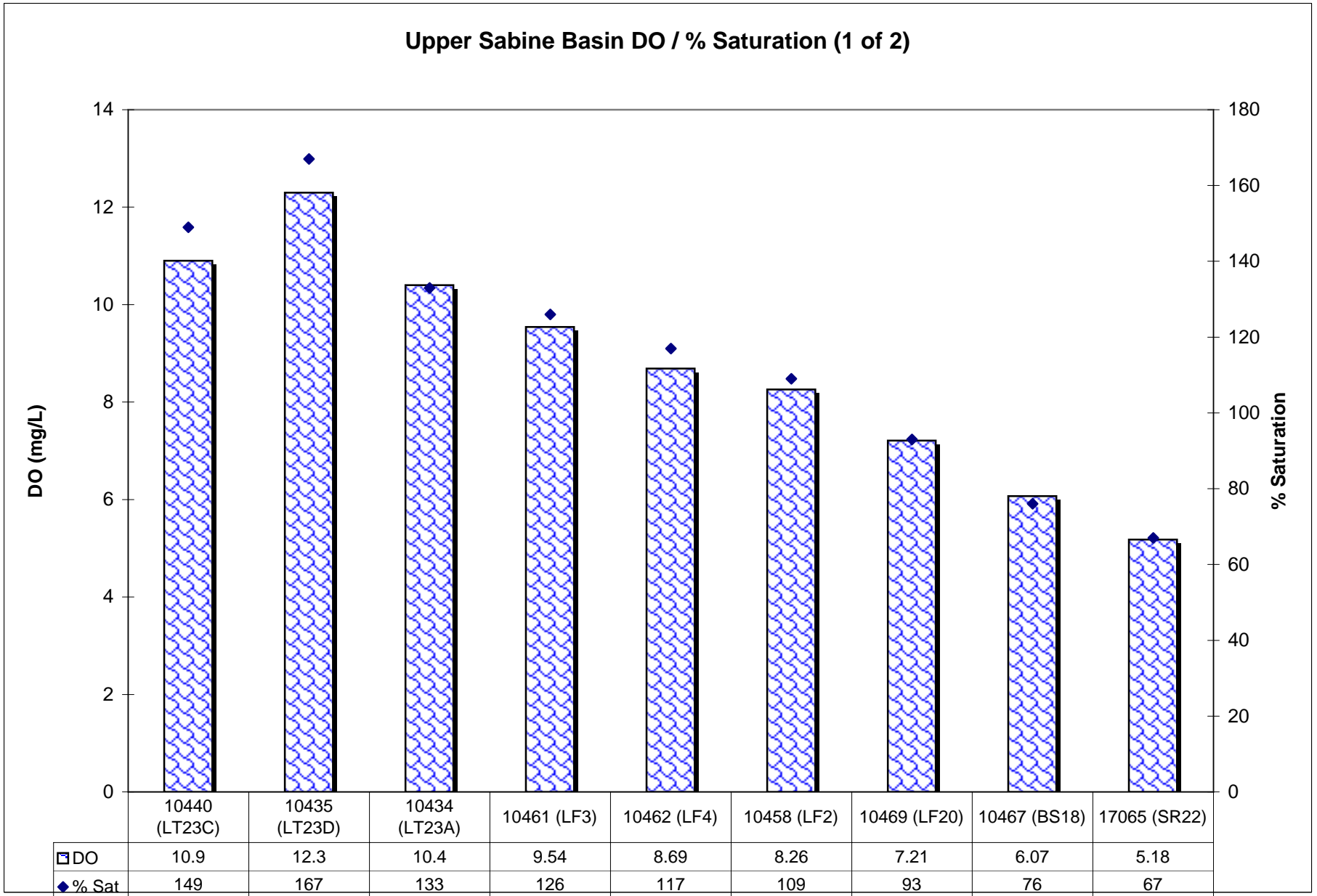
Date	SW ID	Station	Temperature °C 00010	pH Units 00400	DO mg/L 00300	% Saturation 00301	Conductivity µS/cm 00094	Salinity ppt 00480	Secchi Meters 00078	Turbidity NTU 82079	<i>E. coli</i> mpn/100ml 31699	Chlorophyll a µg/L 32211	Nitrate & Nitrite 00630	Ortho- Phosphate 00671	TOC mg/L 00680	Total Alkalinity 00410	Total Hardness 00900	Chloride mg/L 00940	Sulfate mg/L 00945
7/9/02 11:50 AM	7.00	10440 (LT23C)	31.5	9.22	10.9	149	166	*	0.8	6.12	< 1	31	< 0.04	< 0.04	5	60	56	< 10	< 10
7/9/02 10:55 AM	7.00	10435 (LT23D)	31.5	9.41	12.3	167	158	*	0.78	5.3	1	20	< 0.04	< 0.04	5	60	52	< 10	< 10
7/9/02 9:42 AM	7.00	10434 (LT23A)	27.8	9.16	10.4	133	169	*	1.12	2.68	< 1	22	< 0.04	< 0.04	5	60	44	< 10	< 10
7/9/02 8:20 AM	6.12	10461 (LF3)	29.8	9.28	9.54	126	157	*	0.98	3.64	1	29	< 0.04	< 0.04	8	30	36	11	13
7/9/02 8:51 AM	6.12	10462 (LF4)	30	8.99	8.69	117	146	*	1.26	2.34	3	13	< 0.04	< 0.04	6	30	32	< 10	15
7/9/02 7:32 AM	6.12	10458 (LF2)	29.1	8.66	8.26	109	93	*	2.12	1.34	1	10	< 0.04	< 0.04	6	20	32	< 10	14
7/9/02 2:23 PM	6.10	10469 (LF20)	28.4	6.98	7.21	93	178	*	0.35	30.8	20	*	0.2	< 0.04	6	30	48	21	18
7/10/02 6:40 AM	6.02	10467 (BS18)	26.5	6.64	6.07	76	154	*	0.87	11.6	44	*	0.16	< 0.04	9	20	36	13	20
7/9/02 12:59 PM	6.00	17065 (SR22)	28.7	7.05	5.18	67	277	*	0.23	79.2	66	*	0.23	0.09	7	60	84	20	27
7/9/02 1:43 PM	6.00	10430 (SR21)	28.5	6.87	5.47	70	297	*	0.34	78.3	32	*	0.04	0.06	7	50	80	16	16
7/9/02 2:50 PM	6.00	10429 (SR19)	29.4	6.97	6.97	91	209	*	0.38	60.5	28	*	0.29	< 0.04	7	40	52	25	27
7/10/02 7:18 AM	5.00	10428 (SR17)	28.2	6.94	6.02	77	190	*	0.32	51.7	21	*	0.24	0.08	7	20	44	18	19
7/10/02 7:58 AM	5.00	10427 (SR16)	28.3	6.9	5.82	75	196	*	0.37	67.1	34	*	0.26	0.04	7	20	48	20	19
7/10/02 8:32 AM	5.00	10426 (SR15)	28.6	6.95	6.04	78	234	*	0.35	65.7	19	*	0.28	0.07	7	30	52	25	27
7/10/02 9:11 AM	5.00	10423 (SR14)	28.6	6.91	6.19	80	265	*	0.43	61.8	69	*	0.72	0.05	7	20	56	31	32
7/10/02 10:42 AM	5.00	13628 (SR11)	29.4	7.18	6.55	86	414	*	0.37	63	5	*	0.39	0.05	6	30	64	35	38
7/10/02 11:23 AM	5.00	10415 (SR10)	29.7	7.3	7.19	95	267	*	0.34	67.4	13	*	0.43	< 0.04	6	30	52	31	31

*: Not sampled on this run

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July 2002

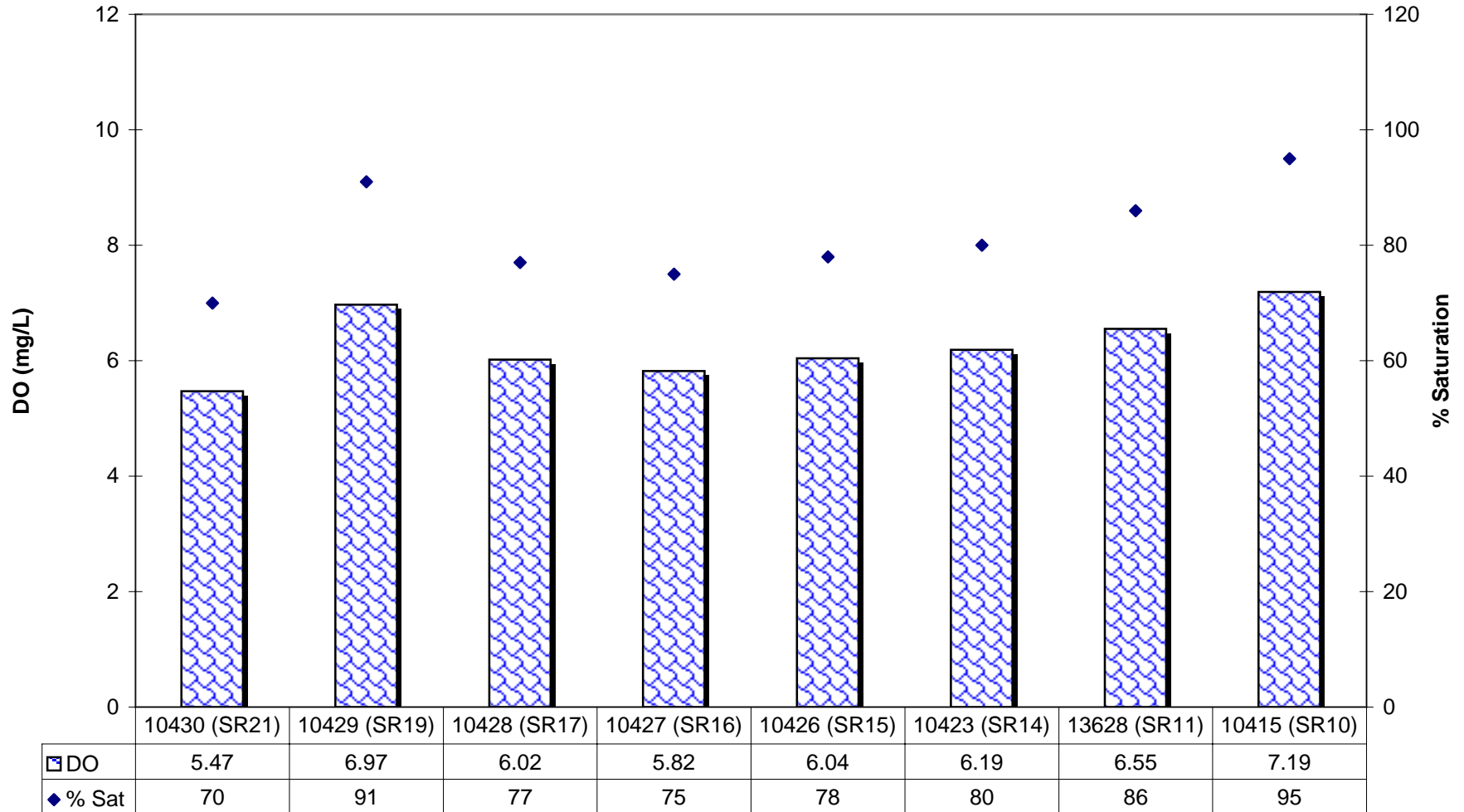
Upper Sabine Basin DO / % Saturation (1 of 2)



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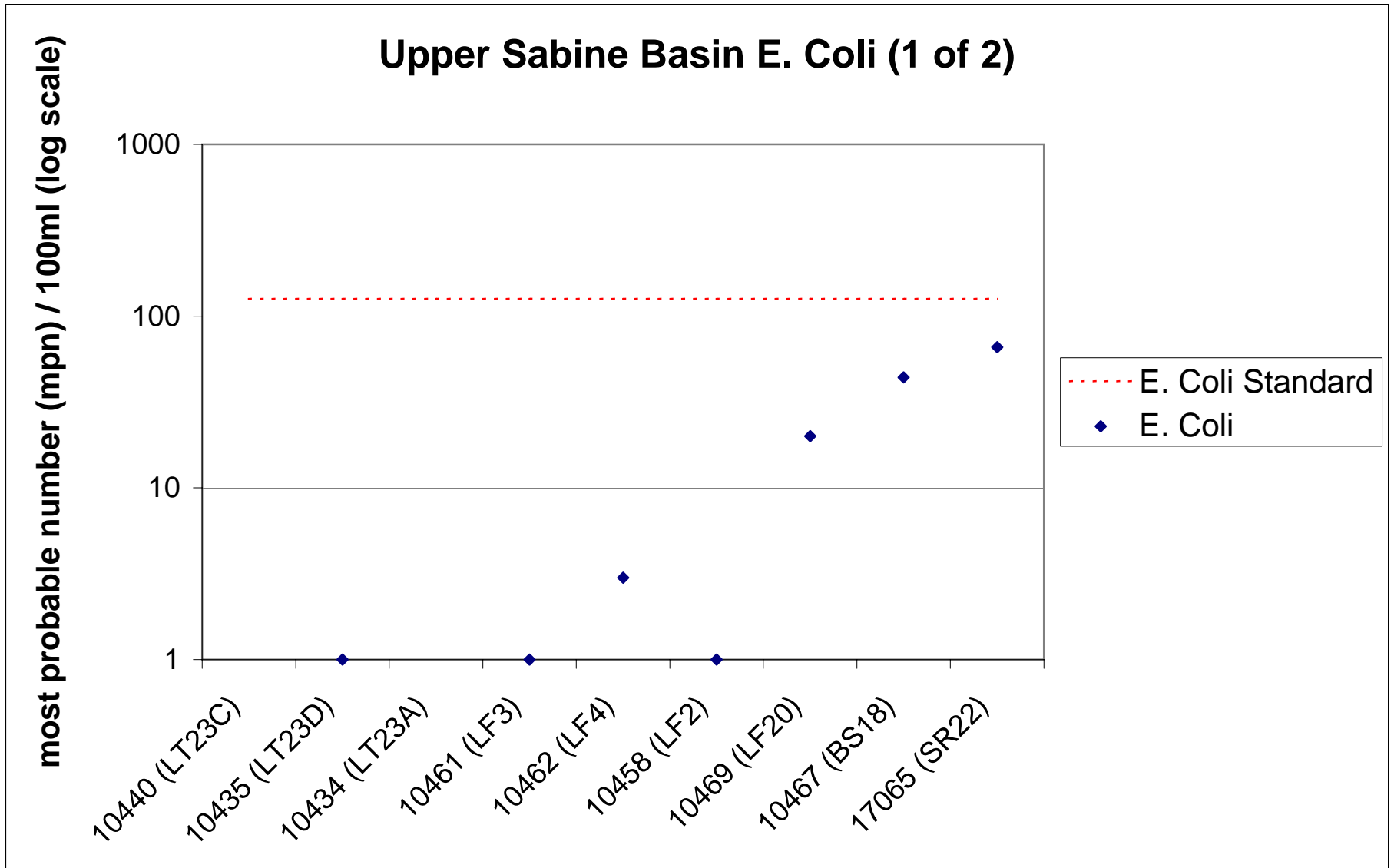
July 2002

Upper Sabine Basin DO / % Saturation (2 of 2)



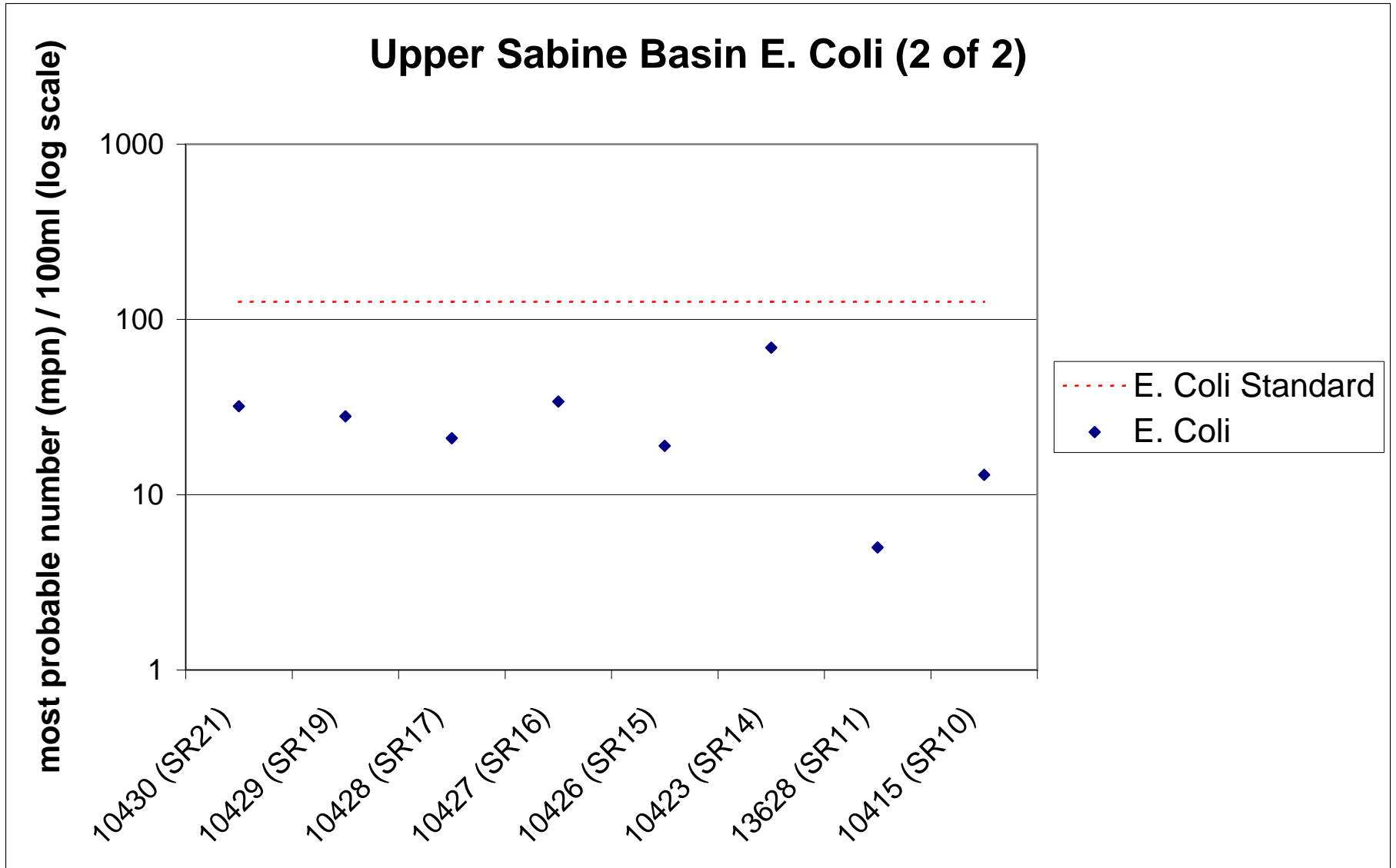
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July 2002



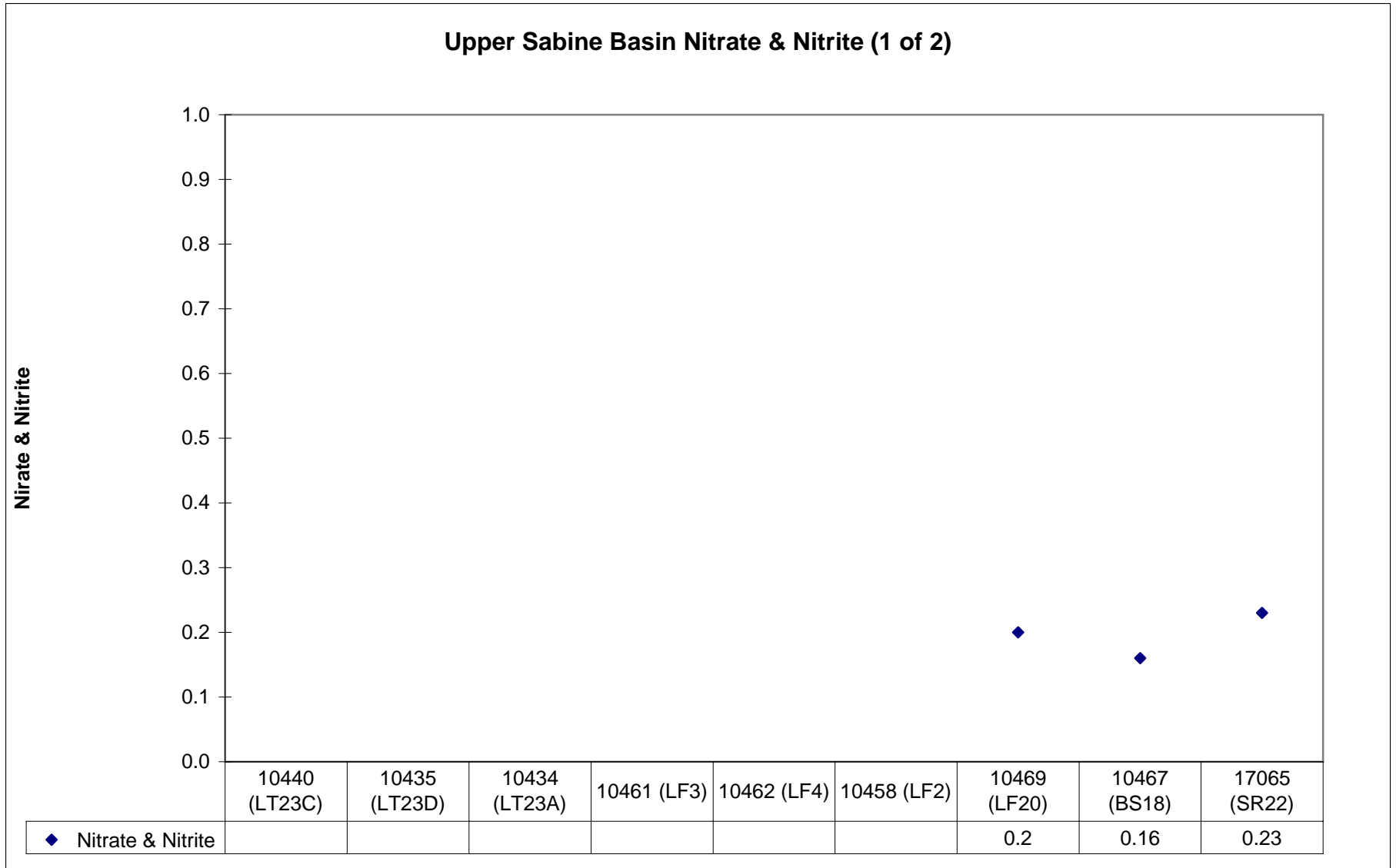
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July 2002



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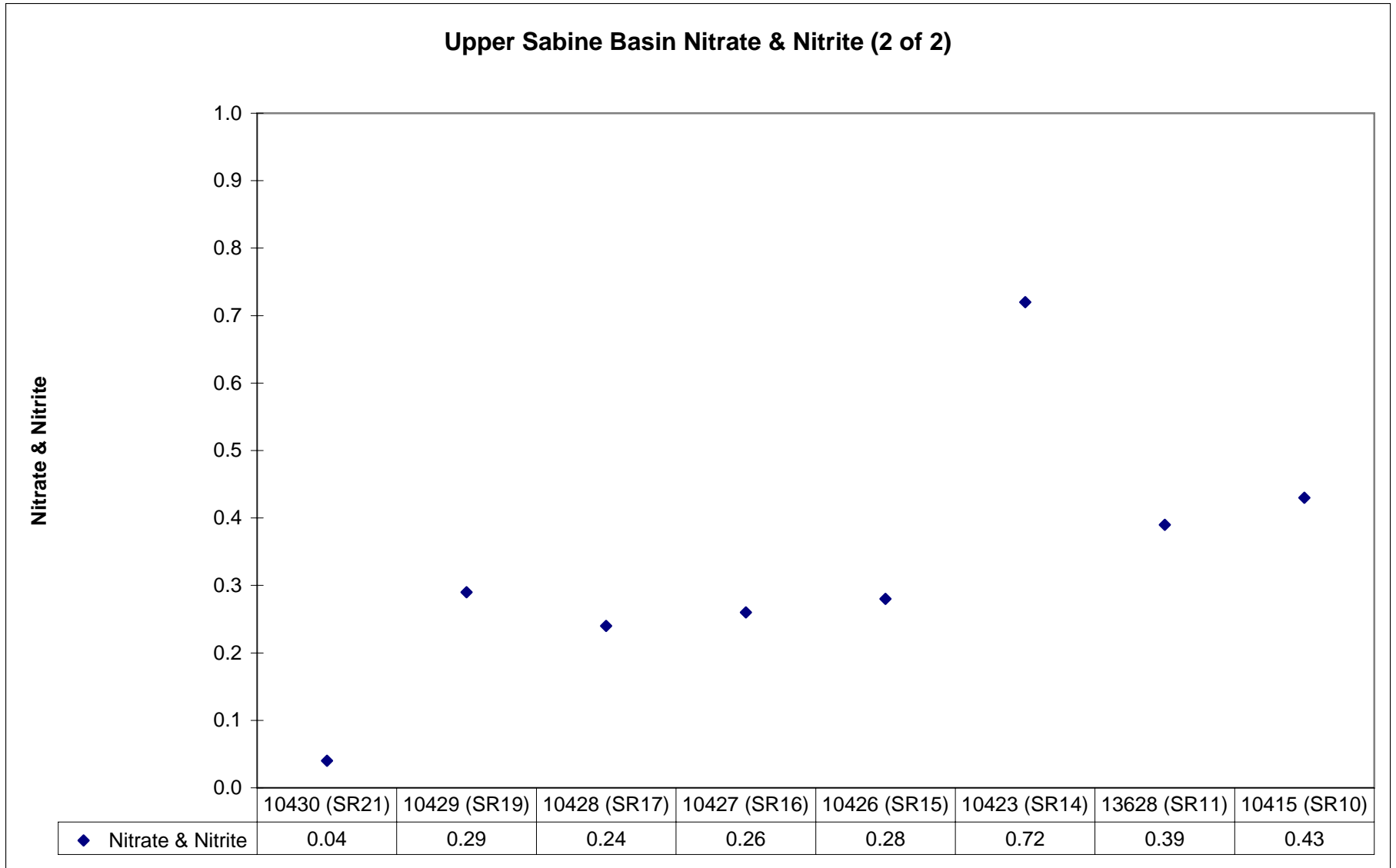
July 2002



Stations without values were below detection limit on this run (see page 2)

SABINE RIVER AUTHORITY OF TEXAS

July 2002



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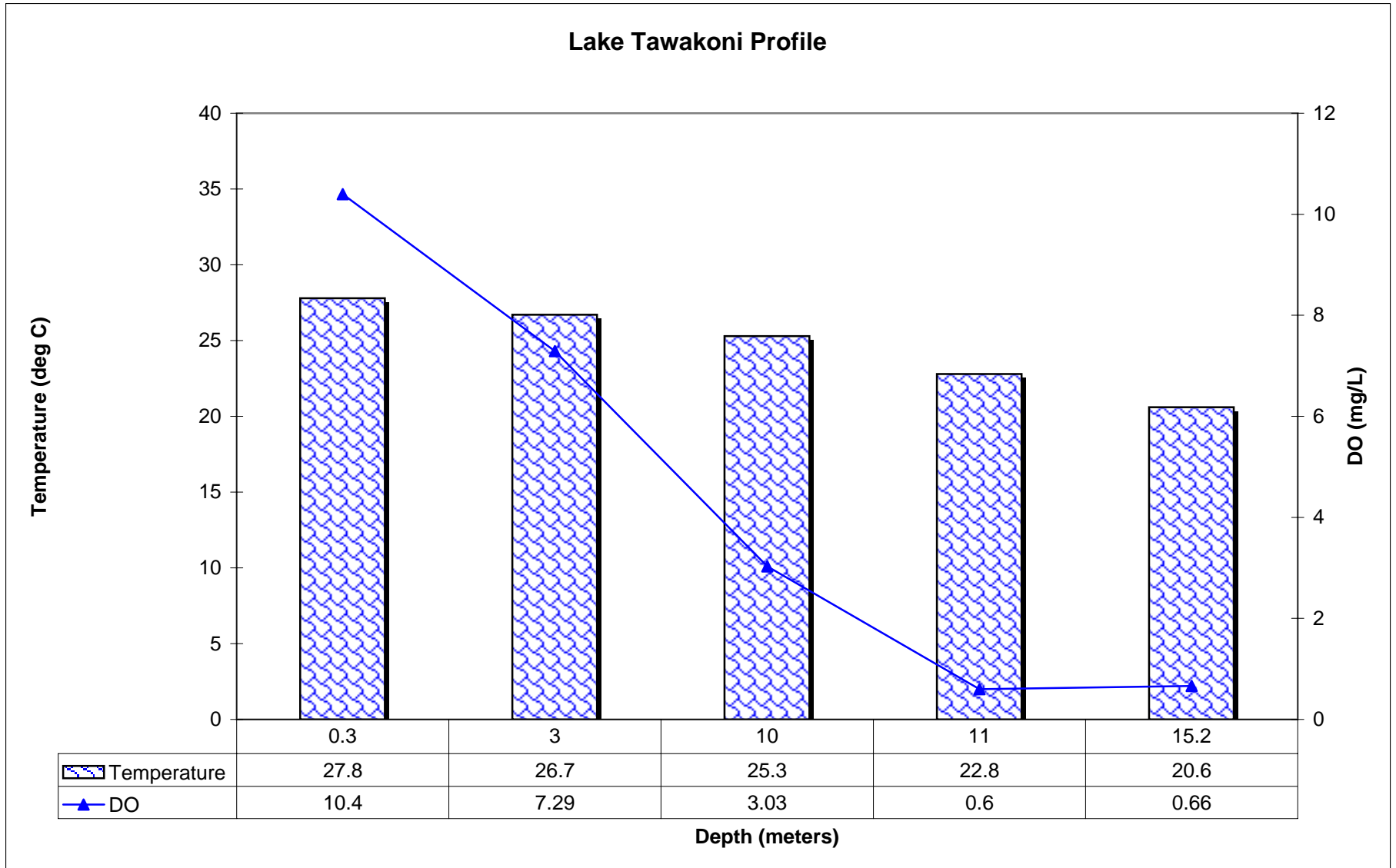
Upper Basin Profiles

July 2002

Date	SW ID	Station	Depth Meters	Temperature °C 00010	pH Units 00400	DO mg/L 00300	% Saturation 00301	Conductivity μS/cm 00094
7/9/02 11:50 AM	7.00	10440 (LT23C)	0.3	31.5	9.22	10.9	149	166
			2.11	30.5	9.08	9.09	120	169
			4.35	29.5	7.56	2.28	30	178
7/9/02 10:55 AM	7.00	10435 (LT23D)	0.3	31.5	9.41	12.3	167	158
			3	30.8	9.26	10.9	146	158
7/9/02 9:42 AM	7.00	10434 (LT23A)	0.3	27.8	9.16	10.4	133	169
			3	26.7	8.78	7.29	93	169
			10	25.3	7.43	3.03	37	171
			11	22.8	7.03	0.6	7	173
			15.2	20.6	6.84	0.66	7	194
7/9/02 8:20 AM	6.12	10461 (LF3)	0.3	29.8	9.28	9.54	126	157
			5	26.2	6.74	2.64	33	141
			6	25.8	6.63	1.16	14	141
			7	24.9	6.75	0.75	9	152
			9.03	23.4	6.88	0.66	8	180
7/9/02 8:51 AM	6.12	10462 (LF4)	0.3	30	8.99	8.69	117	146
			3	28.6	7.15	5.13	68	146
			6	27.3	6.88	2.4	31	146
			8	25.9	6.64	0.66	8	141
			11	19.8	6.9	0.71	8	169
7/9/02 7:32 AM	6.12	10458 (LF2)	0.3	29.1	8.66	8.26	109	93
			7	25.3	6.65	1.8	24	140
			8	24	6.61	0.53	6	143
			10	20.5	6.39	0.4	4	141
			14.1	15.9	6.52	0.34	3	146
			18.5	14.1	6.68	0.34	3	169

SABINE RIVER AUTHORITY OF TEXAS

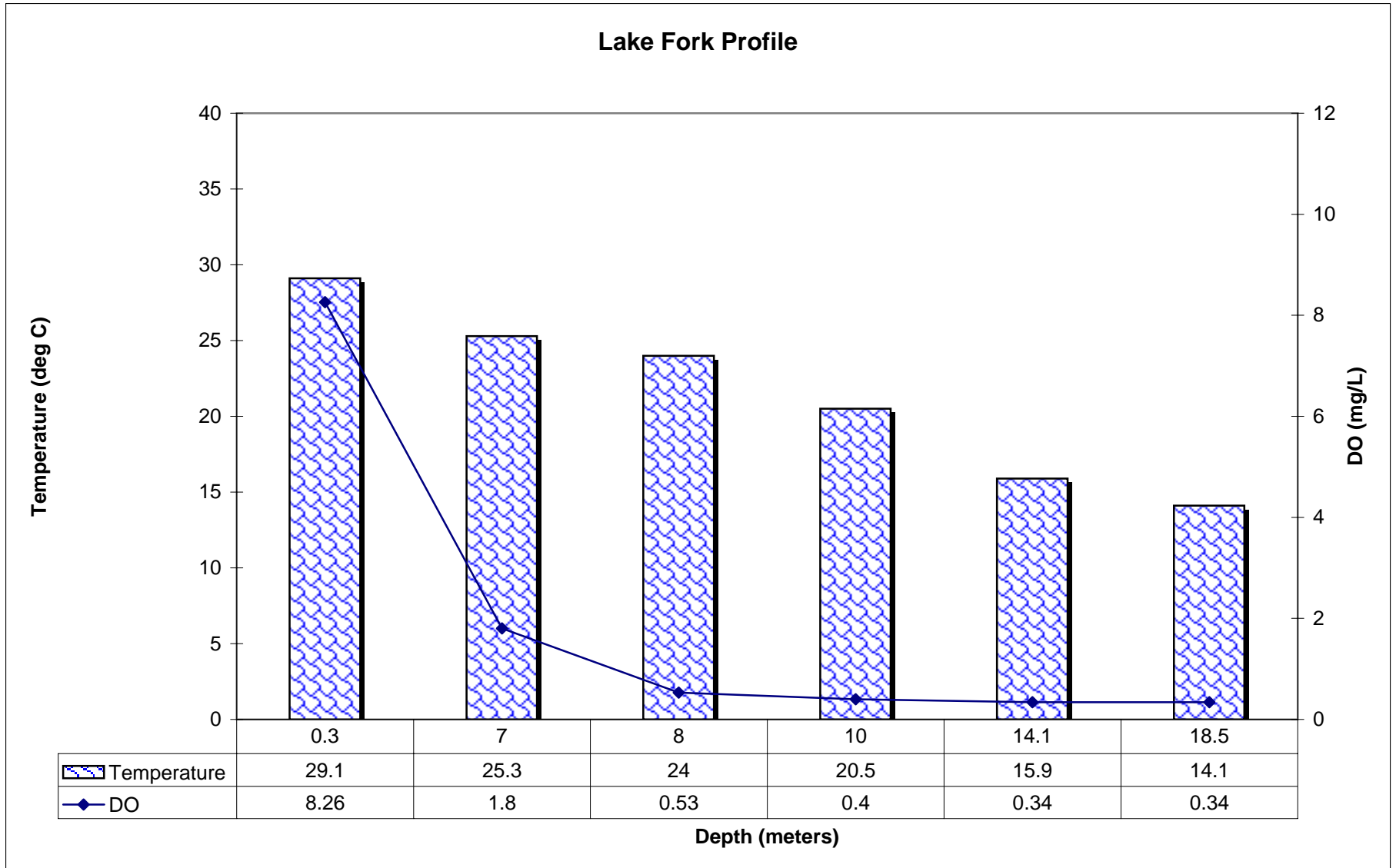
July 2002



For Station 10434 (LT23A): LAKE TAWAKONI IN THE MAIN LAKE NEAR THE DAM IN THE OLD RIVER CHANNEL

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July 2002



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Lake Tawakoni Weather and Reservoir Data

July 2002

Date	Lake Elev	LE - TOP	Releases inst	Max Temp	Min Temp	Rainfall	Evap
7/1/2002	437.25	(0.25)	5	83	70	0.53	0.13
7/2/2002	437.29	(0.21)	5	90	71	0.96	0.00
7/3/2002	437.37	(0.13)	5	89	71	0.34	0.21
7/4/2002	437.35	(0.15)	5	90	70	0.00	0.36
7/5/2002	437.34	(0.16)	5	91	74	0.00	0.41
7/6/2002	437.33	(0.17)	5	93	74	0.00	0.40
7/7/2002	437.31	(0.19)	5	94	74	0.00	0.38
7/8/2002	437.29	(0.21)	5	96	75	0.00	0.24
7/9/2002	437.26	(0.24)	5	97	74	0.00	0.32
7/10/2002	437.24	(0.26)	5	96	74	0.00	0.29
7/11/2002	437.21	(0.29)	5	97	76	0.00	0.38
7/12/2002	437.17	(0.33)	5	97	74	0.00	0.37
7/13/2002	437.18	(0.32)	5	98	70	0.07	0.32
7/14/2002	437.18	(0.32)	5	91	70	0.11	0.30
7/15/2002	437.23	(0.27)	5	93	70	0.14	0.28
7/16/2002	437.19	(0.31)	5	86	71	0.05	0.20
7/17/2002	437.27	(0.23)	5	77	73	1.45	0.00
7/18/2002	437.27	(0.23)	5	87	73	0.06	0.28
7/19/2002	437.25	(0.25)	5	91	74	0.00	0.38
7/20/2002	437.23	(0.27)	5	94	75	0.00	0.30
7/21/2002	437.20	(0.30)	5	95	75	0.00	0.30
7/22/2002	437.18	(0.32)	5	94	76	0.00	0.35
7/23/2002	437.15	(0.35)	5	96	76	0.00	0.40
7/24/2002	437.12	(0.38)	5	99	78	0.00	0.32
7/25/2002	437.13	(0.37)	5	100	74	0.16	0.06
7/26/2002	437.11	(0.39)	5	100	76	0.00	0.14
7/27/2002	437.08	(0.42)	5	97	76	0.00	0.62
7/28/2002	437.03	(0.47)	5	96	76	0.00	0.43
7/29/2002	436.99	(0.51)	5	95	76	0.00	0.32
7/30/2002	436.97	(0.53)	5	92	75	0.00	0.22
7/31/2002	436.96	(0.54)	5	96	74	0.00	0.32
Avg or Tot	437.20	(0.30)	5	93	74	3.87	9.03

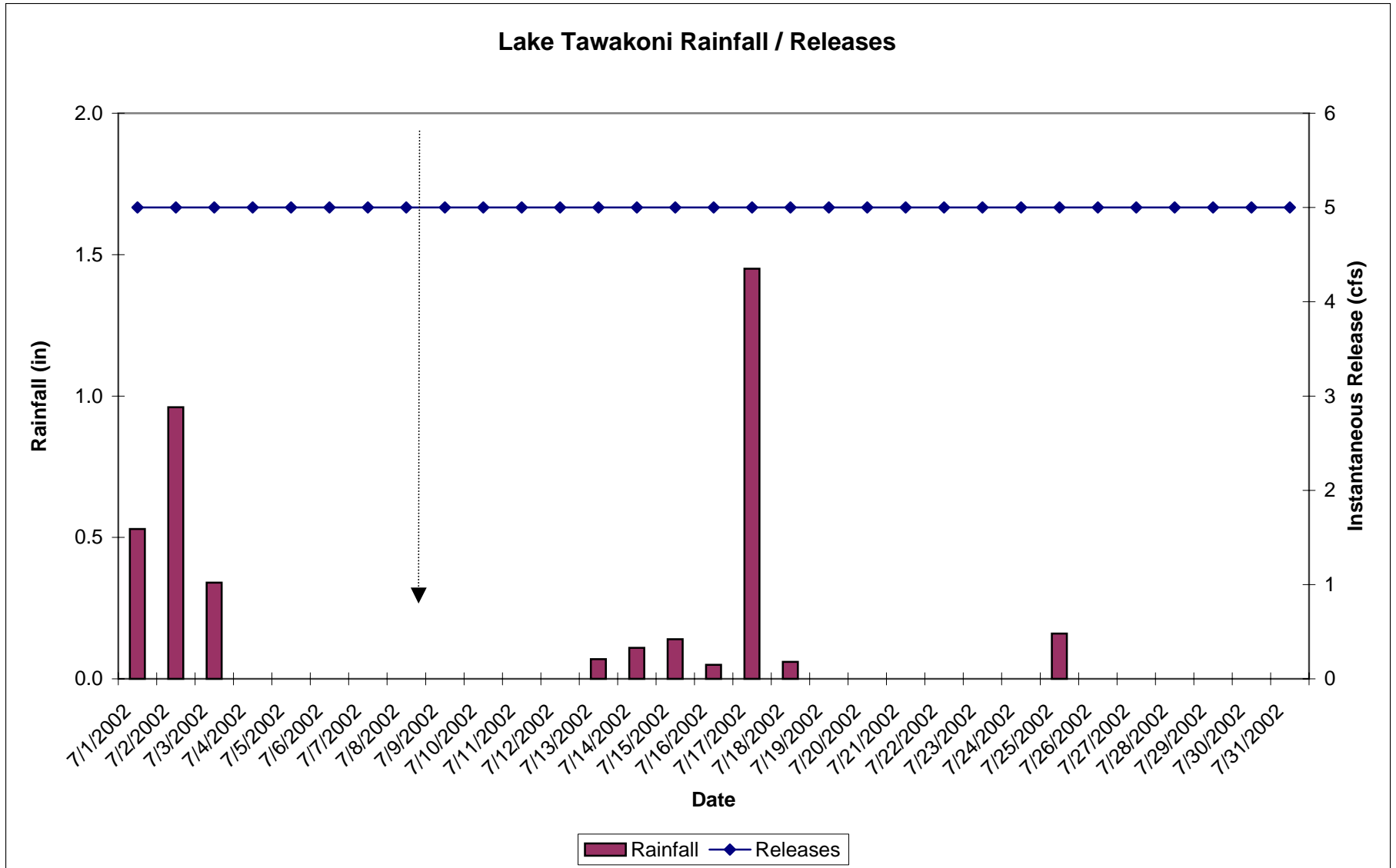
	Avg	Avg	Avg	Avg	Avg	Tot	Tot
Units	Feet M.S.L.	Feet	cfs	Deg F	Deg F	Inches	Inches
			Instantaneous appx. 8 a.m.				

TOP: Top of Pool = 437.5 Feet M.S.L.

Lake Tawakoni Sampled on 7/9/2002

SABINE RIVER AUTHORITY OF TEXAS

July 2002



Please Note : Lake Tawakoni has an uncontrolled spillway.

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Lake Fork Weather and Reservoir Data

July 2002

Date	Lake Elev	LE - TOP	Releases avg	Releases cur	Max Temp	Min Temp	Rainfall	Evap
7/1/2002	402.31	(0.69)	56	56	86	68	0.21	0.20
7/2/2002	402.46	(0.54)	56	56	90	68	1.09	0.23
7/3/2002	402.45	(0.55)	56	56	90	69	0.60	0.25
7/4/2002	402.45	(0.55)	56	56	92	70	0.05	0.17
7/5/2002	402.45	(0.55)	56	56	92	70	0.00	0.30
7/6/2002	402.43	(0.57)	56	56	94	72	0.00	0.26
7/7/2002	402.42	(0.58)	56	56	95	73	0.00	0.29
7/8/2002	402.40	(0.60)	56	56	98	75	0.00	0.28
7/9/2002	402.37	(0.63)	56	56	97	73	0.00	0.32
7/10/2002	402.34	(0.66)	56	56	96	74	0.00	0.30
7/11/2002	402.33	(0.67)	56	56	97	76	0.00	0.33
7/12/2002	402.31	(0.69)	56	56	97	75	0.00	0.33
7/13/2002	402.34	(0.66)	56	56	97	70	1.40	0.37
7/14/2002	402.33	(0.67)	56	56	92	69	0.00	0.26
7/15/2002	402.34	(0.66)	56	56	91	69	0.00	0.28
7/16/2002	402.33	(0.67)	56	56	88	70	0.25	0.19
7/17/2002	402.44	(0.56)	56	56	78	71	1.72	0.00
7/18/2002	402.44	(0.56)	56	56	92	72	0.00	0.19
7/19/2002	402.43	(0.57)	56	56	92	74	0.00	0.28
7/20/2002	402.43	(0.57)	56	56	94	76	0.00	0.19
7/21/2002	402.41	(0.59)	56	56	95	75	0.00	0.35
7/22/2002	402.38	(0.62)	56	56	95	75	0.00	0.33
7/23/2002	402.37	(0.63)	56	56	96	76	0.00	0.36
7/24/2002	402.33	(0.67)	56	56	100	76	0.00	0.34
7/25/2002	402.31	(0.69)	56	56	99	74	0.02	0.18
7/26/2002	402.31	(0.69)	56	56	101	76	0.00	0.42
7/27/2002	402.29	(0.71)	56	56	96	75	0.00	0.34
7/28/2002	402.26	(0.74)	56	56	96	76	0.00	0.40
7/29/2002	402.22	(0.78)	56	56	97	77	0.00	0.37
7/30/2002	402.20	(0.80)	56	56	95	75	0.00	0.25
7/31/2002	402.18	(0.82)	56	56	90	75	0.00	0.36
Avg or Tot	402.36	(0.64)	56	56	94	73	5.34	8.72

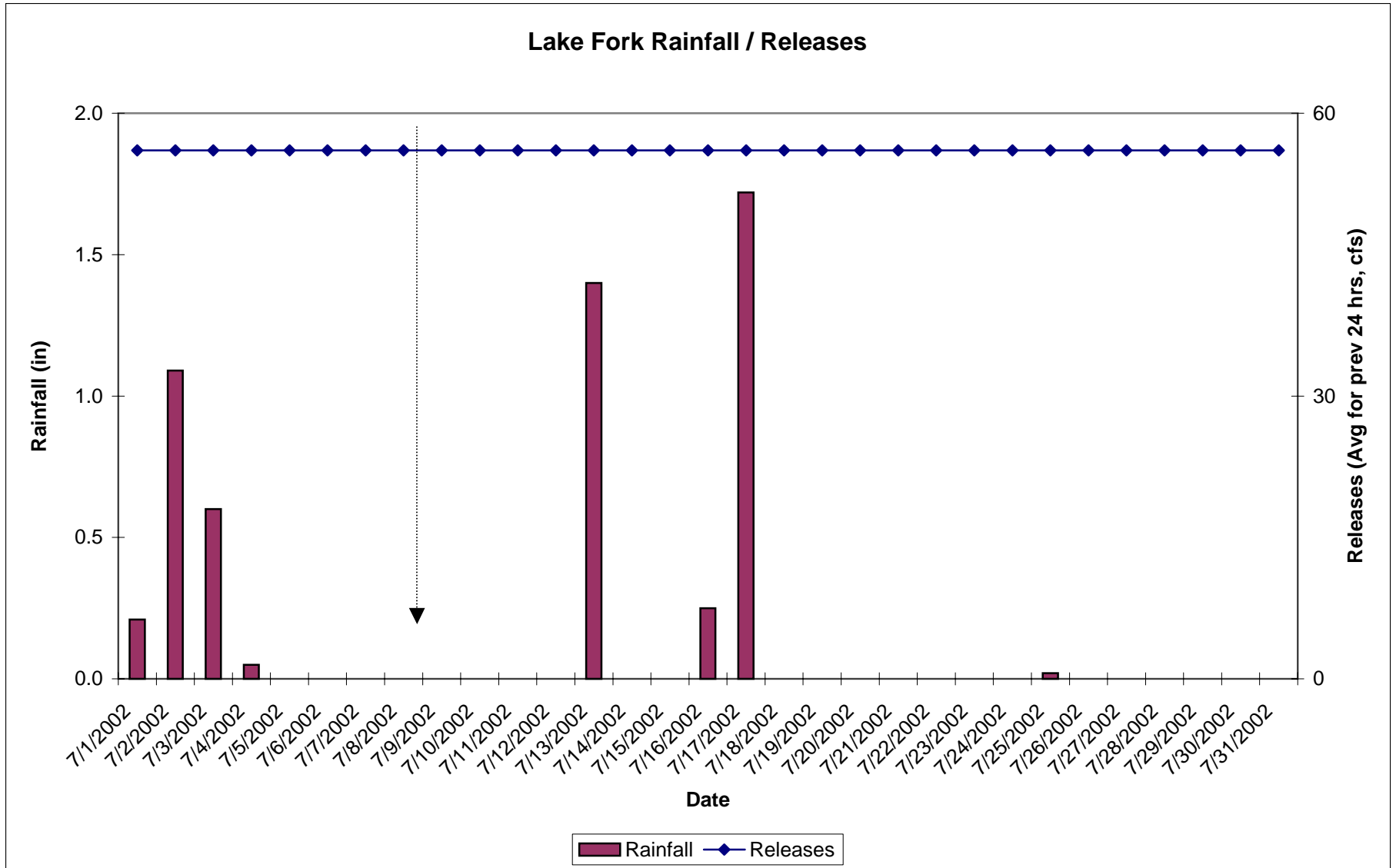
	Avg	Avg	Avg		Avg	Avg	Tot	Tot
Units	Feet M.S.L.	Feet	cfs Previous 24 hrs	cfs	Deg F	Deg F	Inches	Inches

TOP: Top of Pool = 403 Feet M.S.L.

Lake Fork Sampled on 7/9/2002

SABINE RIVER AUTHORITY OF TEXAS

July 2002



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FY2002 Fixed Monitoring Stations

Lower Sabine Basin

<i>SW</i>	<i>Segment</i>	<i>Station</i>	<i>Location</i>
4.10	0504	15658 (TB6N)	BAYOU SCIE AT LA SH 191
4.00	0504	10403 (TB8)	TOLEDO BEND RESERVOIR AT US 84
4.00	0504	15657 (TB6M)	TOLEDO BEND RESERVOIR SAN PATRICIA ARM AT LA SH191
4.00	0504	15656 (TB6L)	TOLEDO BEND RESERVOIR SAN MIGUEL ARM AT LA SH191
4.00	0504	15655 (TB6J)	TOLEDO BEND RESERVOIR PATROON BAYOU ARM AT SH 276
4.00	0504	15659 (TB6K)	TOLEDO BEND RESERVOIR LANANA ARM AT LA SH191
4.00	0504	10402 (TB6H)	TOLEDO BEND RESERVOIR AT SH 21
4.00	0504	10411 (TB6F)	TOLEDO BEND RESERVOIR IN SUNSHINE BAY AT FM 3121
4.00	0504	10407 (TB6CN)	TOLEDO BEND RESERVOIR IN SIX MILE BOAT LANE AT SH 87
4.00	0504	10404 (TB6A)	TOLEDO BEND RESERVOIR NEAR DAM IN RIVER CHANNEL
3.03	0503	10340 (BA4)	ANACOCO BAYOU AT LOUISIANA HWY 111
3.00	0503	10401 (TB6S)	SABINE RIVER BELOW TOLEDO BEND SPILLWAY
3.00	0503	10400 (TB6)	TAIL RACE CHANNEL AT FM 692 TB6
3.00	0503	10399 (SR5)	SABINE RIVER AT SH 63
3.00	0503	10398 (SR3)	SABINE RIVER AT US 190
2.00	0503	10397 (SR2)	SABINE RIVER AT SH 12

SABINE RIVER AUTHORITY OF TEXAS

Lower Basin Report

July 2002

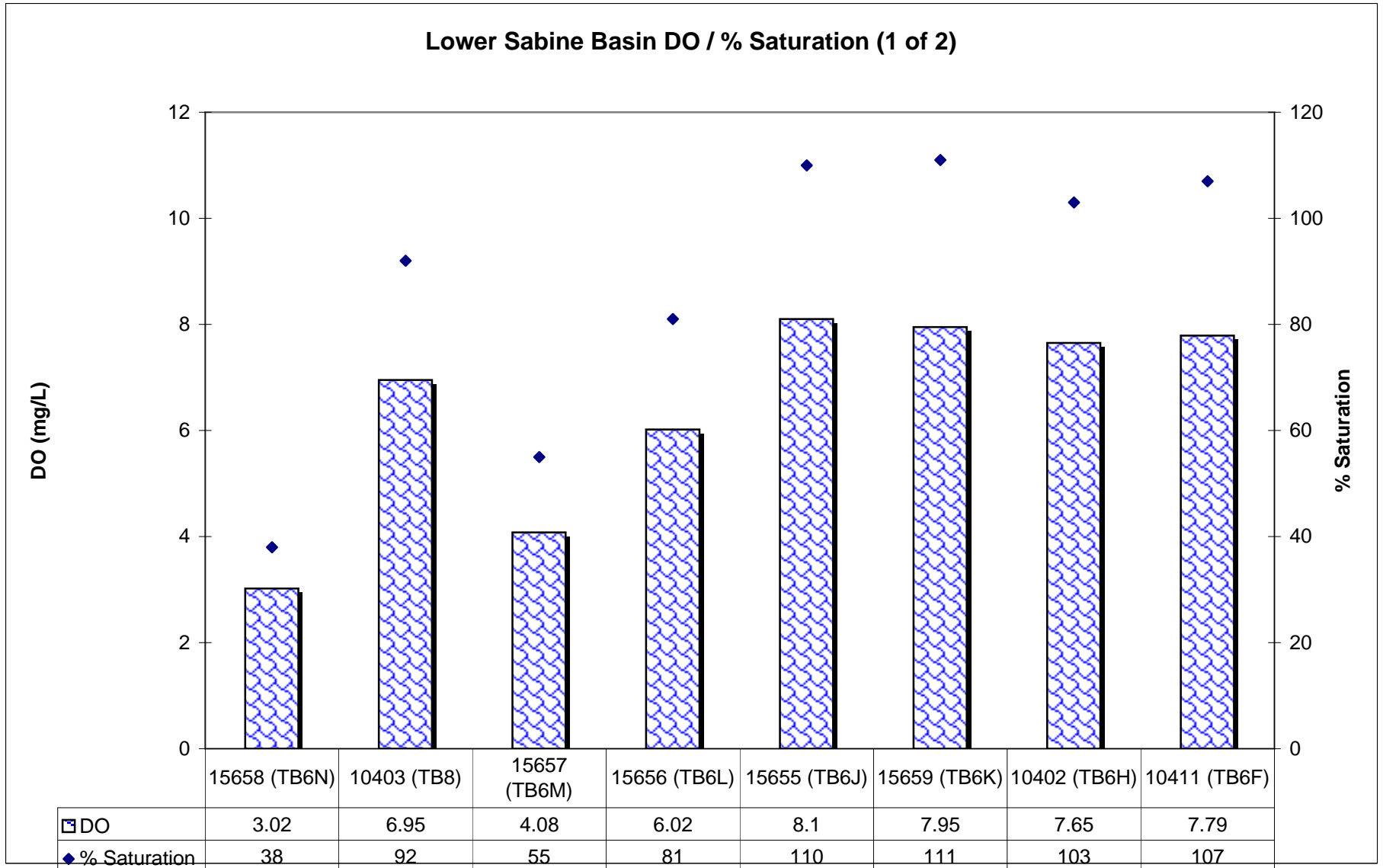
Date	SW ID	Station	Temperature °C 00010	pH Units 00400	DO mg/L 00300	% Saturation 00301	Conductivity µS/cm 00094	Salinity ppt 00480	Secchi Meters 00078	Turbidity NTU 82079	<i>E. coli</i> mpn/100ml 31699	Chlorophyll a µg/L 32211	Nitrate & Nitrite 00630	Ortho- Phosphate 00671	TOC mg/L 00680	Total Alkalinity 00410	Total Hardness 00900	Chloride mg/L 00940	Sulfate mg/L 00945
7/9/02 1:00 PM	4.10	15658 (TB6N)	27	7.27	3.02	38	363	*	0.33	16.1	17	*	< 0.04	0.68	13	130	56	27	< 10
7/10/02 12:03 PM	4.00	10403 (TB8)	30	7.21	6.95	92	238	*	0.28	59.4	14	*	1.02	< 0.04	6	30	44	31	31
7/9/02 1:50 PM	4.00	15657 (TB6M)	29.3	6.55	4.08	55	138	*	1.01	2.94	< 1	*	< 0.04	< 0.04	9	30	36	15	< 10
7/9/02 1:15 PM	4.00	15656 (TB6L)	30.7	6.67	6.02	81	143	*	0.53	6.75	25	*	< 0.04	< 0.04	9	30	36	15	< 10
7/9/02 10:00 AM	4.00	15655 (TB6J)	31.8	8.48	8.1	110	152	*	1.25	2.96	1	*	0.07	< 0.04	7	30	36	14	15
7/9/02 12:35 PM	4.00	15659 (TB6K)	37.8	8.57	7.95	111	148	*	1.11	3.58	1	*	< 0.04	< 0.04	7	30	40	13	14
7/9/02 11:25 AM	4.00	10402 (TB6H)	31.3	8.42	7.65	103	144	*	1.44	2.67	< 1	10	< 0.04	< 0.04	7	30	36	13	15
7/9/02 10:40 AM	4.00	10411 (TB6F)	31.9	8.11	7.79	107	138	*	1.6	2.44	1	14	< 0.04	< 0.04	6	20	36	12	14
7/9/02 9:10 AM	4.00	10407 (TB6CN)	32.5	7.73	7.67	106	129	*	1.54	2.58	1	*	0.05	< 0.04	6	20	32	12	14
7/10/02 11:30 AM	4.00	10404 (TB6A)	31.7	7.43	7.63	103	137	*	2.43	1.16	< 1	< 10	< 0.04	< 0.04	6	20	32	13	16
7/10/02 1:40 PM	3.03	10340 (BA4)	30.9	7.34	6.96	94	474	*	0.36	38.7	14	*	< 0.04	0.09	10	70	40	19	119
7/10/02 10:35 AM	3.00	10401 (TB6S)	17.8	7.19	9.96	104	144	*	*	5.26	2	*	< 0.04	< 0.04	6	30	36	11	14
7/10/02 10:55 AM	3.00	10400 (TB6)	27.6	7.12	6.3	80	138	*	*	1.35	1	*	< 0.04	< 0.04	6	20	36	12	16
7/10/02 1:10 PM	3.00	10399 (SR5)	29	7.33	6.89	89	137	*	1.75	2.59	7	*	< 0.04	< 0.04	6	20	32	12	16
7/10/02 2:05 PM	3.00	10398 (SR3)	30.9	7.36	7.14	96	134	*	0.61	12.7	5	*	< 0.04	< 0.04	5	20	32	12	17
7/10/02 8:25 AM	2.00	10397 (SR2)	29.7	7.01	6.48	85	131	*	0.6	15.8	19	*	0.04	< 0.04	5	20	28	12	16

*: Not sampled on this run

SABINE RIVER AUTHORITY OF TEXAS

July 2002

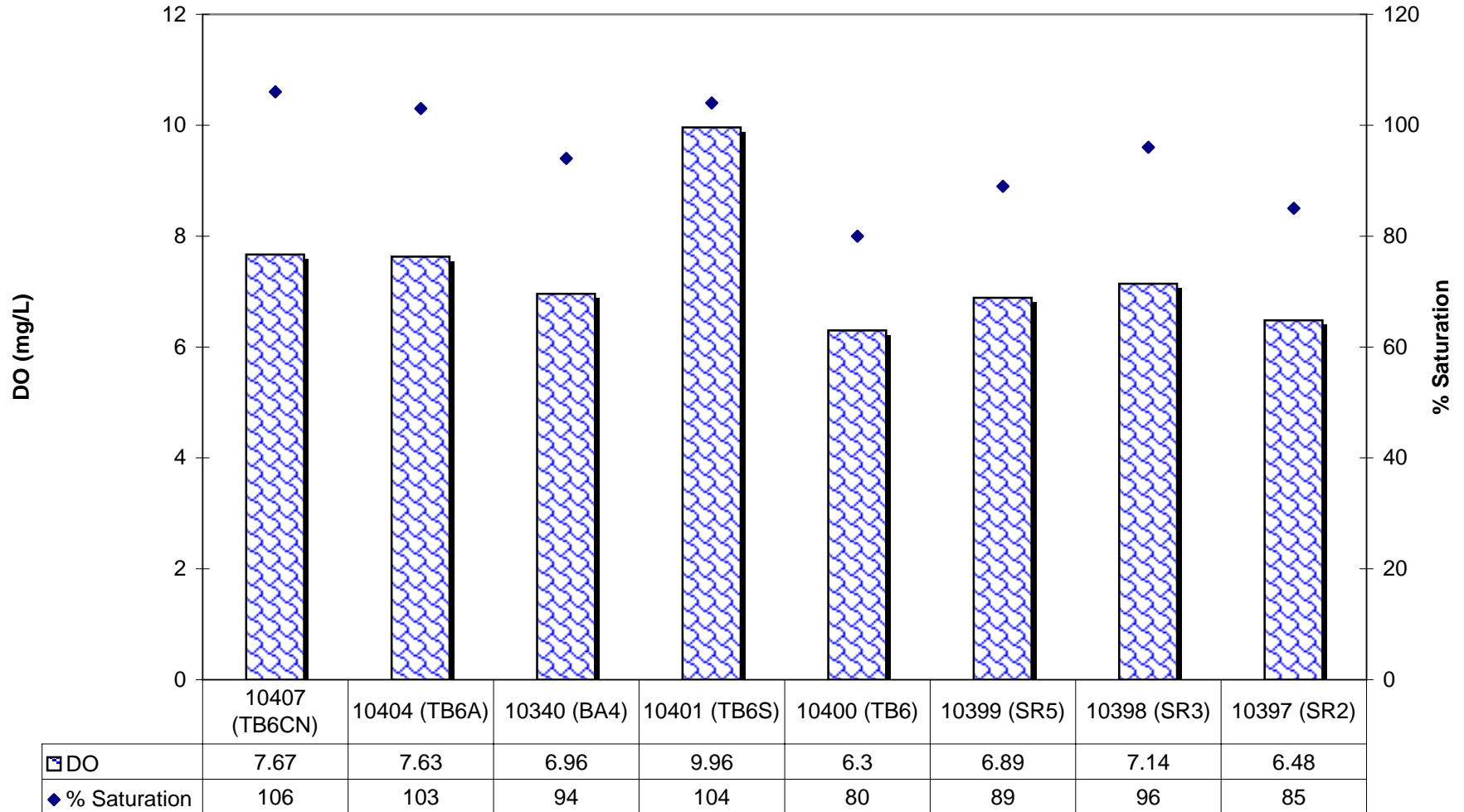
Lower Sabine Basin DO / % Saturation (1 of 2)



SABINE RIVER AUTHORITY OF TEXAS

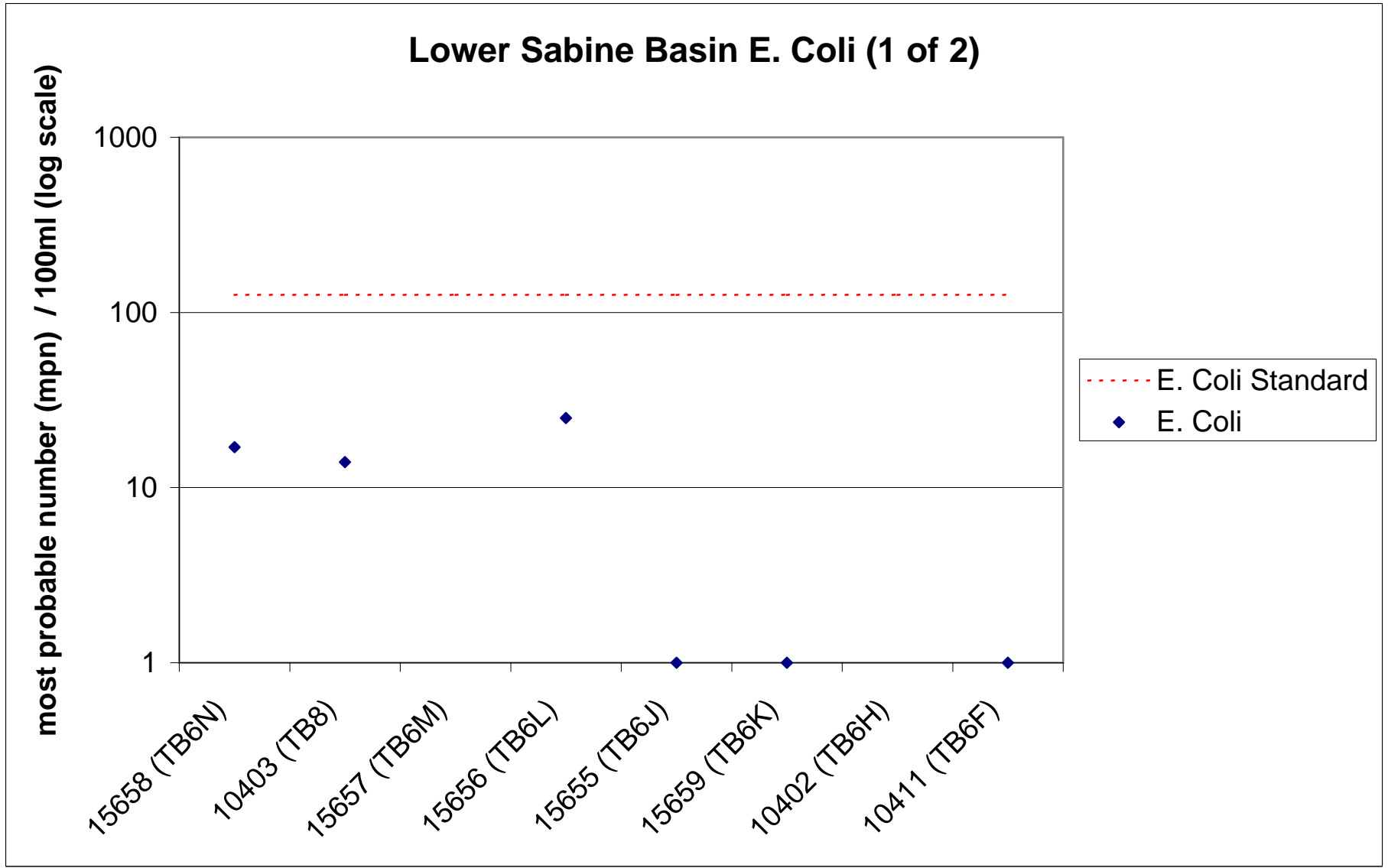
July 2002

Lower Sabine Basin DO / % Saturation (2 of 2)



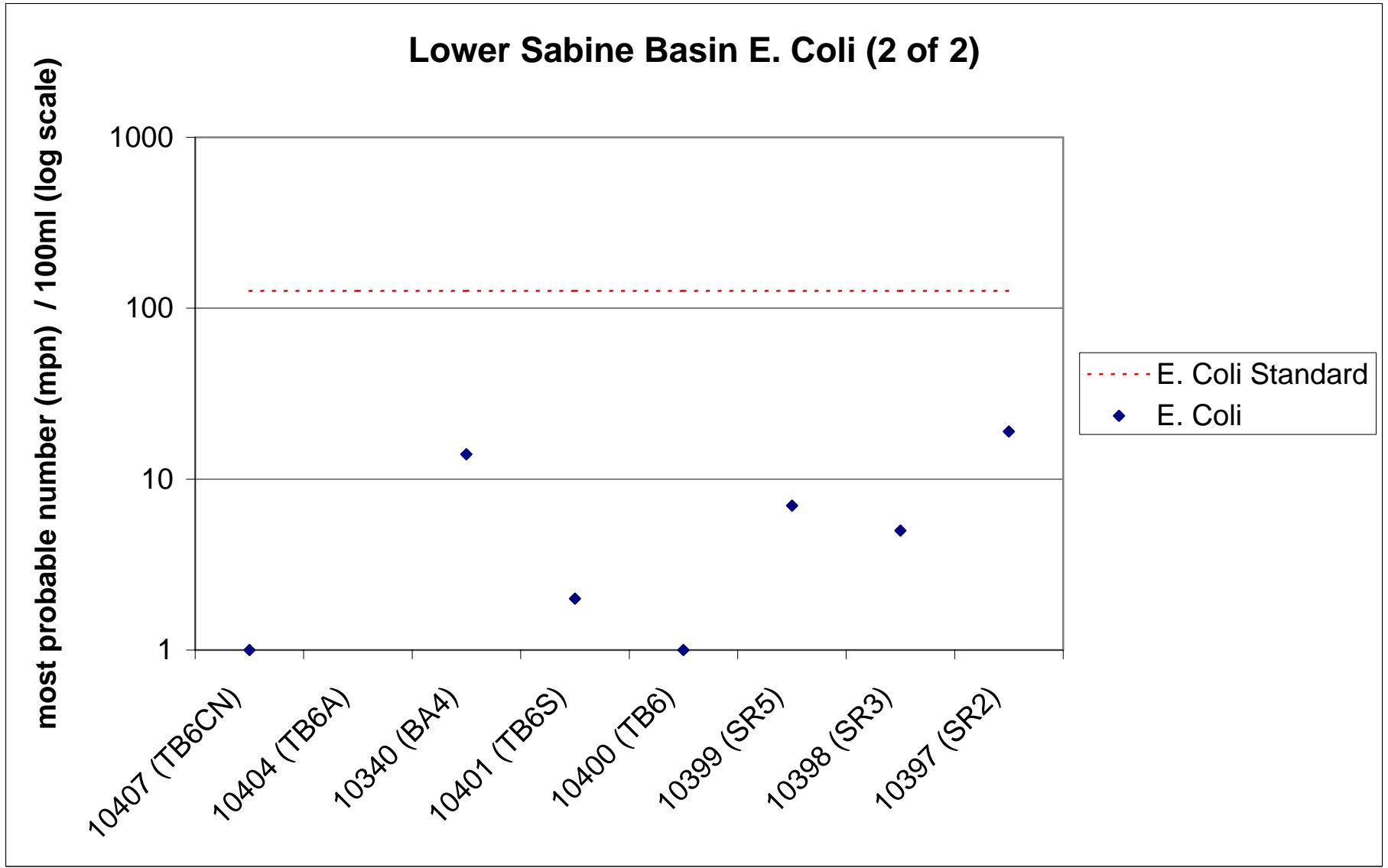
SABINE RIVER AUTHORITY OF TEXAS

July 2002



SABINE RIVER AUTHORITY OF TEXAS

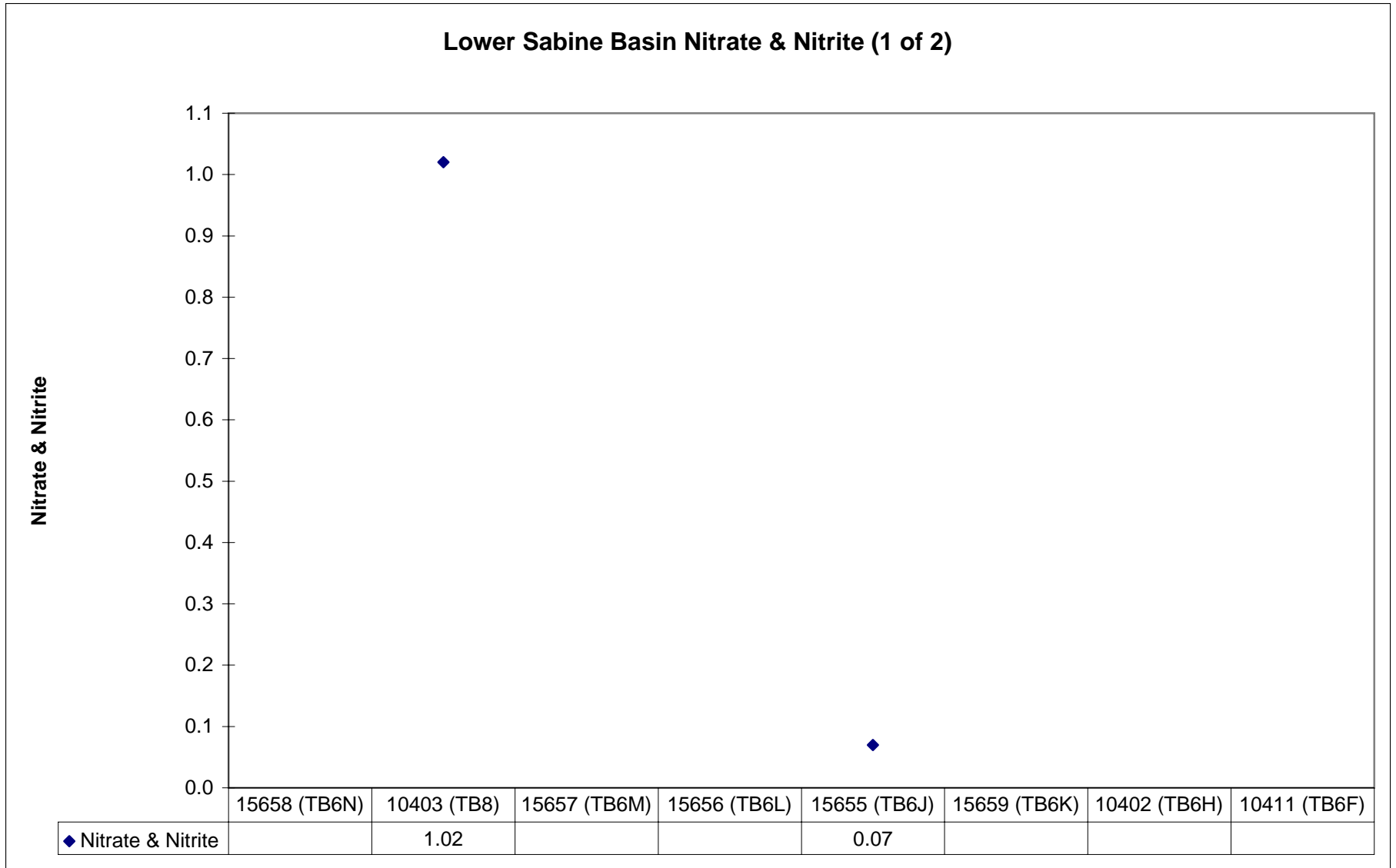
July 2002



Stations without values were below detection limit on this run (see page 18).

SABINE RIVER AUTHORITY OF TEXAS

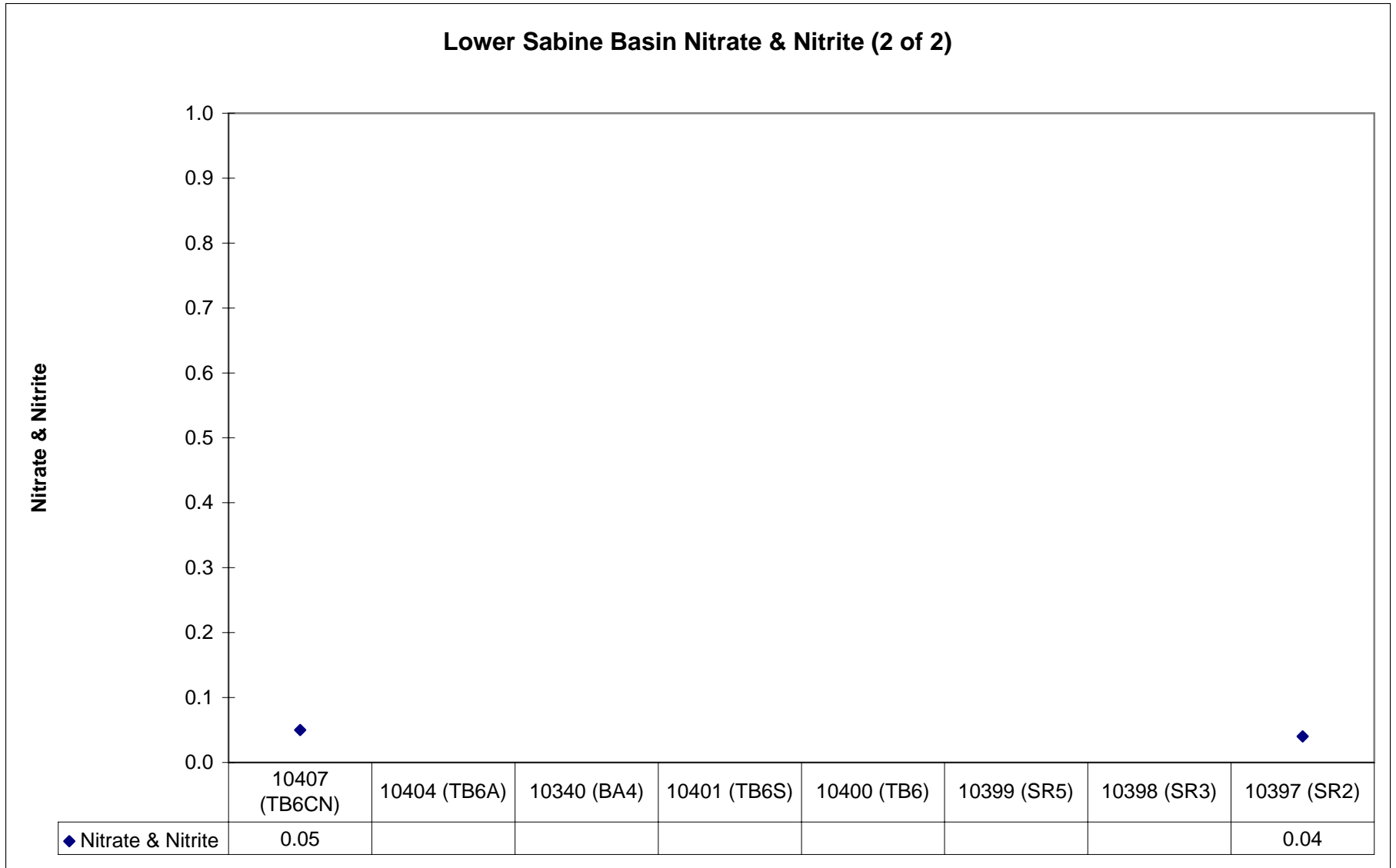
July 2002



Stations without values were below detection limit on this run (see page 18).

SABINE RIVER AUTHORITY OF TEXAS

July 2002



Stations without values were below detection limit on this run (see page 18)

SABINE RIVER AUTHORITY OF TEXAS

Lower Basin Profiles

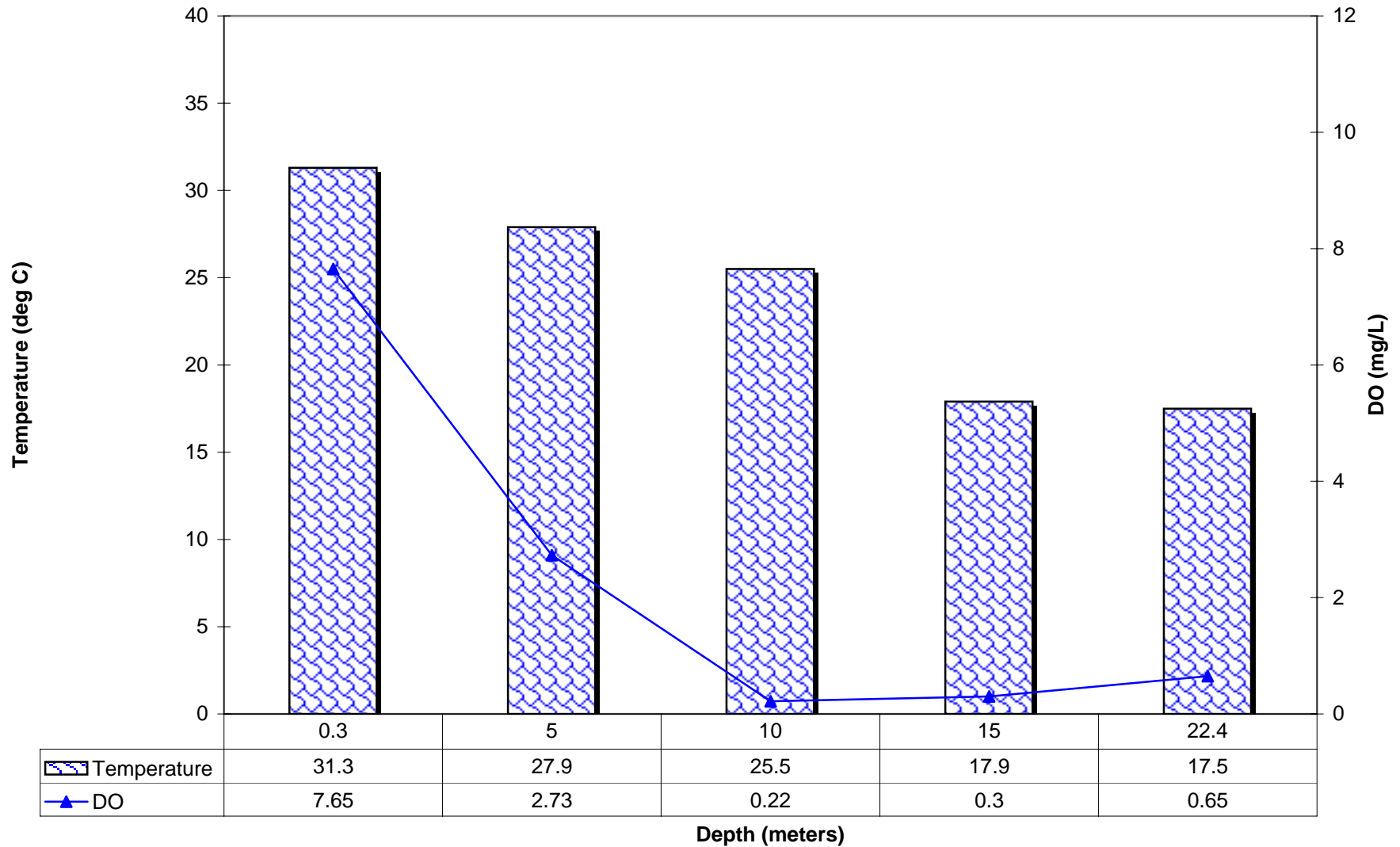
July 2002

Date	SW ID	Station	Depth Meters	Temperature	pH	DO	%	Conductivity
				°C 00010	Units 00400	mg/L 00300	Saturation 00301	µS/cm 00094
7/9/02 1:50 PM	4.00	15657 (TB6M)	0.3	29.3	6.55	4.08	55	138
			4.4	25.7	6.65	0.72	8	196
7/9/02 1:15 PM	4.00	15656 (TB6L)	0.3	30.7	6.67	6.02	81	143
			2.6	26.9	6.39	0.33	4	159
7/9/02 10:00 AM	4.00	15655 (TB6J)	0.3	31.8	8.48	8.1	110	152
			2	31.6	8.3	8.11	110	151
			4.7	29.3	6.75	0.34	4	157
7/9/02 12:35 PM	4.00	15659 (TB6K)	0.3	37.8	8.57	7.95	111	148
			3	28.4	6.75	2.91	38	147
			9.8	26.5	6.81	0.37	4	195
7/9/02 11:25 AM	4.00	10402 (TB6H)	0.3	31.3	8.42	7.65	103	144
			5	27.9	6.69	2.73	35	147
			10	25.5	6.78	0.22	3	154
			15	17.9	6.81	0.3	3	169
			22.4	17.5	6.91	0.65	7	174
7/9/02 10:40 AM	4.00	10411 (TB6F)	0.3	31.9	8.11	7.79	107	138
			5.4	27.4	6.75	0.28	3	152
7/9/02 9:10 AM	4.00	10407 (TB6CN)	0.3	32.5	7.73	7.67	106	129
			3.5	30.6	6.5	3.13	42	122
			7	27.6	6.17	0.28	3	132
7/10/02 11:30 AM	4.00	10404 (TB6A)	0.3	31.7	7.43	7.63	103	137
			5	28.1	6.95	6.78	86	136
			15	16.4	6.96	0.5	5	142
			20	15.3	7.04	0.56	6	148
			28.3	14	7.18	0.57	6	163

SABINE RIVER AUTHORITY OF TEXAS

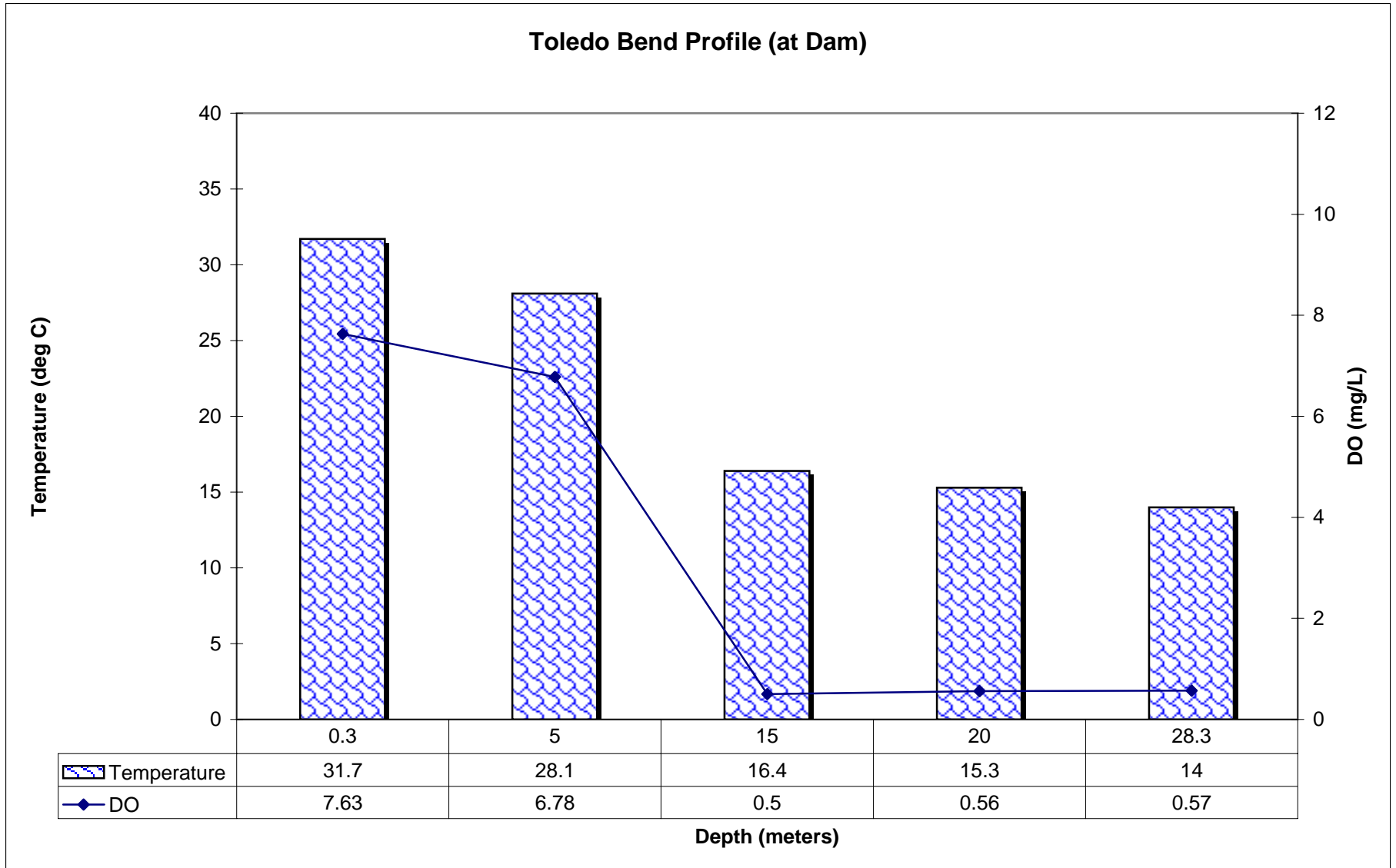
July 2002

Toledo Bend Profile (at Pendleton Bridge)



SABINE RIVER AUTHORITY OF TEXAS

July 2002



SABINE RIVER AUTHORITY OF TEXAS

Toledo Bend Weather and Reservoir Data

July 2002

Date	Lake Elev	LE - TOP	Max Temp	Min Temp	Rainfall	Evaporation	Daily Releases cfs	Daily Releases ac ft	Current Release
7/1/2002	171.27	(0.73)	93	65	0.00	0.24	3,913	7,761	174
7/2/2002	171.23	(0.77)	94	72	0.00	0.34	3,818	7,573	174
7/3/2002	171.18	(0.82)	88	69	0.13	0.10	3,854	7,644	174
7/4/2002	171.15	(0.85)	88	70	0.07	0.22	174	345	174
7/5/2002	171.15	(0.85)	94	70	0.00	0.30	3,746	7,430	174
7/6/2002	171.11	(0.89)	94	70	0.00	0.33	3,910	7,755	174
7/7/2002	171.03	(0.97)	97	72	0.00	0.23	174	345	174
7/8/2002	171.07	(0.93)	100	70	0.00	NR	3,808	7,553	174
7/9/2002	171.03	(0.97)	98	70	0.00	0.32	3,816	7,569	174
7/10/2002	170.97	(1.03)	98	70	0.16	0.45	3,862	7,660	174
7/11/2002	170.97	(1.03)	96	70	0.00	0.35	3,828	7,593	174
7/12/2002	170.85	(1.15)	95	70	0.00	0.38	3,000	5,950	174
7/13/2002	170.81	(1.19)	95	69	0.54	0.34	4,017	7,968	174
7/14/2002	170.86	(1.14)	83	69	0.05	0.16	1,628	3,229	174
7/15/2002	170.88	(1.12)	88	69	0.02	0.20	8,378	16,618	174
7/16/2002	170.80	(1.20)	83	73	0.06	0.12	8,349	16,560	204
7/17/2002	170.73	(1.27)	84	69	0.31	0.09	8,583	17,024	204
7/18/2002	170.68	(1.32)	93	67	0.00	0.32	8,459	16,778	204
7/19/2002	170.57	(1.43)	96	68	0.00	0.31	8,391	16,643	204
7/20/2002	170.50	(1.50)	96	69	0.00	0.33	3,647	7,234	204
7/21/2002	170.48	(1.52)	97	71	0.00	0.36	884	1,753	174
7/22/2002	170.45	(1.55)	98	73	0.00	0.30	4,189	8,309	174
7/23/2002	170.39	(1.61)	97	70	0.00	0.30	4,125	8,182	174
7/24/2002	170.35	(1.65)	100	70	0.00	0.28	4,259	8,448	174
7/25/2002	170.38	(1.62)	99	70	0.38	0.38	4,391	8,709	174
7/26/2002	170.23	(1.77)	83	71	0.32	0.04	4,169	8,269	174
7/27/2002	170.20	(1.80)	90	71	0.02	0.21	4,167	8,265	174
7/28/2002	170.17	(1.83)	93	72	0.00	0.35	174	345	174
7/29/2002	170.13	(1.87)	92	73	0.06	0.13	4,172	8,275	174
7/30/2002	170.11	(1.89)	96	72	0.00	0.31	4,178	8,287	174
7/31/2002	170.09	(1.91)	94	72	0.66	0.36	4,214	8,358	174
Avg or Tot	170.70	(1.30)	93	70	2.78	8.15	4,138	254,432	

Units	Avg Feet M.S.L.	Avg Feet	Avg Deg. F	Avg Deg. F	Tot Inches	Tot Inches	Avg cfs	Tot Ac. Ft.	cfs approx. 8:00 a.m.
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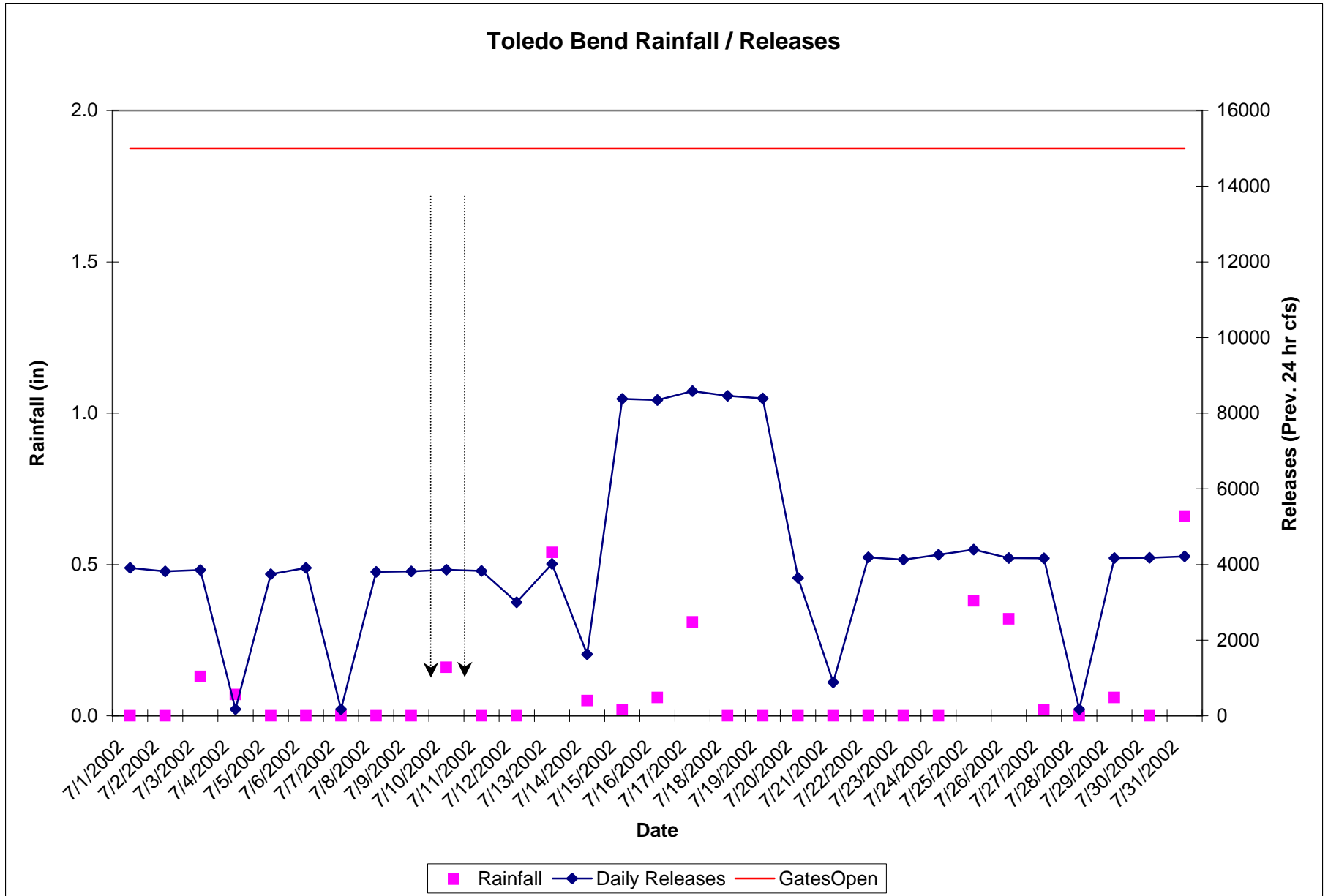
TOP: Top of Pool = 172 Feet M.S.L.

NR: Not Recorded

Toledo Bend Sampled on 7/9/2002 and 7/10/2002

SABINE RIVER AUTHORITY OF TEXAS

July 2002



Toledo Bend sampled on 7/9/2002 and 7/10/2002

Flood gates open when flow greater than approximately 15,000 cfs

SABINE RIVER AUTHORITY OF TEXAS

Burkeville Weather and River Data

July 2002

Date	<i>Rainfall</i>	<i>Gauge Height</i>	<i>GH - FS</i>	<i>Flow</i>
7/1/2002	0.00	12.32	(25.68)	141
7/2/2002	0.01	16.75	(21.25)	2,351
7/3/2002	0.58	17.12	(20.88)	2,641
7/4/2002	0.06	17.04	(20.96)	2,580
7/5/2002	0.00	12.38	(25.62)	154
7/6/2002	0.00	16.82	(21.18)	2,406
7/7/2002	0.00	17.22	(20.78)	2,718
7/8/2002	0.00	12.37	(25.63)	151
7/9/2002	0.00	17.27	(20.73)	2,757
7/10/2002	0.00	17.31	(20.69)	2,788
7/11/2002	0.00	17.36	(20.64)	2,828
7/12/2002	0.00	17.50	(20.50)	2,939
7/13/2002	0.24	17.13	(20.87)	2,649
7/14/2002	0.00	17.32	(20.68)	2,796
7/15/2002	0.08	14.05	(23.95)	702
7/16/2002	0.16	20.49	(17.51)	5,760
7/17/2002	0.36	20.57	(17.43)	5,846
7/18/2002	0.00	20.42	(17.58)	5,684
7/19/2002	0.00	19.97	(18.03)	5,210
7/20/2002	0.00	19.96	(18.04)	5,199
7/21/2002	0.00	16.27	(21.73)	1,991
7/22/2002	0.00	13.27	(24.73)	399
7/23/2002	0.00	17.28	(20.72)	2,765
7/24/2002	0.00	17.15	(20.85)	2,664
7/25/2002	0.23	17.46	(20.54)	2,907
7/26/2002	0.03	17.49	(20.51)	2,931
7/27/2002	0.09	17.23	(20.77)	2,726
7/28/2002	0.00	17.44	(20.56)	2,891
7/29/2002	0.08	12.55	(25.45)	192
7/30/2002	0.00	17.35	(20.65)	2,820
7/31/2002	0.01	17.29	(20.71)	2,773
Avg or Tot	1.93	16.84	(21.16)	2,689

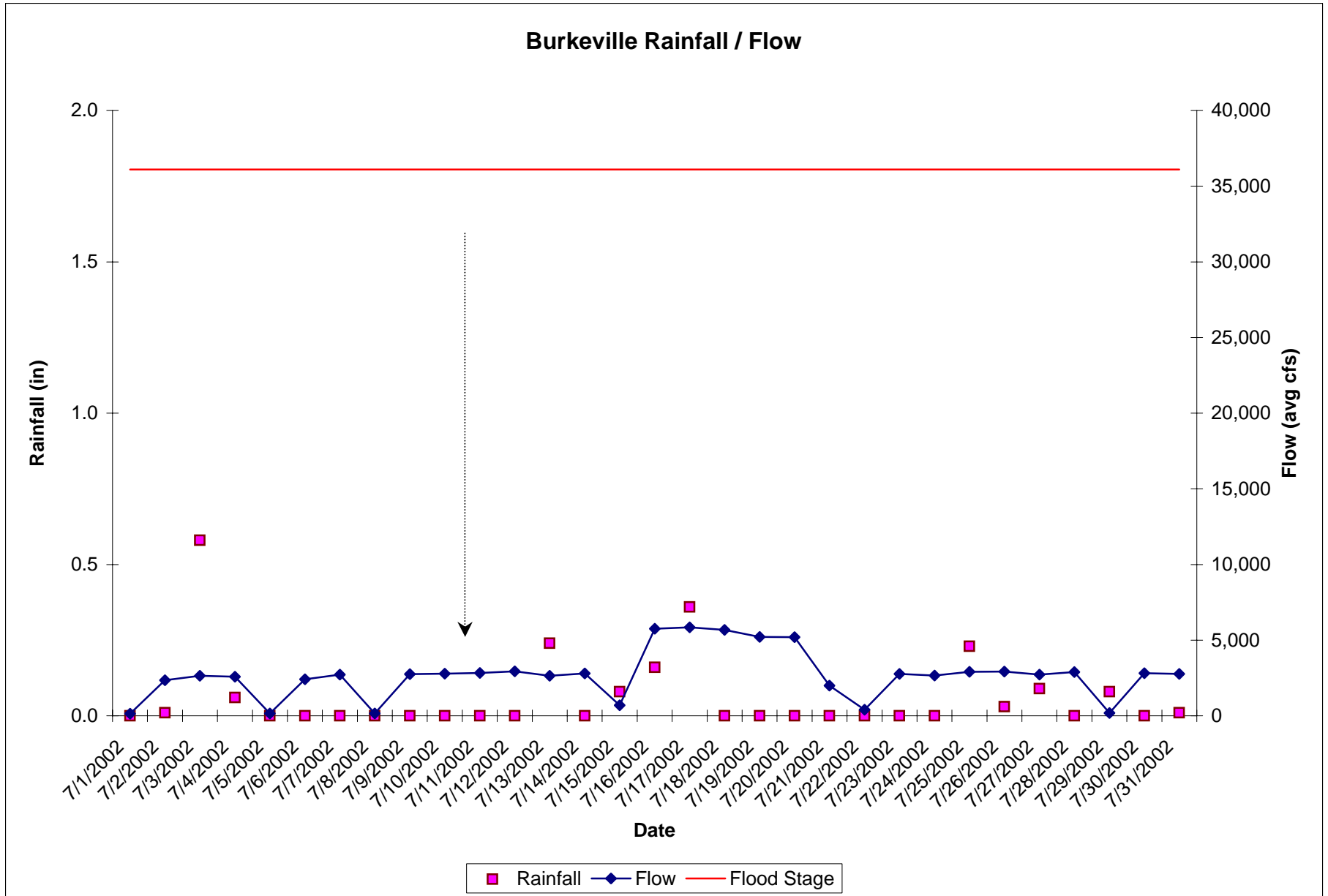
	Tot	Avg	Avg	Avg
Units	Inches	Feet	Feet	cfs

FS: Flood Stage = 41 feet

Lower Sabine Basin Sampled on 7/10/2002

SABINE RIVER AUTHORITY OF TEXAS

July 2002



Flood stage flow of 36,100 cfs calculated from flood stage gage height, 38 ft msl.

SABINE RIVER AUTHORITY OF TEXAS

Bon Wier Weather and River Data

July 2002

Date	<i>Gauge Height</i>	<i>GH - FS</i>	<i>Flow Avg</i>	<i>308 Rainfall</i>
7/1/2002	15.35	(14.65)	2,125	0.00
7/2/2002	13.61	(16.39)	1,037	0.00
7/3/2002	16.91	(13.09)	3,388	0.00
7/4/2002	17.06	(12.94)	3,523	0.00
7/5/2002	16.21	(13.79)	2,788	0.00
7/6/2002	13.54	(16.46)	1,001	0.00
7/7/2002	16.77	(13.23)	3,263	0.00
7/8/2002	16.29	(13.71)	2,854	0.17
7/9/2002	13.38	(16.62)	920	0.00
7/10/2002	16.71	(13.29)	3,211	0.01
7/11/2002	16.86	(13.14)	3,343	0.00
7/12/2002	16.89	(13.11)	3,370	0.41
7/13/2002	OUT	OUT	OUT	OUT
7/14/2002	OUT	OUT	OUT	OUT
7/15/2002	OUT	OUT	OUT	OUT
7/16/2002	OUT	OUT	OUT	OUT
7/17/2002	OUT	OUT	OUT	OUT
7/18/2002	OUT	OUT	OUT	OUT
7/19/2002	OUT	OUT	OUT	OUT
7/20/2002	20.68	(9.32)	7,490	0.00
7/21/2002	19.23	(10.77)	5,742	0.00
7/22/2002	16.11	(13.89)	2,707	0.00
7/23/2002	14.35	(15.65)	1,457	0.00
7/24/2002	16.90	(13.10)	3,379	0.00
7/25/2002	17.13	(12.87)	3,586	0.35
7/26/2002	17.16	(12.84)	3,614	0.00
7/27/2002	17.28	(12.72)	3,725	0.00
7/28/2002	17.17	(12.83)	3,623	0.00
7/29/2002	16.45	(13.55)	2,988	0.07
7/30/2002	13.77	(16.23)	1,123	0.00
7/31/2002	16.93	(13.07)	3,406	0.00
Avg or Tot	16.36	(13.64)	3,069	1.01

Units	Avg Feet	Avg Feet	Avg	Tot Inches
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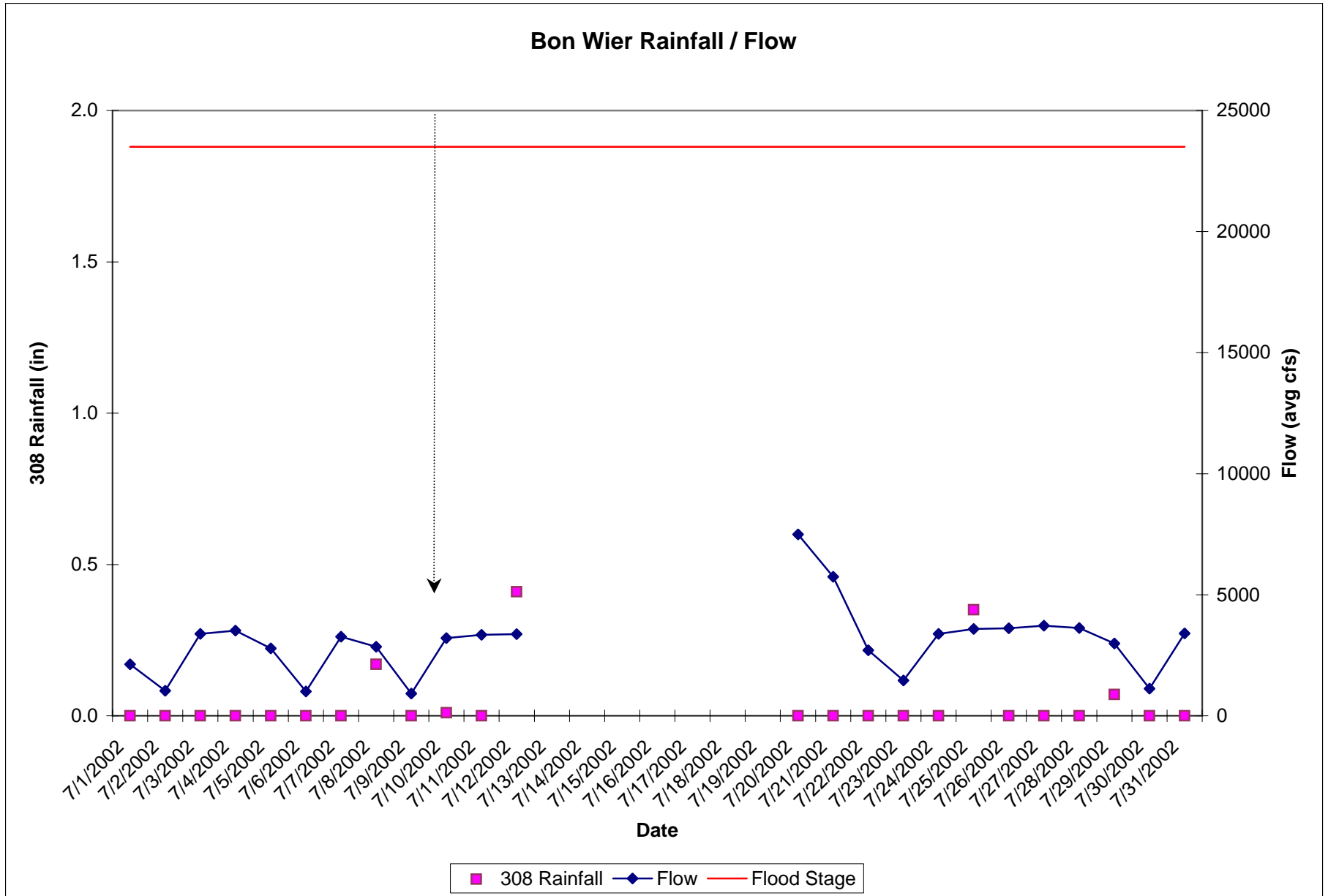
FS: Flood Stage = 30 feet

OUT: Gage Out

Lower Sabine Basin Sampled on 7/10/2002

SABINE RIVER AUTHORITY OF TEXAS

July 2002



Lower Sabine Basin sampled on 7/10/2002

Flood stage flow of 23,500 cfs calculated from flood stage gage height, 30 ft msl.

SABINE RIVER AUTHORITY OF TEXAS

Ruliff Weather and River Data

July 2002

Date	<i>Gauge Height</i>	<i>GH - FS</i>	<i>Flow cfs</i>	<i>Flow acft</i>	<i>Flow avg</i>	<i>309 Rainfall</i>
7/1/2002	18.70	(5.30)	3,389	6,722	3,389	0.00
7/2/2002	18.53	(5.47)	3,272	6,490	3,331	0.02
7/3/2002	17.05	(6.95)	2,348	4,657	3,003	0.00
7/4/2002	18.46	(5.54)	3,225	6,397	3,059	0.00
7/5/2002	19.56	(4.44)	4,143	8,218	3,275	0.00
7/6/2002	19.72	(4.28)	4,306	8,541	3,447	0.00
7/7/2002	18.16	(5.84)	3,024	5,998	3,387	0.48
7/8/2002	18.54	(5.46)	3,279	6,504	3,373	0.31
7/9/2002	19.33	(4.67)	3,914	7,763	3,433	0.00
7/10/2002	18.00	(6.00)	2,920	5,792	3,382	0.81
7/11/2002	18.47	(5.53)	3,232	6,411	3,368	0.01
7/12/2002	19.47	(4.53)	4,053	8,039	3,425	0.60
7/13/2002	19.86	(4.14)	4,452	8,830	3,504	0.98
7/14/2002	19.95	(4.05)	4,547	9,019	3,579	0.94
7/15/2002	19.74	(4.26)	4,326	8,580	3,629	0.10
7/16/2002	20.07	(3.93)	4,694	9,310	3,695	0.79
7/17/2002	19.99	(4.01)	4,589	9,102	3,748	1.15
7/18/2002	20.92	(3.08)	5,835	11,574	3,864	0.01
7/19/2002	21.61	(2.39)	6,891	13,668	4,023	0.00
7/20/2002	22.05	(1.95)	7,719	15,310	4,208	0.00
7/21/2002	22.17	(1.83)	8,010	15,888	4,389	0.00
7/22/2002	22.18	(1.82)	8,034	15,935	4,555	0.00
7/23/2002	21.88	(2.12)	7,377	14,632	4,677	0.00
7/24/2002	20.32	(3.68)	5,040	9,997	4,692	0.00
7/25/2002	19.58	(4.42)	4,163	8,257	4,671	0.02
7/26/2002	19.92	(4.08)	4,515	8,955	4,665	0.00
7/27/2002	20.13	(3.87)	4,776	9,473	4,669	0.12
7/28/2002	20.22	(3.78)	4,900	9,719	4,678	0.08
7/29/2002	20.21	(3.79)	4,886	9,691	4,685	0.00
7/30/2002	20.15	(3.85)	4,803	9,527	4,689	0.05
7/31/2002	18.51	(5.49)	3,259	6,464	4,643	0.00
Avg or Tot	19.79	(4.21)	4,643	285,463		6.47

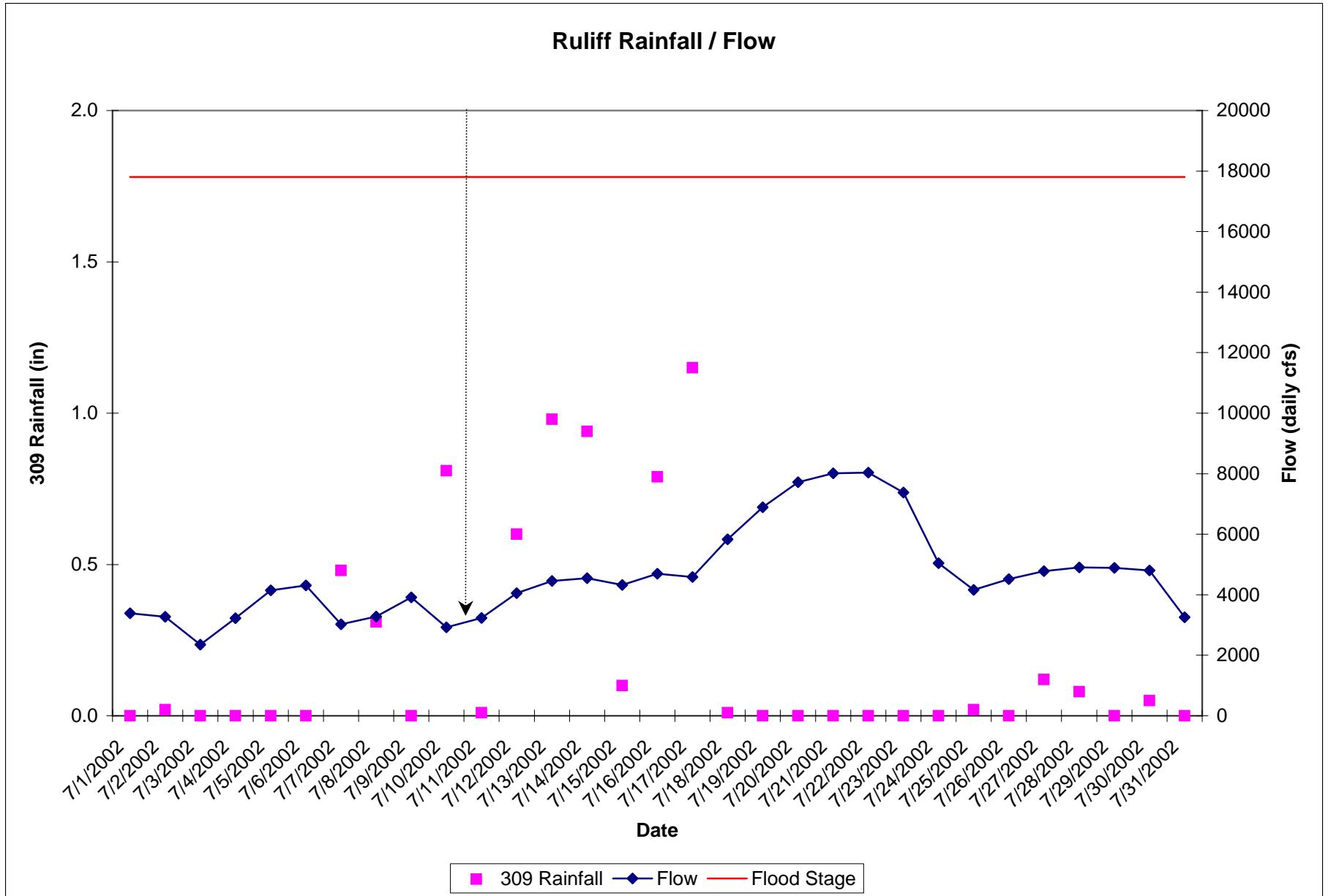
Units	Avg Feet	Avg Feet	Avg cfs	Tot ac ft	Tot Inches
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FS: Flood Stage 24 feet with 10 foot datum

Lower Sabine Basin Sampled on 7/10/2002

SABINE RIVER AUTHORITY OF TEXAS

July 2002



Lower Sabine Basin sampled on 7/10/2002

Flood stage flow of 17,800 cfs calculated from flood stage gage height, 24 ft msl.

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FY2002 Fixed Monitoring Stations

Tidal Sabine Basin

<i>SW</i>	<i>Segment</i>	<i>Station</i>	<i>Location</i>
1.05	0501	15653 (ICW1)	INTERCOASTAL WATERWAY AT PERRY RIDGE
1.01	0501	15654 (BB1)	BLACK BAYOU IN CAMERON PARISH
1.00	0501	10395 (SR1)	SABINE RIVER 12.00 KM UPSTREAM OF IH 10
1.00	0501	10394 (SRT2)	SABINE RIVER AT IH 10
1.00	0501	10391 (SRT1)	SABINE RIVER AT CHANNEL CAN 3

SABINE RIVER AUTHORITY OF TEXAS

Tidal Report

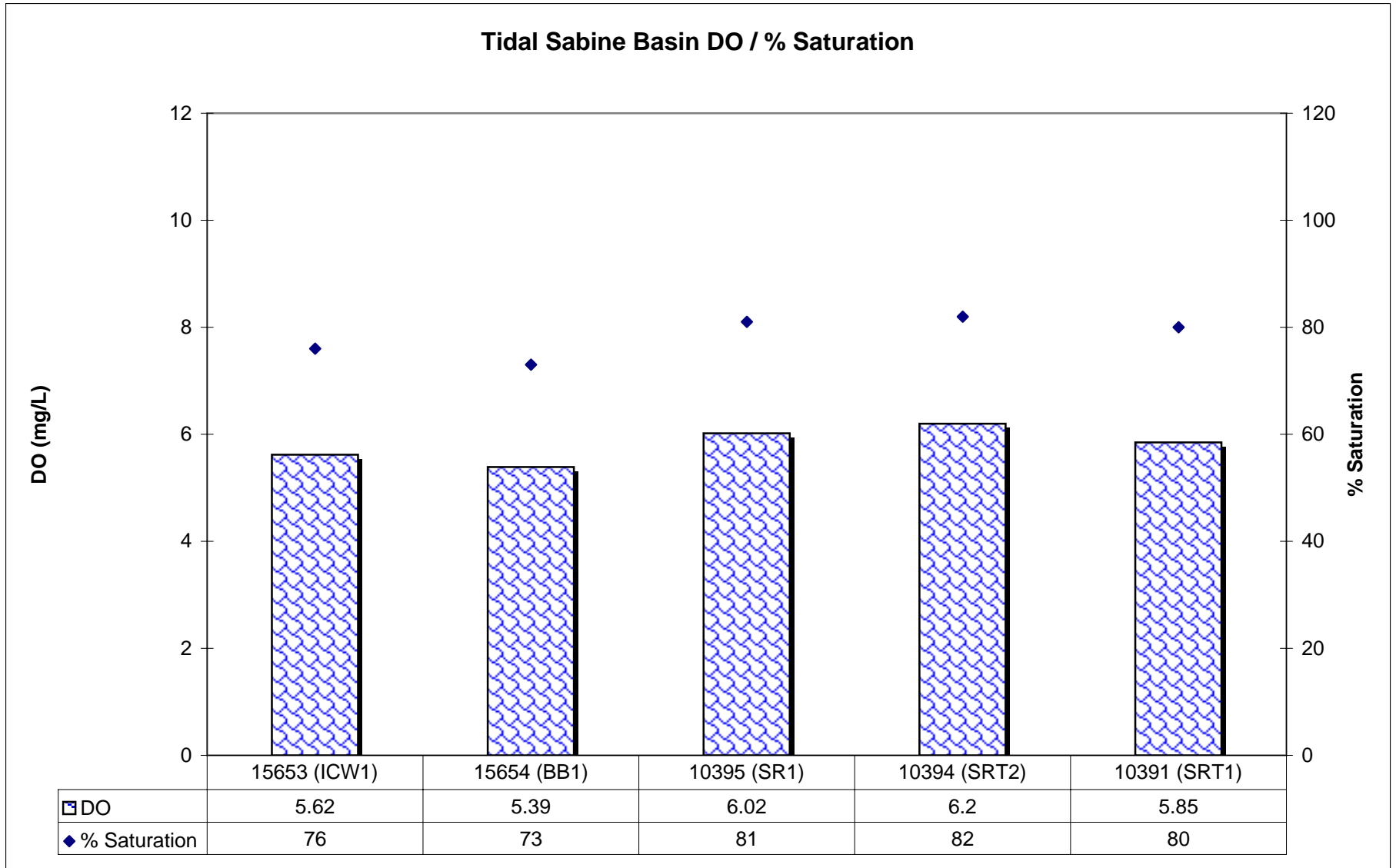
July 2002

Date	SW ID	Station	Temperature °C 00010	pH Units 00400	DO mg/L 00300	% Saturation 00301	Conductivity µS/cm 00094	Salinity ppt 00480	Secchi Meters 00078	Turbidity NTU 82079	<i>E. coli</i> mpn/100ml 31699	<i>Enterococcus</i> mpn/100ml 31701	Chlorophyll a µg/L 32211	Nitrate & Nitrite 00630	Ortho- Phosphate 00671	TOC mg/L 00680	Total Alkalinity 00410	Total Hardness 00900	Chloride mg/L 00940	Sulfate mg/L 00945
7/11/02 10:15 AM	1.05	15653 (ICW1)	30.6	7.22	5.62	76	3940	2	0.43	14.3	*	2	*	< 0.04	< 0.04	4	30	416	56	184
7/11/02 10:45 AM	1.01	15654 (BB1)	30.2	7.24	5.39	73	7223	4	0.62	10.5	*	1	*	< 0.04	< 0.04	4	40	788	650	380
7/11/02 9:05 AM	1.00	10395 (SR1)	30.7	7.26	6.02	81	155	*	0.47	17.2	9	*	*	< 0.04	< 0.04	5	20	28	15	24
7/11/02 9:30 AM	1.00	10394 (SRT2)	30.5	7.29	6.2	82	237	*	0.42	16.9	*	7	*	< 0.04	< 0.04	5	20	36	55	27
7/11/02 11:10 AM	1.00	10391 (SRT1)	30.3	7.31	5.85	80	7509	4	0.78	8.17	*	1	*	< 0.04	< 0.04	3	40	816	340	180

*: Not sampled on this run

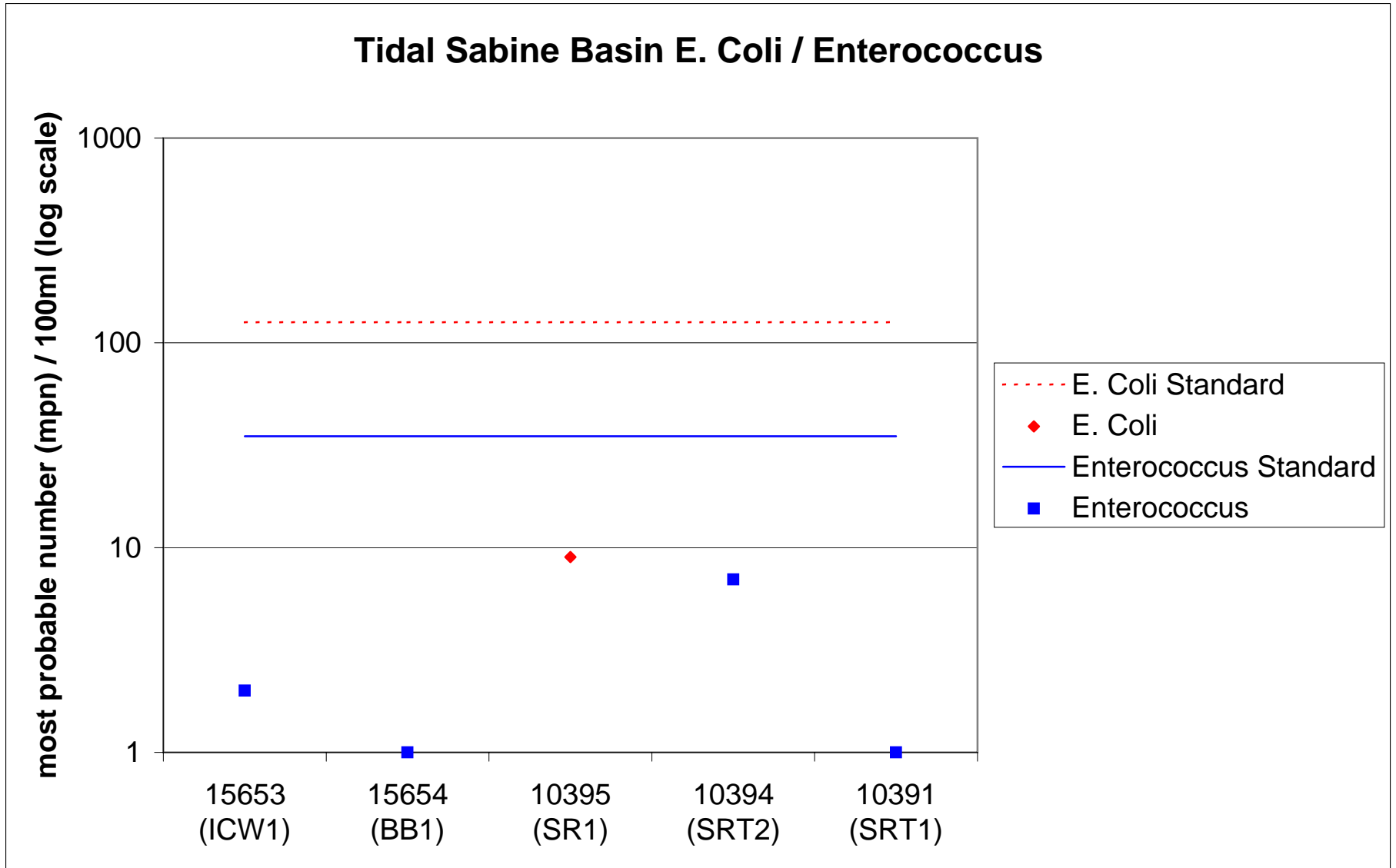
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July 2002



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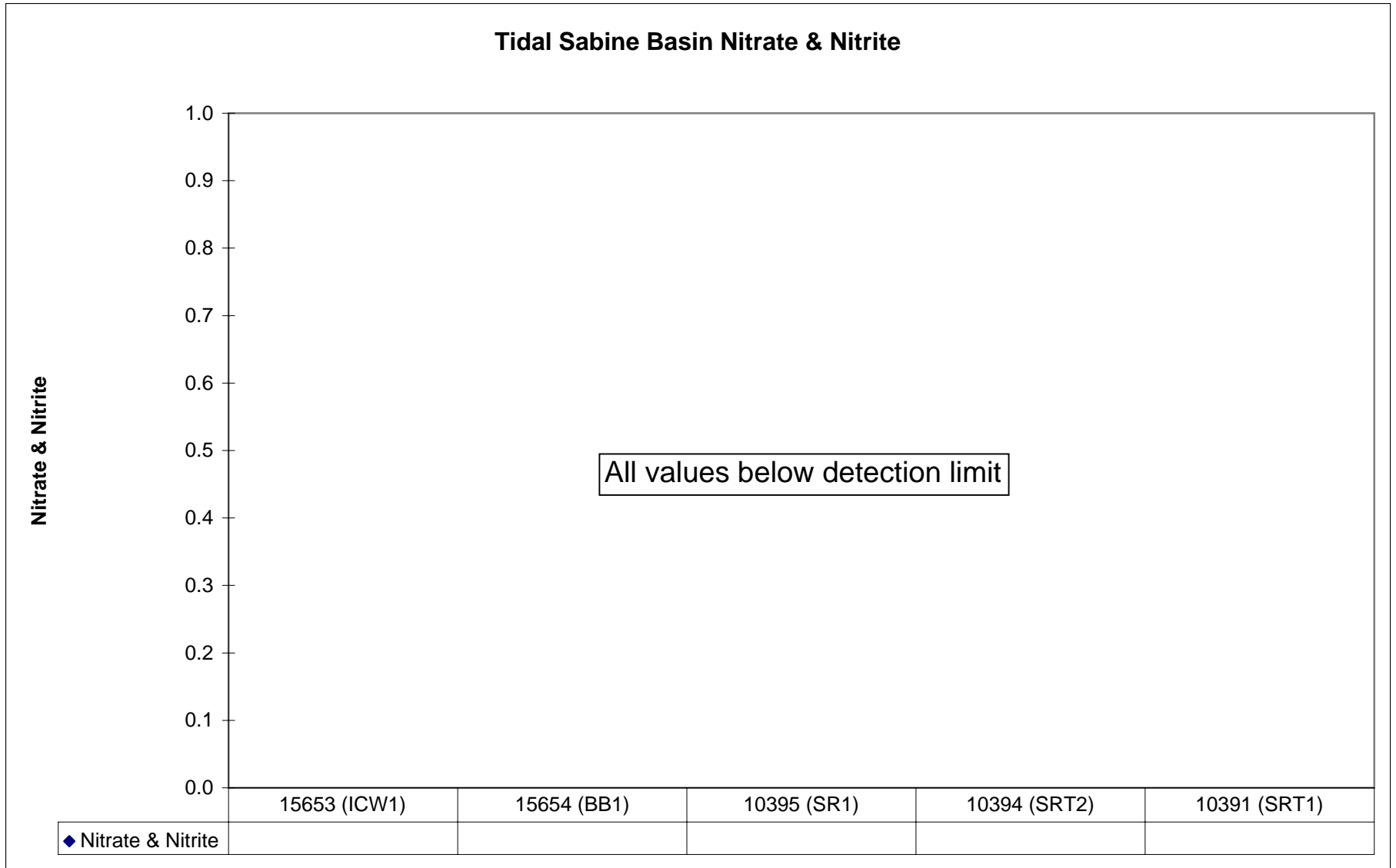
July 2002



Stations without values were not sampled on this run (see page 38).

SABINE RIVER AUTHORITY OF TEXAS

July 2002



Stations without values were below detection limit on this run (see page 38)

SABINE RIVER AUTHORITY OF TEXAS

Tidal Profiles

July 2002

Date	SW ID	Station	Depth Meters	Temperature	pH	DO	%	Conductivity	Salinity
				°C 00010	Units 00400	mg/L 00300	Saturation 00301	µS/cm 00094	ppt 00480
7/11/02 10:15 AM	1.05	15653 (ICW1)	0.3	30.6	7.22	5.62	76	3940	2
			6.1	30.5	7.18	5.57	75	3986	2
7/11/02 10:45 AM	1.01	15654 (BB1)	0.3	30.2	7.24	5.39	73	7223	4
			5.6	30.1	7.17	4.96	68	7228	4
7/11/02 9:30 AM	1.00	10394 (SRT2)	0.3	30.5	7.29	6.2	82	237	< 1
			4	30.4	7.48	5.53	74	254	< 1
			7.2	29.9	6.74	2.45	32	8915	5
7/11/02 11:10 AM	1.00	10391 (SRT1)	0.3	30.3	7.31	5.85	80	7509	4
			5	30.1	7.37	5.32	72	8600	5
			9	30.4	7.23	3.95	56	15310	9

SABINE RIVER AUTHORITY OF TEXAS

Orange Weather and River Data

July 2002

Date	310 (Orange) Rainfall	Gauge Height	GH - FS	Max Temp	Min Temp	Cur Temp	293 (GCD) Rainfall
7/1/2002	0.00	1.76	(2.24)	90	73	73	0.00
7/2/2002	0.04	1.64	(2.36)	90	73	75	0.00
7/3/2002	0.00	1.85	(2.15)	90	74	74	0.00
7/4/2002	0.00	2.00	(2.00)	90	71	71	0.00
7/5/2002	0.00	1.81	(2.19)	92	69	69	0.00
7/6/2002	0.00	1.62	(2.38)	93	69	71	0.00
7/7/2002	0.08	1.60	(2.40)	94	71	74	0.00
7/8/2002	0.07	1.76	(2.24)	94	71	71	0.23
7/9/2002	0.00	1.77	(2.23)	93	71	72	0.00
7/10/2002	0.00	1.40	(2.60)	89	72	73	0.61
7/11/2002	0.00	1.12	(2.88)	92	73	75	0.00
7/12/2002	0.01	1.08	(2.92)	94	73	73	0.02
7/13/2002	0.12	1.24	(2.76)	96	72	73	0.47
7/14/2002	0.92	1.09	(2.91)	76	71	71	1.20
7/15/2002	0.00	1.43	(2.57)	89	71	74	0.50
7/16/2002	0.51	1.60	(2.40)	85	71	74	0.61
7/17/2002	0.97	1.90	(2.10)	83	72	72	1.94
7/18/2002	0.00	1.94	(2.06)	91	72	73	0.00
7/19/2002	0.00	1.96	(2.04)	93	71	71	0.00
7/20/2002	0.00	1.95	(2.05)	93	71	73	0.00
7/21/2002	0.00	1.87	(2.13)	94	73	74	0.00
7/22/2002	0.00	1.67	(2.33)	95	74	74	0.00
7/23/2002	0.00	1.21	(2.79)	93	73	73	0.00
7/24/2002	0.00	1.28	(2.72)	95	72	76	0.00
7/25/2002	0.02	0.93	(3.07)	96	73	77	0.01
7/26/2002	0.00	1.23	(2.77)	86	75	75	0.00
7/27/2002	0.15	1.33	(2.67)	87	74	74	0.64
7/28/2002	0.12	1.52	(2.48)	91	74	76	0.16
7/29/2002	0.10	1.53	(2.47)	92	76	77	0.01
7/30/2002	0.01	1.61	(2.39)	92	75	75	0.00
7/31/2002	0.00	1.70	(2.30)	89	74	76	0.36
Avg or Tot	3.12	1.56	(2.44)	91	72	74	6.76

Units	Tot Inches	Avg Feet	Avg Feet	Avg Deg F	Avg Deg F	Avg Deg F	Tot Inches
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Appx. 8 am

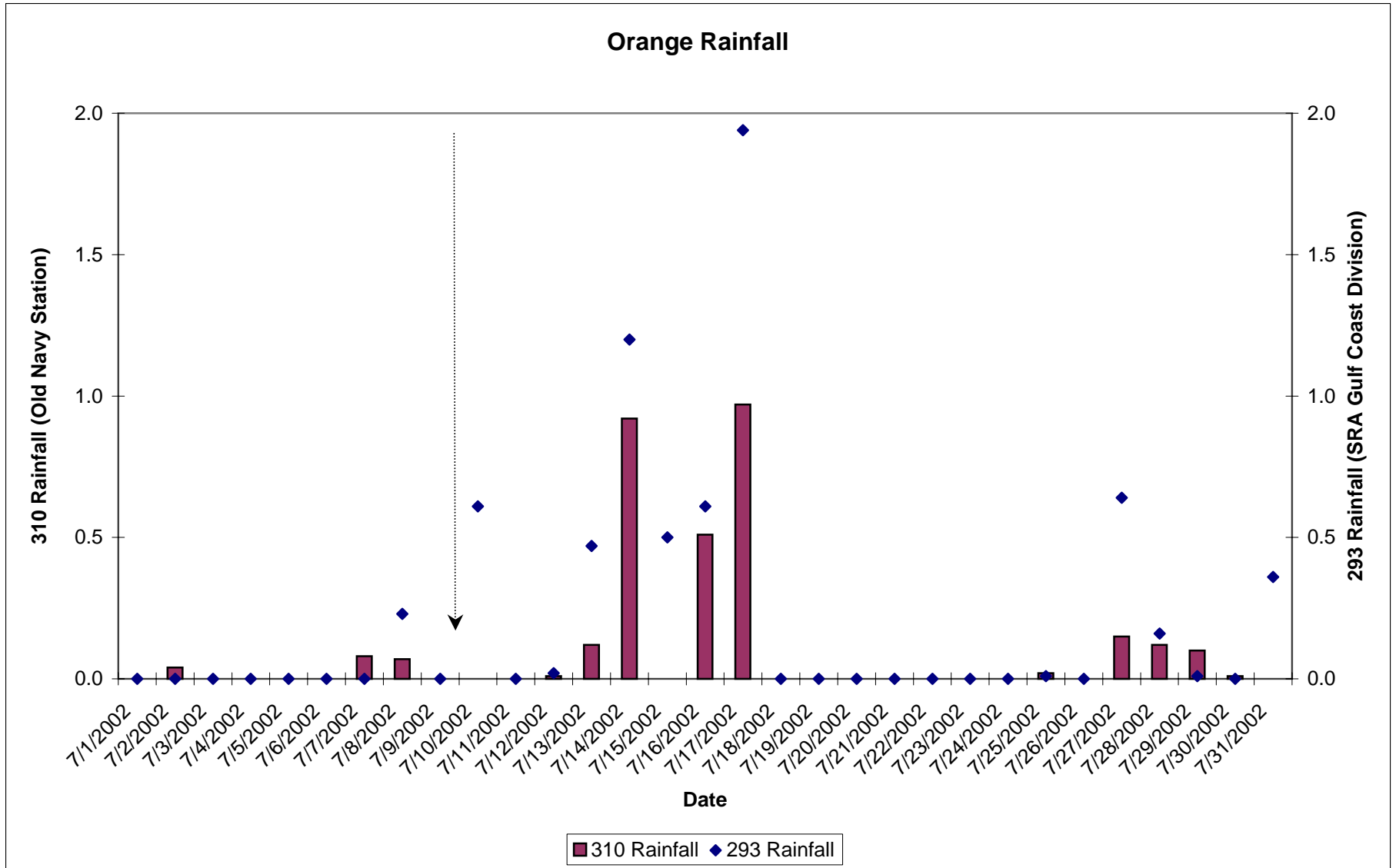
310 Rainfall: Old Navy Base, City of Orange
 293: SRA Gulf Coast Division Office, Northern Orange County

FS: Flood Stage = 4 Feet

Tidal Sabine Basin Sampled on 7/11/2002

SABINE RIVER AUTHORITY OF TEXAS

July 2002



Tidal Sabine Basin Sampled on 7/11/2002