Chapter 6

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Appendix A
Water Quality Laboratory Results

Table A– 1. Data associated with water quality sampling; organized by event and station number from downstream to upstream

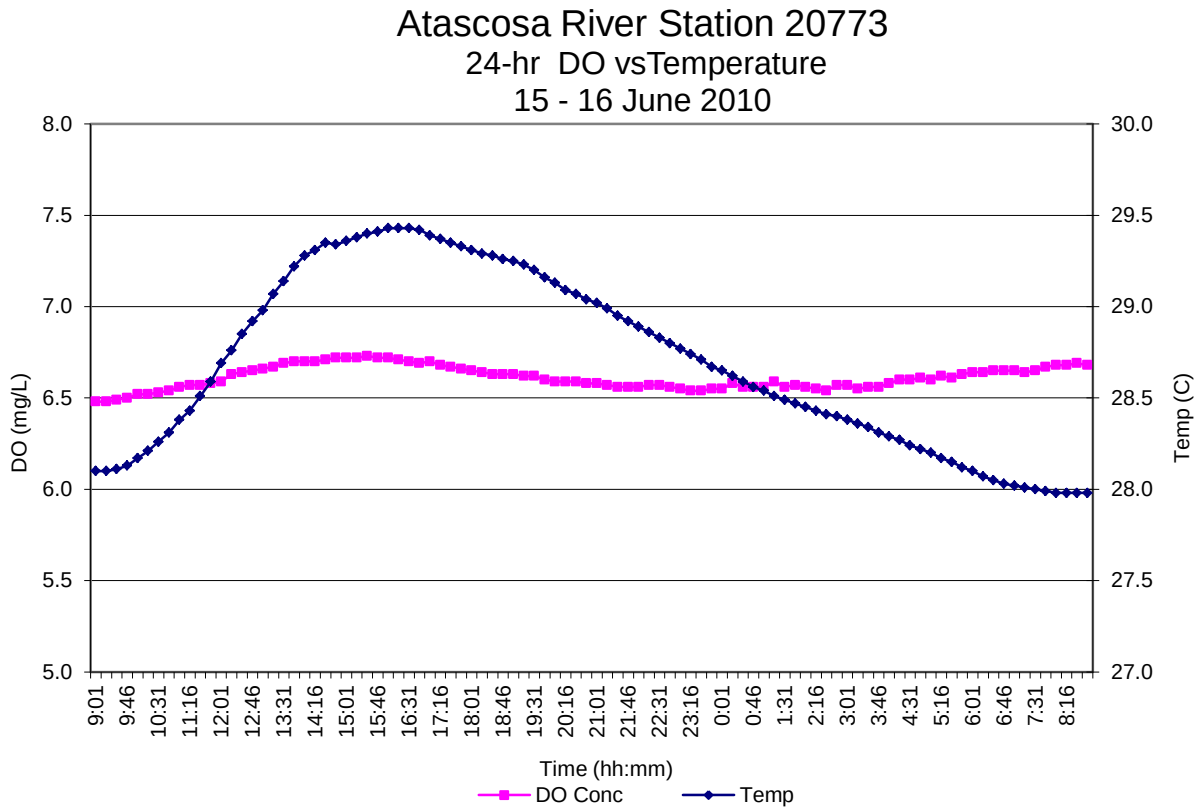
Station	Date	Time	Sample Depth (m)	DSLP	Flow Sev	T (°C)	SC (µS/cm)	DO (mg/L)	pH (SU)	TP (mg/L)	PO_4P (mg/L)	TKN (mg/L)	NH_3-N (mg/L)	NO_{2+3}-N (mg/L)	TDS (mg/L)	TSS (mg/L)	VSS (mg/L)	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	Tot Alk (mg/L)	TOC (mg/L)	Chl-a (µg/L)	Pheo-a (µg/L)
20773	06/16/10	8:44	0.3	6	5	28.0	1180	6.7	7.9	0.27	0.155	1.13	0.175	0.260	771	41	7	159	171	194	6.5	10.0	<3.0
12980	06/16/10	8:44	0.3	6	5	27.5	1290	6.4	7.8	0.26	0.128	1.13	<0.1	0.276	827	167	17	172	195	200	6.8	8.4	<3.0
20764	06/16/10	9:40	0.3	6	5	27.4	1710	5.4	7.6	0.16	0.064	0.90	0.115	0.377	1132	23	5	228	336	224	6.5	3.5	<3.0
17900	06/16/10	10:00	0.3	6	5	27.2	1760	5.0	7.5	0.35	0.213	0.98	0.208	0.570	1198	7	<4	229	402	199	6.1	3.7	<3.0
20762	06/16/10	10:47	0.1	6	3	28.7	943	6.6	7.5	0.40	0.316	1.67	<0.1	0.104	748	21	8	154	190	178	6.2	44.4	<3.0
20761	06/16/10	10:53	0.1	6	2	27.6	2030	1.6	7.5	0.16	0.054	2.38	0.260	<0.05	1290	17	8	309	241	396	11.1	67.4	<3.0
20760	06/16/10	11:21	0.1	6	1	27.3	286	1.6	7.8	0.61	0.100	4.46	0.378	<0.05	424	119	29	29.4	5.7	204	12.9	216.7	22.2
20773	07/28/10	7:46	0.1	>7	3	28.4	1750	5.9	8.2	0.30	0.224	0.84	<0.1	<0.05	1089	30	5	ND*	ND	ND	ND	13.7	5.5
12980	07/28/10	7:38	0.3	>7	3	27.7	1790	5.8	7.8	0.27	0.173	0.78	<0.1	0.050	1110	17	<4	ND	ND	ND	ND	10.0	5.0
20764	07/27/10	13:56	0.1	>7	3	27.6	2060	6.2	7.9	0.24	0.170	0.95	<0.1	0.257	1342	17	4	ND	ND	ND	ND	11.5	<3.0
17900	07/27/10	10:17	0.3	>7	3	26.9	2010	5.2	7.7	1.21	1.083	1.22	<0.1	2.851	1241	6	<4	ND	ND	ND	ND	<3.0	<3.0
20762	07/27/10	13:11	0.1	>7	3	29.1	1820	6.2	7.5	0.27	0.187	1.00	<0.1	0.239	1159	10	<4	ND	ND	ND	ND	21.0	3.9
20773	08/25/10	13:57	0.1	>7	2	30.4	2160	6.8	8.4	0.56	0.346	1.32	<0.1	<0.05	1342	19	4	309	194	486	9.1	20.2	4.7
12980	08/25/10	13:11	0.1	>7	3	30.9	1820	7.7	8.3	0.36	0.262	1.02	<0.1	<0.05	1141	22	5	263	185	498	7.3	17.0	3.1
20764	08/25/10	12:24	0.1	>7	3	27.4	2180	6.2	8.0	0.40	0.278	0.79	<0.1	0.051	1443	17	<4	316	389	323	7.2	6.1	<3.0
17900	08/25/10	11:36	0.1	>7	3	27.0	1690	3.8	7.9	2.78	2.586	0.94	<0.1	5.770	1070	4	<4	236	259	248	5.9	<3.0	<3.0
20762	08/25/10	10:15	0.1	>7	2	28.8	1890	5.6	7.9	0.69	0.452	1.18	<0.1	0.026	1217	28	8	288	323	257	7.3	67.9	3.2
20773	09/22/10	13:20	0.3	2	5	25.5	602	7.0	7.8	0.64	0.322	2.37	<0.1	0.683	519	134	26	83.2	49.9	110	11.6	6.8	4.9
12980	09/22/10	12:05	0.3	2	5	25.5	619	6.7	7.8	0.60	0.313	2.46	<0.1	0.715	509	85	13	85.7	49.4	114	12.2	9.0	<3.0
20764	09/22/10	10:46	0.3	>7	5	24.9	905	5.4	7.6	0.49	0.305	1.57	<0.1	0.459	614	34	5	118	143	167	8.4	<3.0	<3.0
17900	09/22/10	14:54	0.1	>7	5	25.9	997	5.7	7.7	0.95	0.899	0.92	0.103	3.274	640	6	<4	119	161	160	7.0	<3.0	<3.0
20762	09/22/10	9:41	0.1	>7	1	25.7	1220	4.5	7.4	0.42	0.302	1.09	0.127	0.401	766	8	<4	153	183	213	6.6	19.5	<3.0
20761	09/22/10	9:11	0.3	>7	1	24.9	720	3.7	7.6	0.25	0.123	1.74	0.123	0.372	465	65	6	82.6	69.4	162	9.8	6.4	<3.0
20760	09/22/10	16:04	0.3	<1	1	25.1	548	4.6	7.7	0.38	0.250	2.00	0.273	<0.05	376	31	7	57.5	45.2	138	12.0	28.9	<3.0
17142	09/22/10	8:25	0.3	>7	1	25.0	733	10	7.3	0.49	0.277	1.88	<0.1	<0.05	467	10	4	88.2	66.1	165	12.6	50.7	3.6

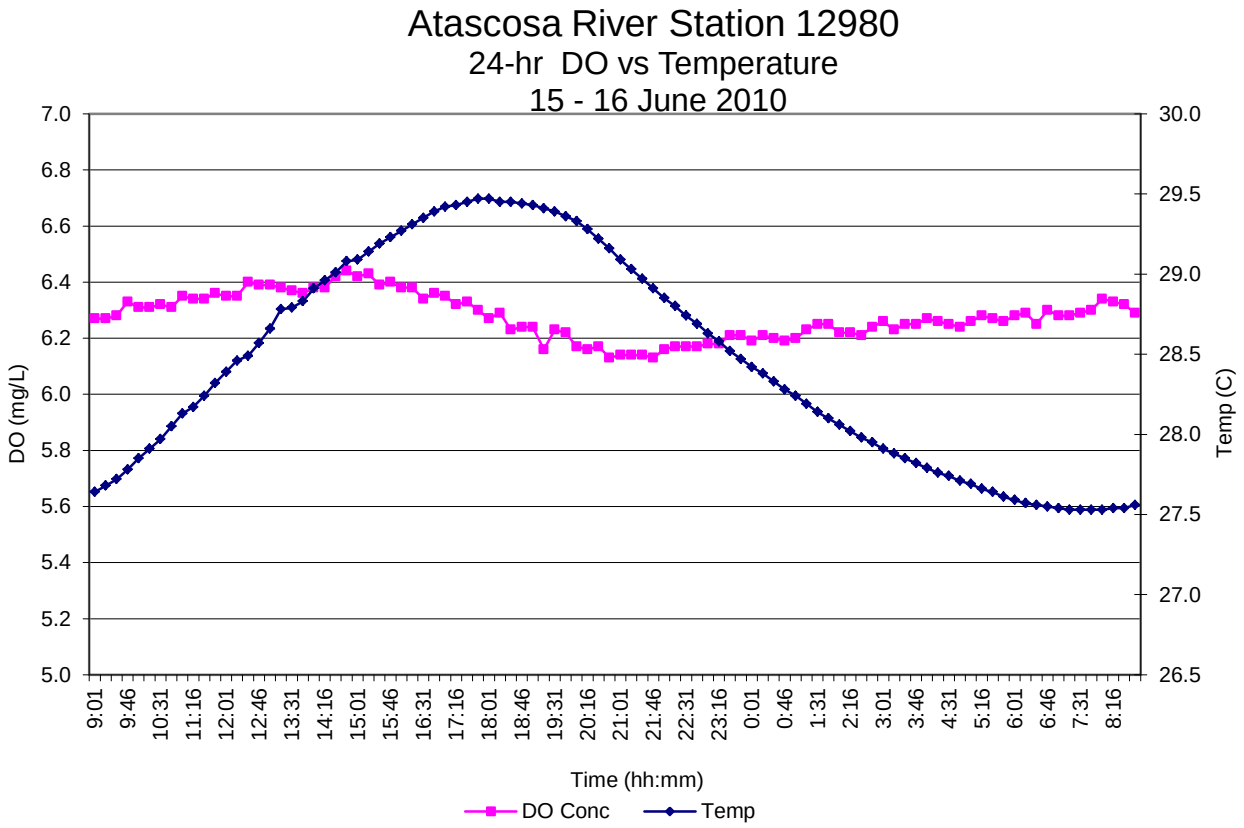
*ND = No data because sample temperatures exceeded acceptable level at log-in (Shipped to TRA lab).

Table A– 1. Data associated with water quality sampling; organized by event and station number from downstream to upstream

Station	Date	Time	Sample Depth (m)	DSLP	Flow Sev	T (°C)	SC (µS/cm)	DO (mg/L)	pH (SU)	TP (mg/L)	PO_4P (mg/L)	TKN (mg/L)	NH_3-N (mg/L)	NO_{2+3}-N (mg/L)	TDS (mg/L)	TSS (mg/L)	VSS (mg/L)	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	Tot Alk (mg/L)	TOC (mg/L)	Chl-a (µg/L)	Pheo-a (µg/L)
20773	03/15/11	13:30	0.1	>7	2	20.2	2060	7.6	8.3	0.22	0.192	0.59	<0.1	<0.05	1355	24	4	315	247	450	7.4	9.9	<3.0
12980	03/15/11	14:15	0.1	>7	2	21.5	2150	9.3	8.5	0.22	0.185	1.03	<0.1	<0.05	1331	20	4	303	245	466	8.1	11.9	<3.0
20764	03/15/11	15:00	0.1	>7	3	19.9	2040	10.9	8.2	0.34	0.294	0.83	<0.1	<0.05	1332	7	<4	292	365	294	6.1	4.3	<3.0
17900	03/15/11	15:45	0.1	>7	3	19.6	1100	9.1	7.9	1.55	1.645	0.99	<0.1	3.041	1255	9	<4	275	357	261	5.0	3.2	<3.0
20762	03/15/11	16:15	0.03	>7	3	18.8	1600	9.7	7.7	0.35	0.308	1.31	<0.1	3.764	1064	8	4	238	282	224	6.2	28.9	<3.0
20773	04/19/11	11:14	0.1	>7	2	24.3	2760	7.0	8.4	0.38	0.271	0.69	0.167	<0.05	1730	74	12	449	255	518	8.1	32.2	9.5
12980	04/19/11	14:35	0.1	>7	2	28.3	2560	8.7	8.5	0.51	0.335	1.07	<0.1	<0.05	1684	99	15	329	165	670	8.3	38.7	23.7
20764	04/20/11	8:04	0.1	>7	2	24.0	1530	7.2	8.0	0.81	0.324	2.13	0.223	0.184	1323	269	43	298	331	316	7.7	33.9	38.9
17900	04/20/11	7:23	0.1	>7	2	24.2	2060	2.7	7.8	2.94	3.106	0.58	0.143	2.568	936	14	<4	221	174	257	5.3	<3.0	<3.0
20762	04/19/11	8:06	0.03	>7	2	21.8	1540	6.1	7.7	0.92	0.778	1.27	<0.1	2.142	977	16	6	220	237	215	6.0	83.4	14.3
20773	05/18/11	7:30	0.05	>7	2	22.9	2520	6.0	8.8	0.98	0.560	2.02	<0.1	0.186	1963	26	5	292	99.9	900	13.9	64.1	17.7
12980	05/18/11	8:32	0.05	>7	2	23.5	2400	6.0	8.8	0.71	0.302	2.33	<0.1	0.104	1944	35	7	251	81.1	905	11.1	66.4	23.9
20764	05/18/11	8:21	0.03	>7	2	22.1	1920	4.5	8.1	0.74	0.415	1.23	0.110	0.132	1208	96	13	288	281	320	7.3	16.5	10.4
17900	05/18/11	7:34	0.1	>7	2	21.9	1390	5.9	8.0	2.94	2.754	0.71	<0.1	5.242	871	30	7	199	176	223	6.3	197.1	22.3
20762	05/18/11	6:53	0.1	>7	2	22.2	1270	4.2	7.6	1.74	1.500	0.82	<0.1	1.839	807	24	5	182	182	203	6.8	23.0	17.3
20773	07/12/11	12:11	0.1	>7	2	29.8	2040	6.5	9.0	0.45	0.261	1.74	<0.1	<0.05	1092	23	9	177	129	454	11.5	60.9	10.1
12980	07/12/11	10:14	0.1	>7	2	26.8	1110	5.3	8.1	0.64	0.280	2.93	<0.1	0.213	1696	33	9	176	43.4	848	11.1	111.1	37.3
17900	07/13/11	7:55	0.1	>7	3	29.9	1570	7.2	8.9	3.87	3.688	1.26	<0.1	18.804	693	16	4	157	86.7	170	4.7	<3.0	<3.0
20762	07/12/11	7:06	0.05	>7	2	27.3	996	1.2	7.9	2.54	2.007	3.47	1.291	0.128	633	52	13	153	109	180	8.1	24.0	43.4
20773	08/11/11	10:06	0.3	>7	1	29.9	2620	5.4	9.0	0.58	0.293	1.82	<0.1	<0.05	1353	40	10	215	115	519	16.7	78.3	29.0
12980	08/11/11	10:54	0.03	>7	2	29.3	1960	3.0	8.9	0.66	0.166	2.06	<0.1	0.050	2153	21	7	218	37.7	855	12.1	111.0	28.4
17900	08/11/11	10:54	0.1	>7	2	28.4	1230	5.6	8.1	4.34	4.130	0.38	<0.1	19.907	757	10	<4	177	72.5	197	6.5	<3.0	<3.0
20762	08/11/11	9:37	0.3	>7	1	28.6	1190	5.4	8.0	2.04	1.749	0.93	<0.1	<0.05	735	16	14	193	123	195	10.2	101.7	8.5
20773	09/27/11	12:22	0.1	>7	2	27.2	588	5.3	7.1	0.68	0.347	3.08	0.106	0.349	830	49	9	68.5	59.9	205	12.5	24.9	6.9
12980	09/27/11	13:13	0.03	>7	2	27.0	1320	6.3	7.5	0.89	0.398	2.86	<0.1	0.263	1022	45	9	86.2	47.2	310	12.8	46.2	13.7
17900	09/27/11	14:18	0.1	>7	3	29.5	925	6.4	8.4	4.03	3.491	1.47	<0.1	19.065	820	10	<4	188	105	191	7.7	<3.0	<3.0
20762	09/27/11	13:32	0.1	>7	3	28.6	739	5.8	8.1	1.57	1.223	1.89	<0.1	<0.05	385	13	8	71.0	70.6	105	11.7	93.6	18.1

Appendix B
24-hour DO and Temperature Plots


Atascosa River Station 20773
24-hr DO vsTemperature
15 - 16 June 2010
DO (mg/L)
Temp (C)
Time (hh:mm)
DO Conc
Temp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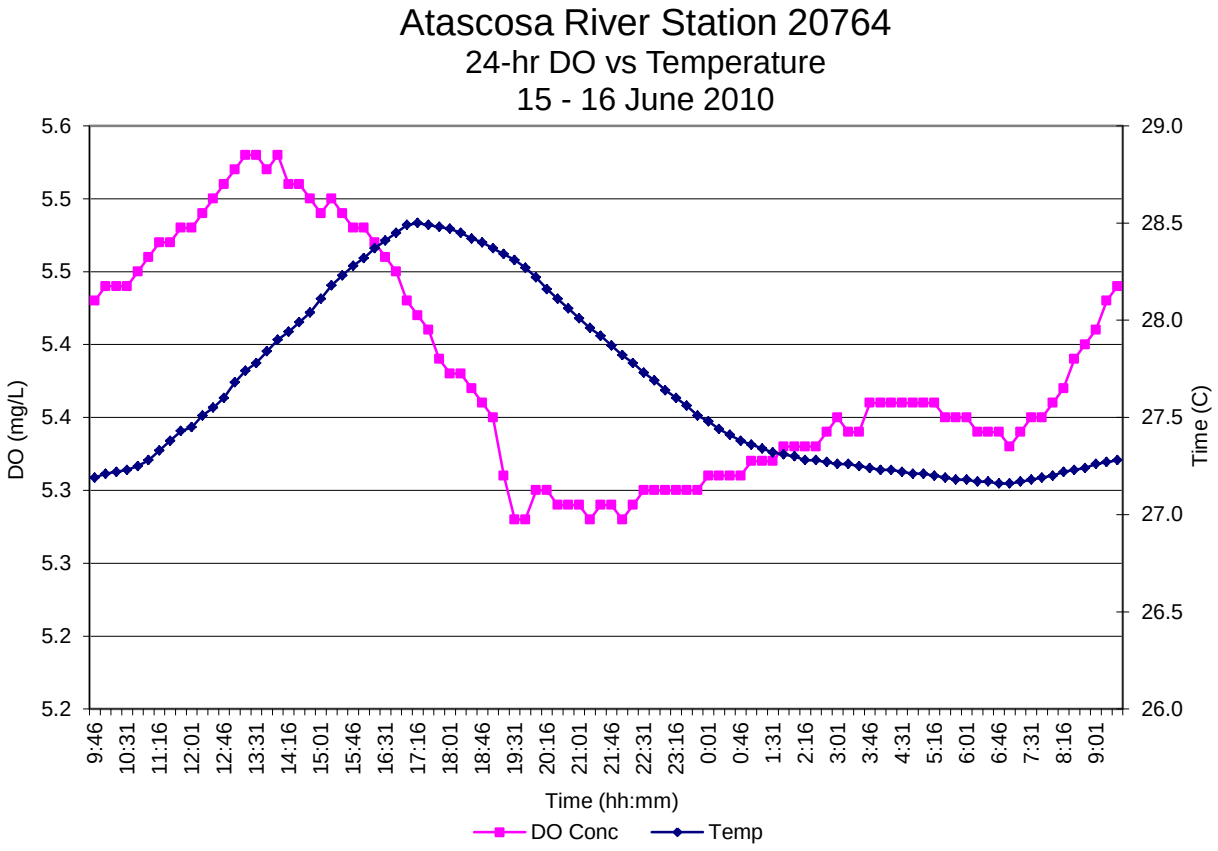
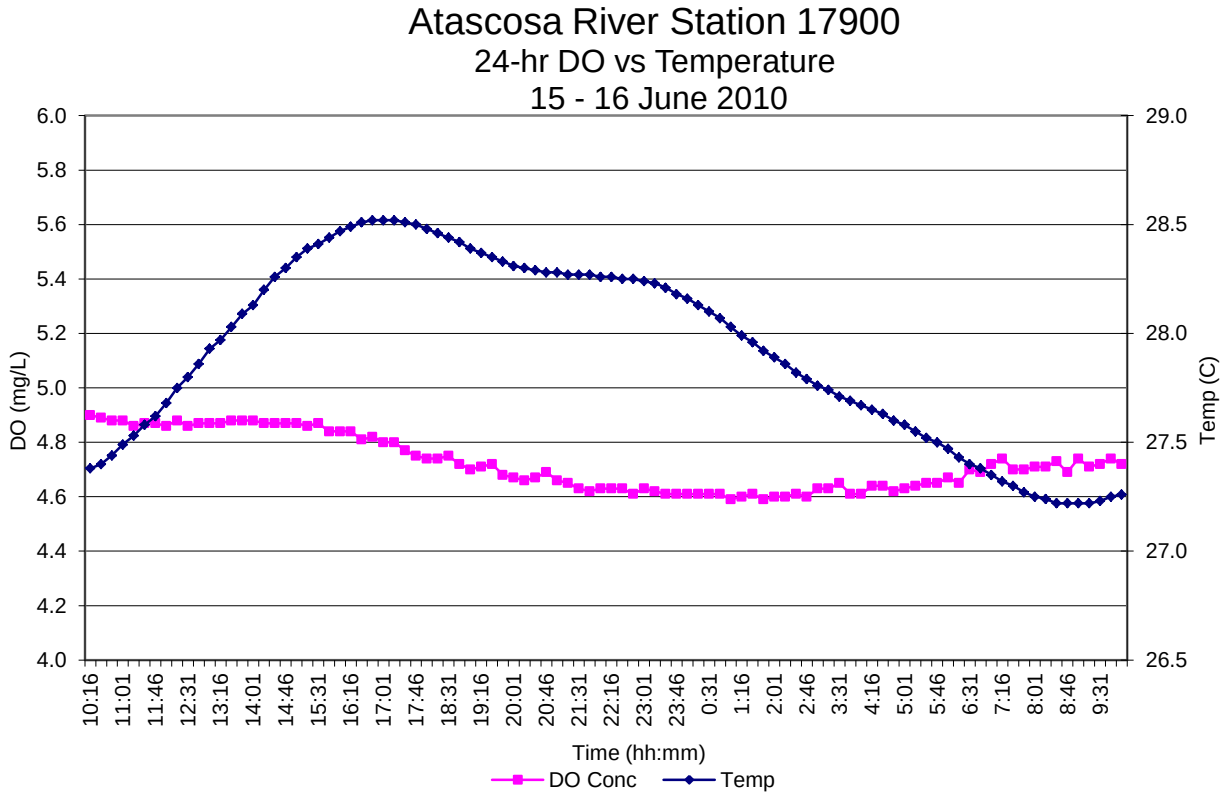
24-hr DO vs Temperature
15 - 16 June 2010
DO (mg/L)
Temp (C)
Time (hh:mm)
DO Conc
Temp


Atascosa River Station 20764
24-hr DO vs Temperature
15 - 16 June 2010
DO (mg/L)
Time (C)
Time (hh:mm)
DO Conc
Temp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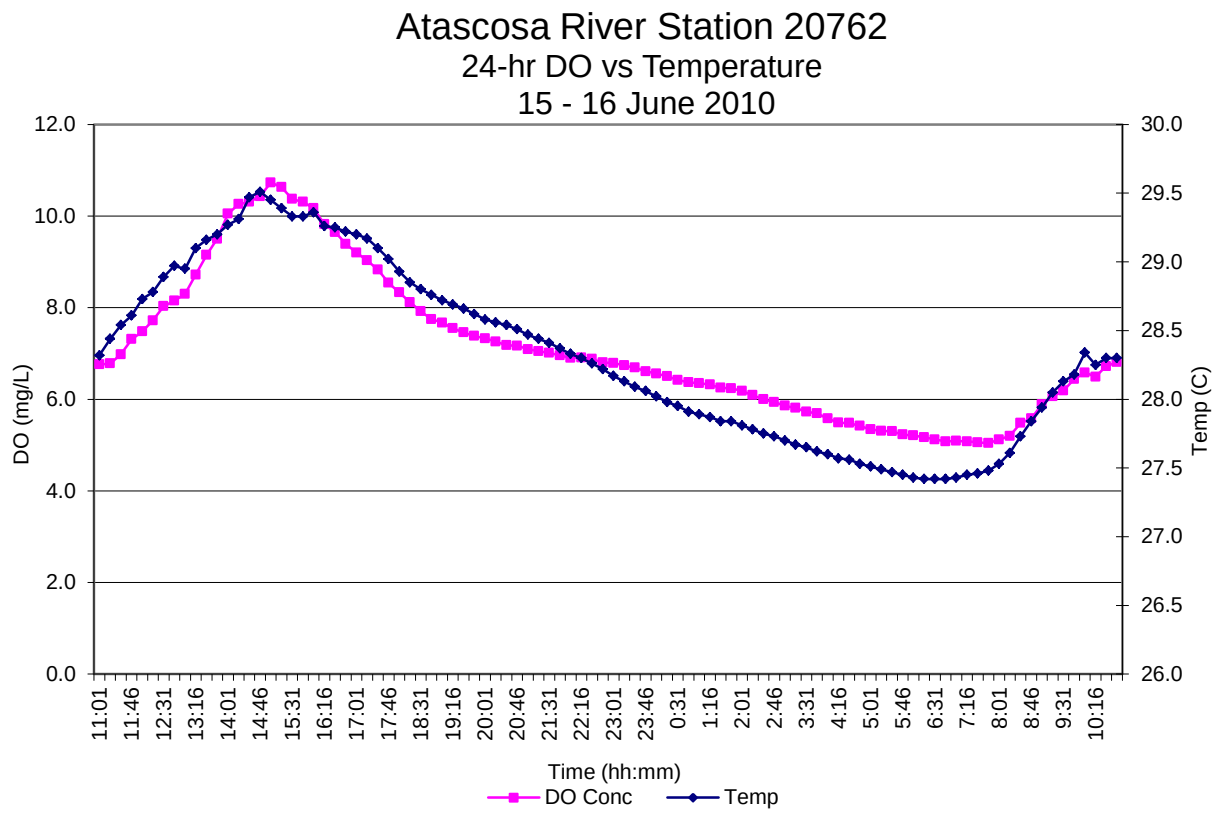
24-hr DO vs Temperature
15 - 16 June 2010
DO (mg/L)
Temp (C)
Time (hh:mm)
DO Conc
Temp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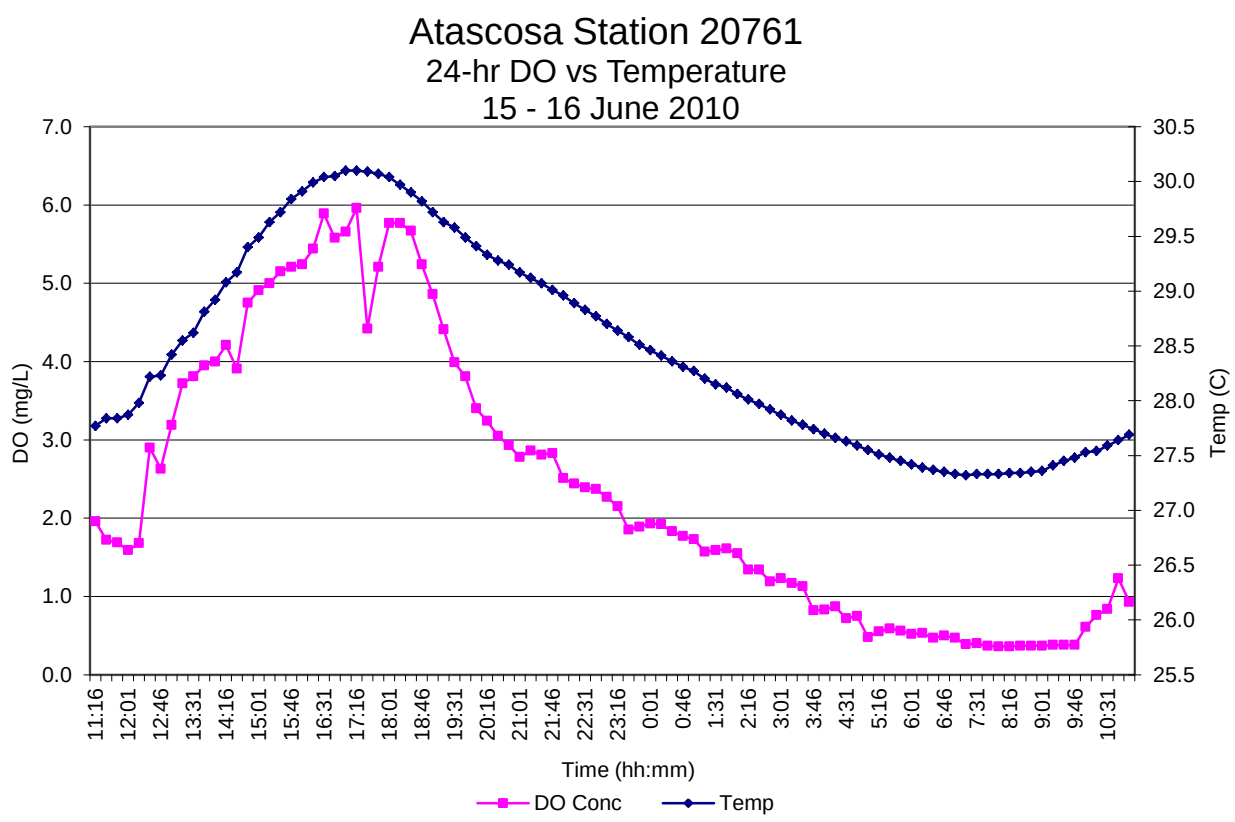
24-hr DO vs Temperature
15 - 16 June 2010
DO (mg/L)
Temp (C)
Time (hh:mm)
DO Conc
Temp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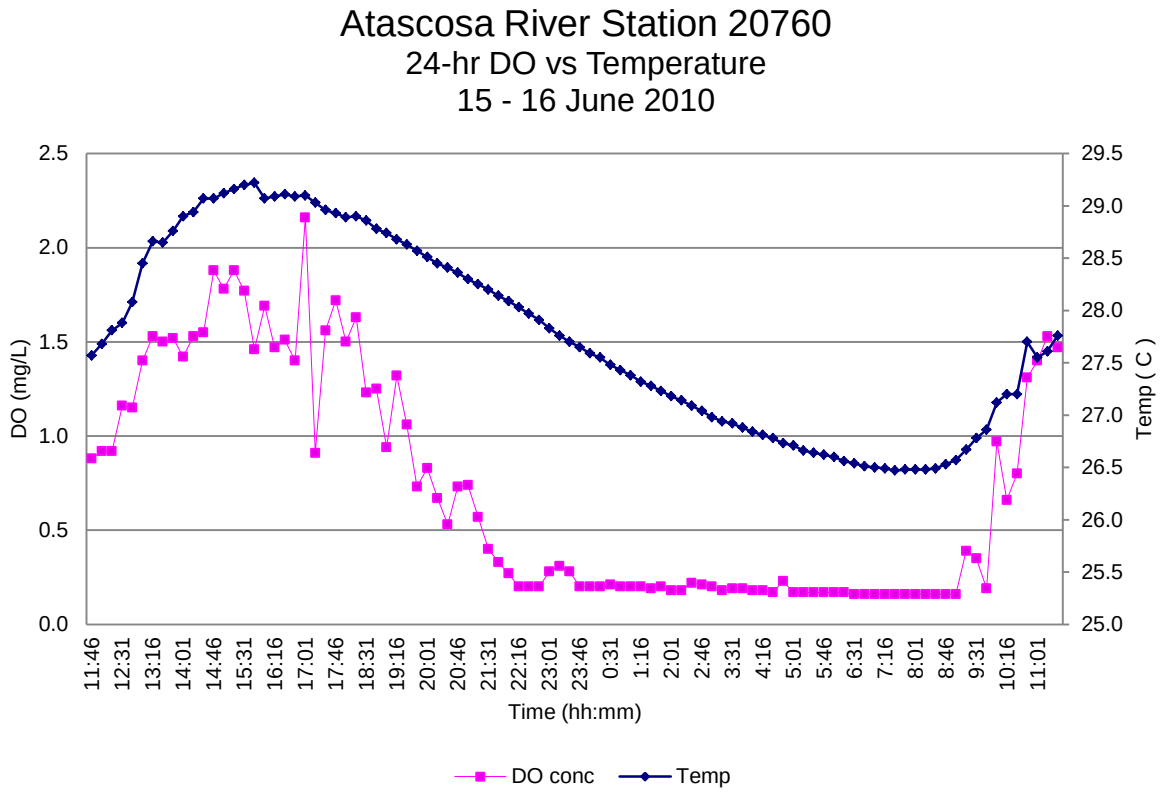
24-hr DO vs Temperature
15 - 16 June 2010
DO (mg/L)
Temp (C)
Time (hh:mm)
DO Conc
Temp



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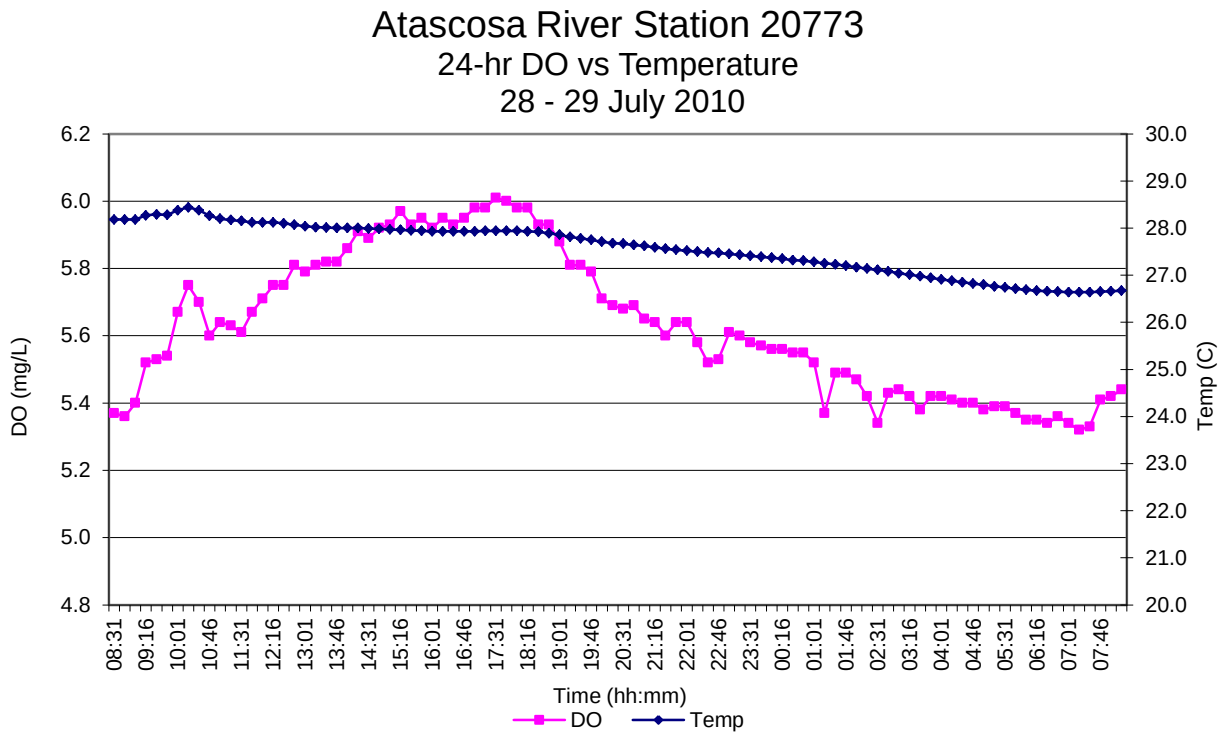
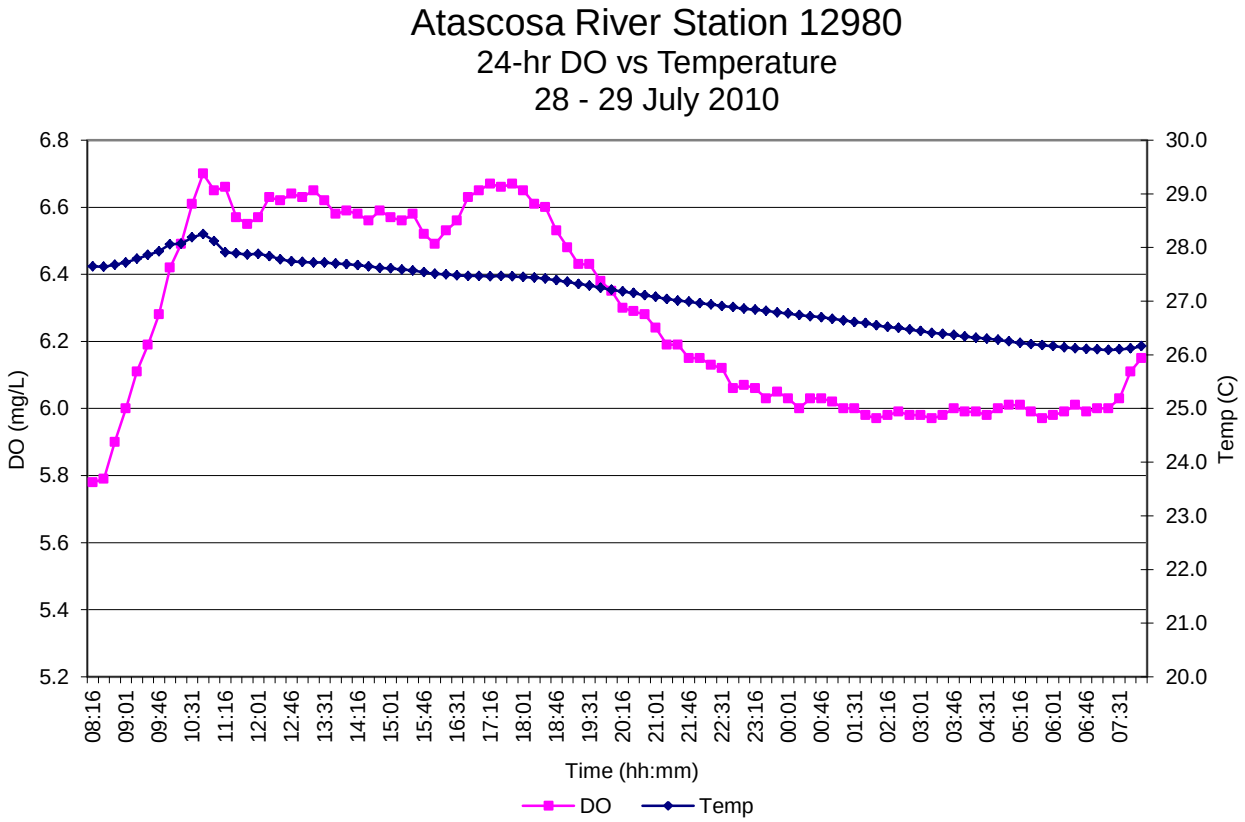

Atascosa River Station 20773
24-hr DO vs Temperature
28 - 29 July 2010
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp


Atascosa River Station 12980
24-hr DO vs Temperature
28 - 29 July 2010
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
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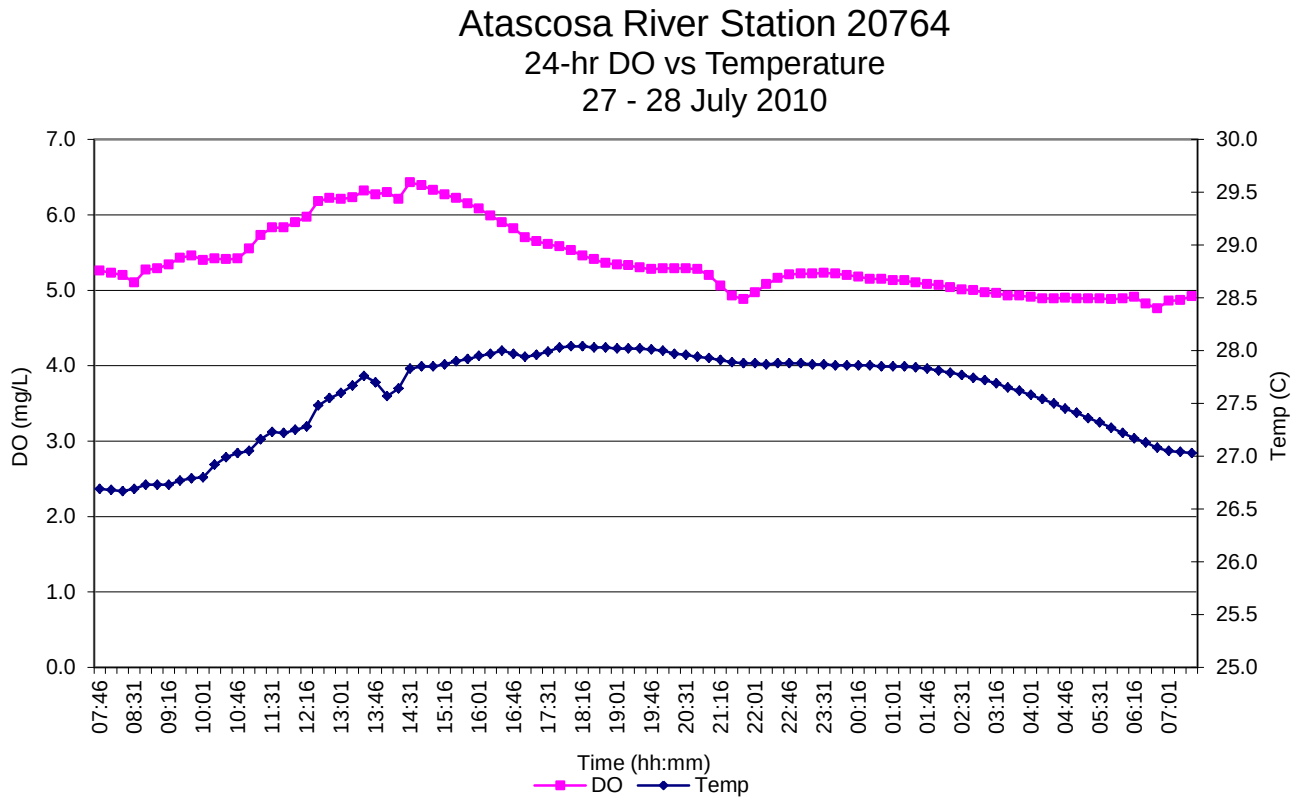
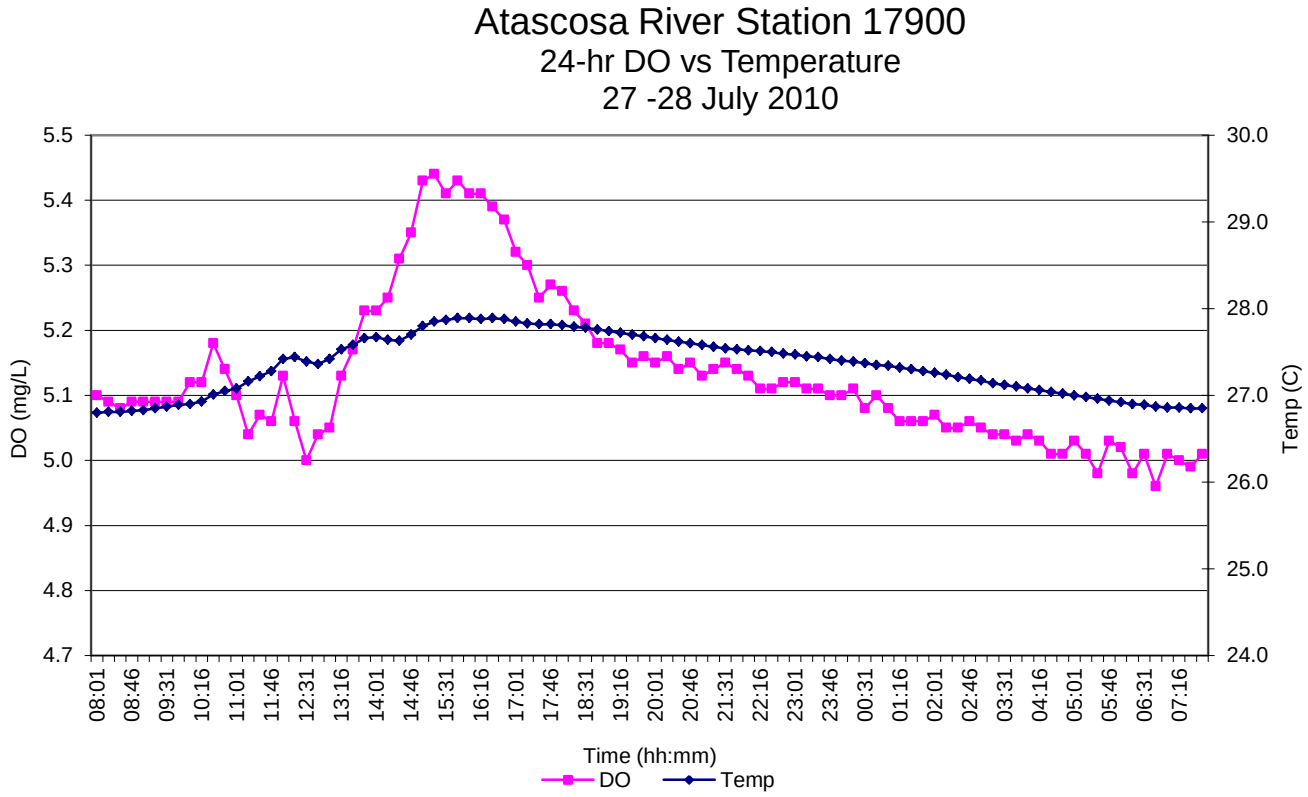
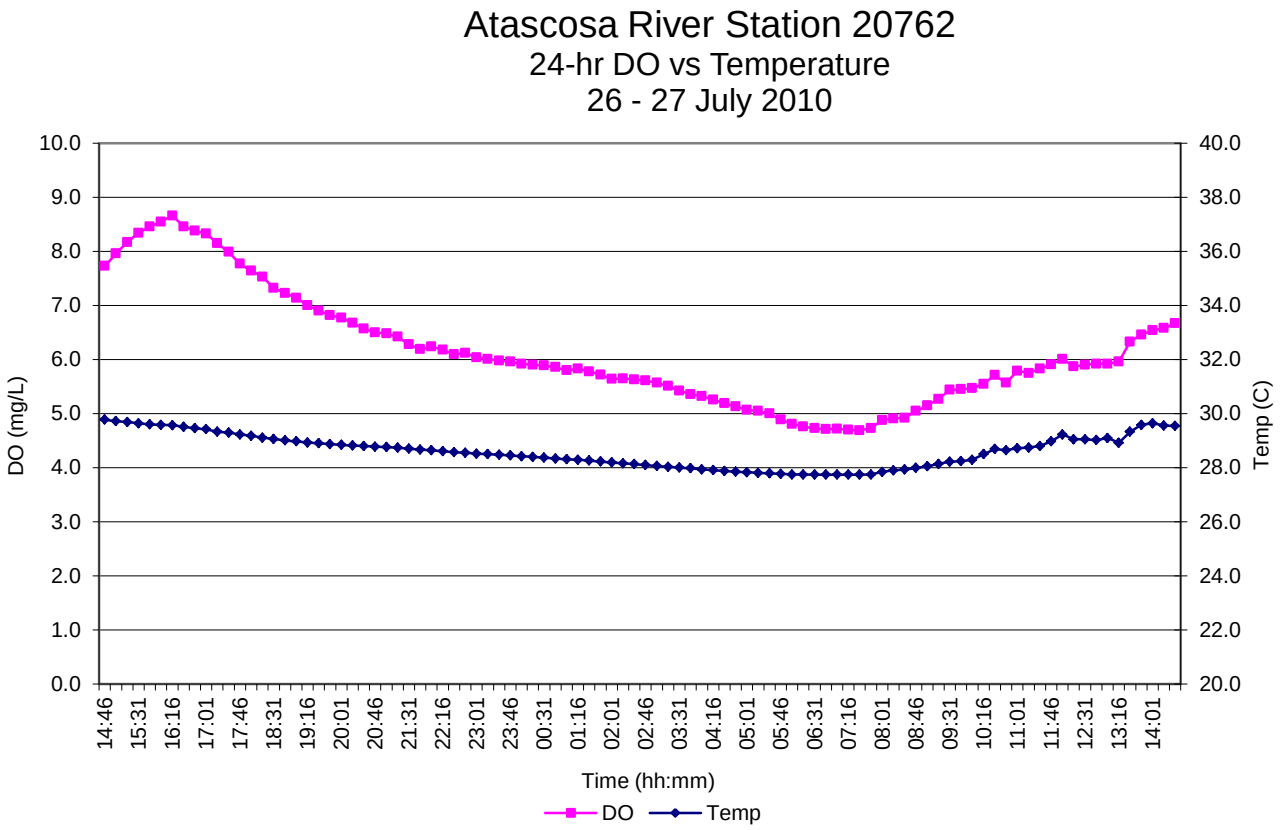

Atascosa River Station 20764
24-hr DO vs Temperature
27 - 28 July 2010
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp


Atascosa River Station 17900
24-hr DO vs Temperature
27 -28 July 2010
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp



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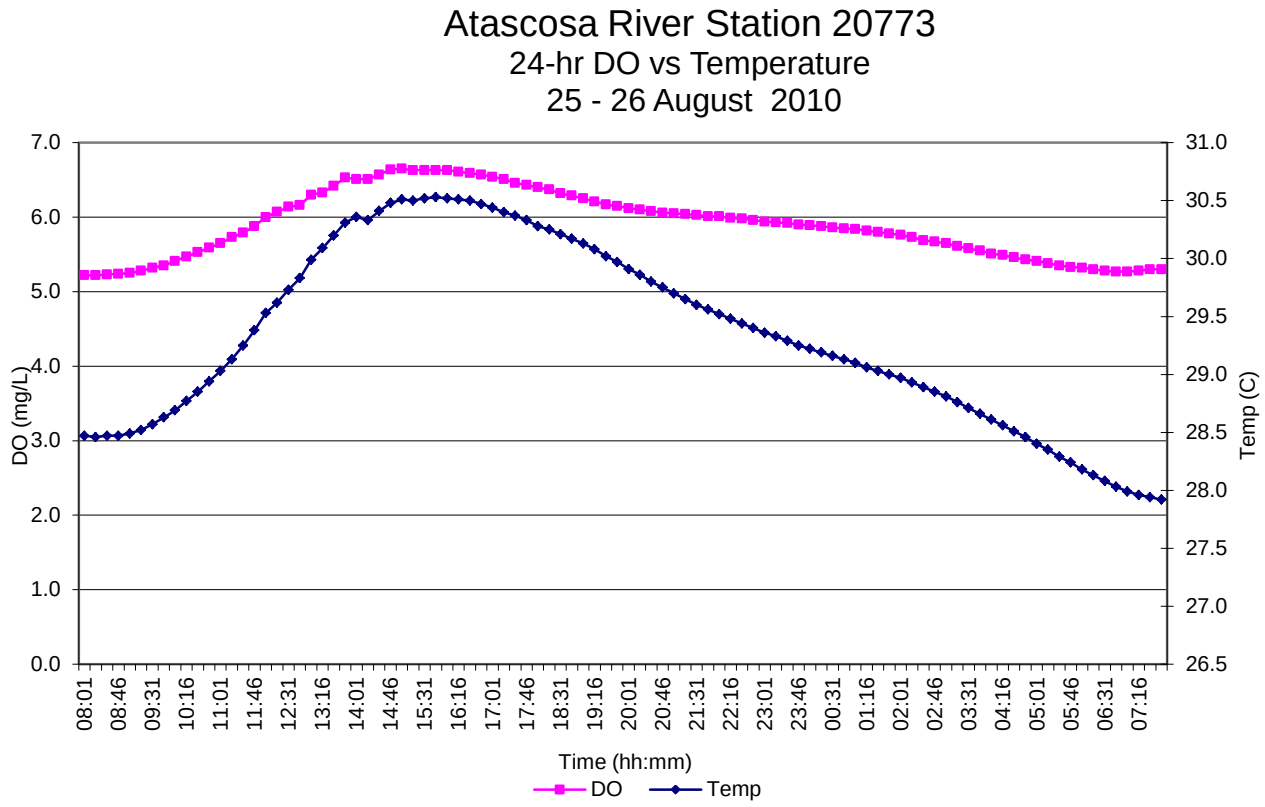
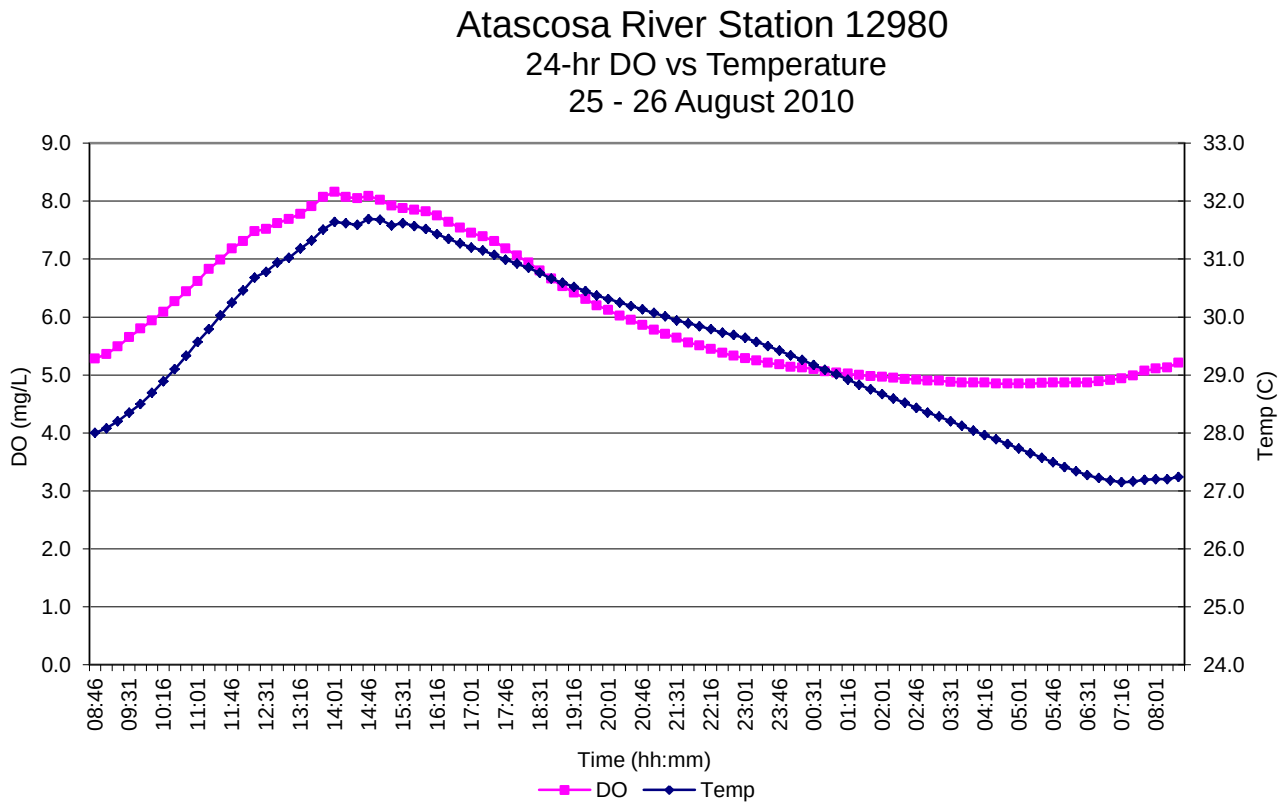
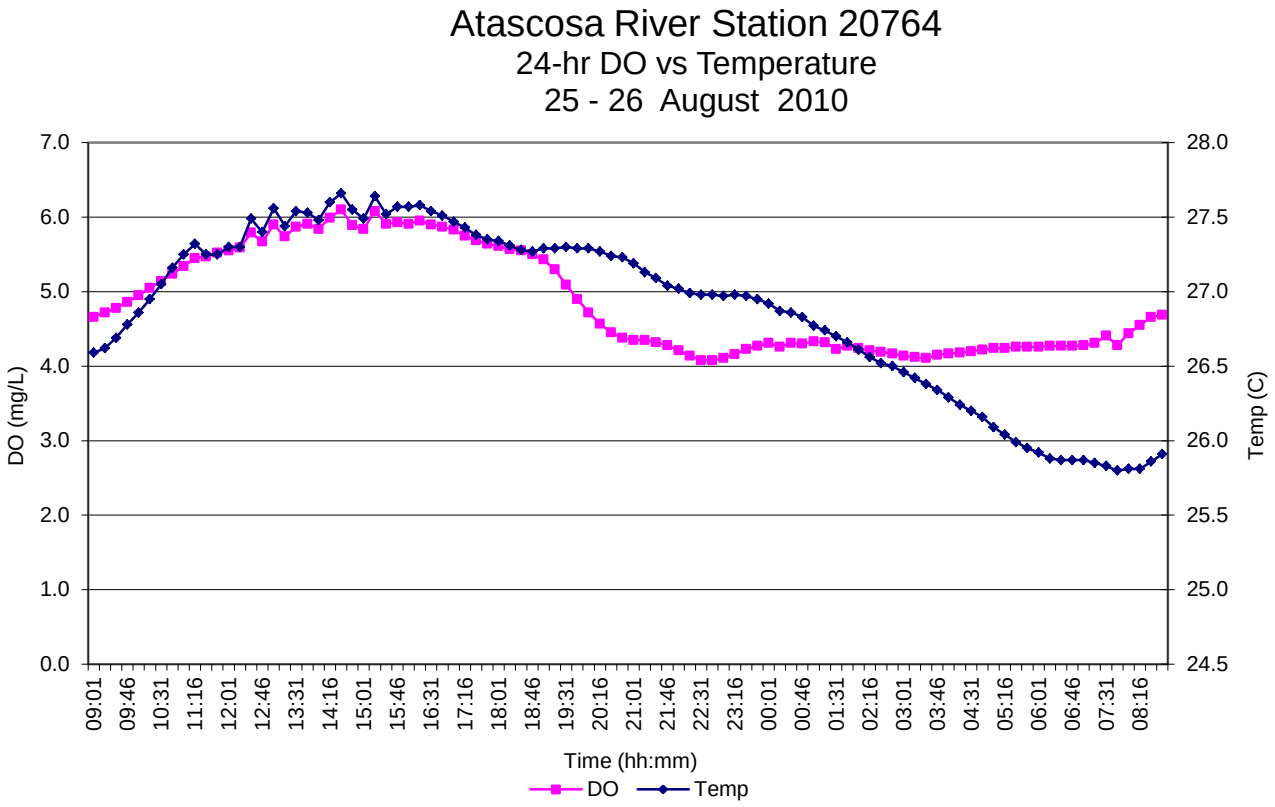
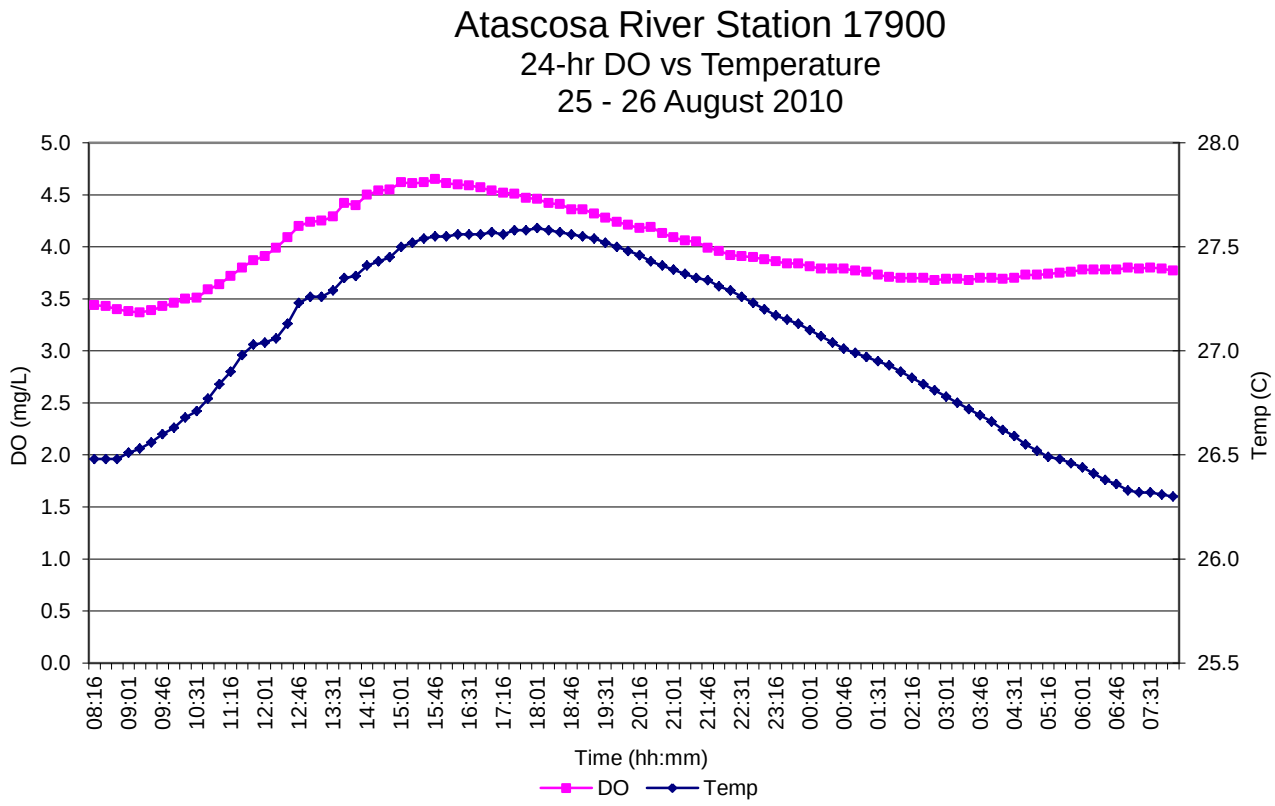
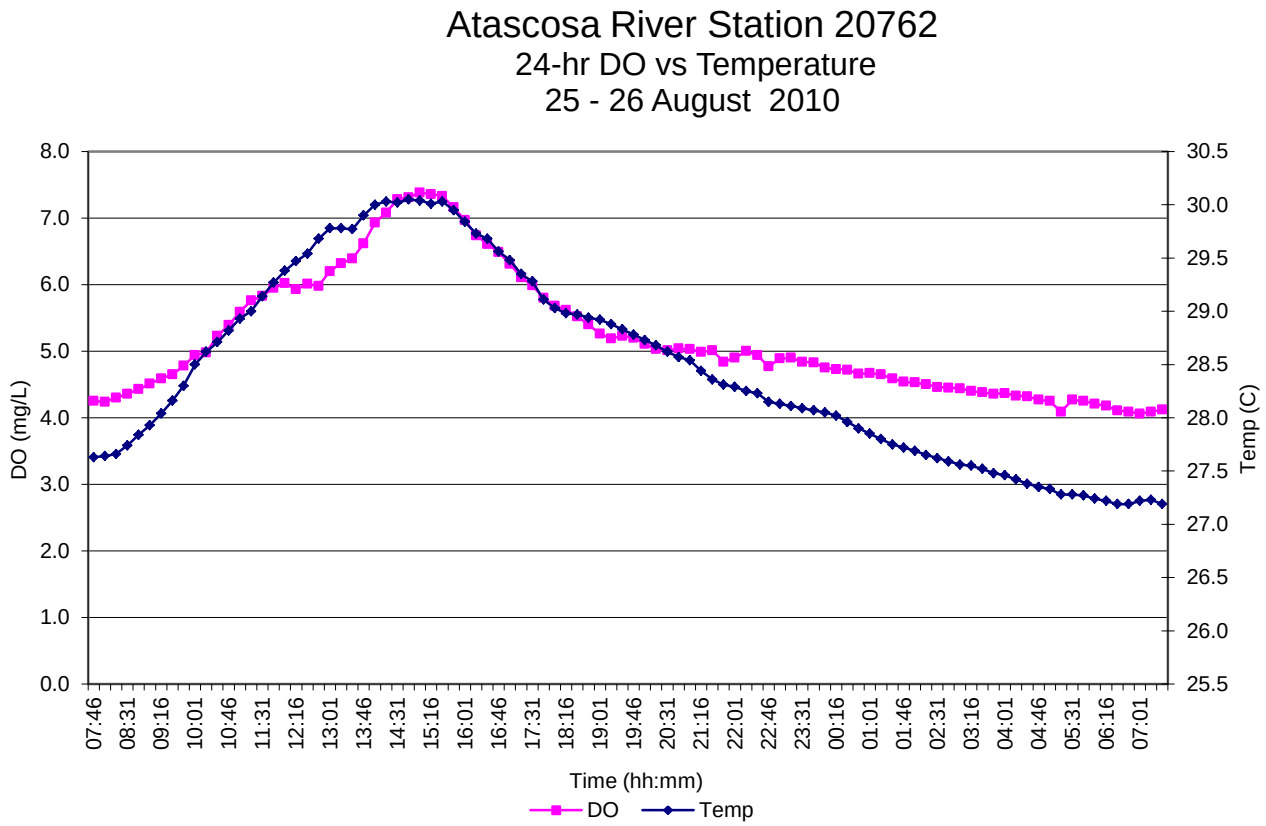

Atascosa River Station 20773
24-hr DO vs Temperature
25 - 26 August 2010
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp


Atascosa River Station 12980
24-hr DO vs Temperature
25 - 26 August 2010
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp


Atascosa River Station 20764
24-hr DO vs Temperature
25 - 26 August 2010
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp


Atascosa River Station 17900
24-hr DO vs Temperature
25 - 26 August 2010
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp



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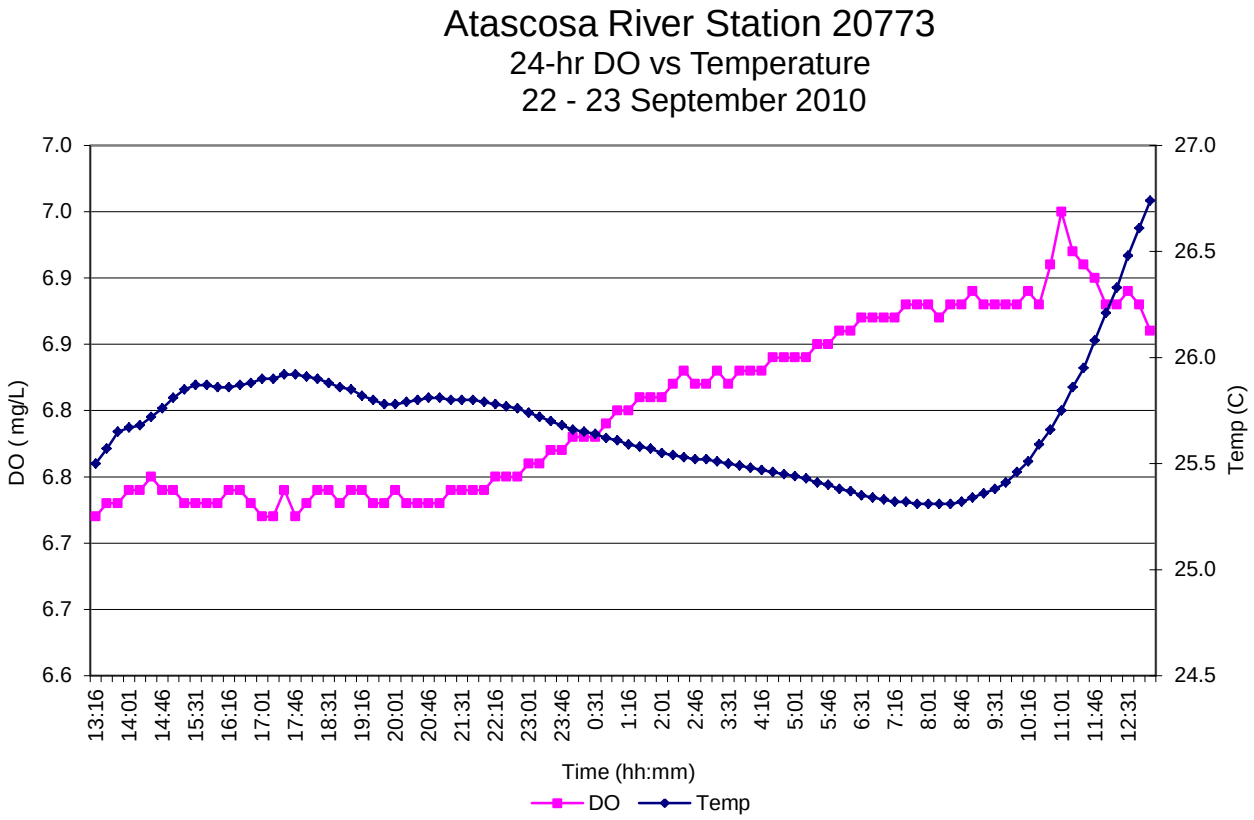
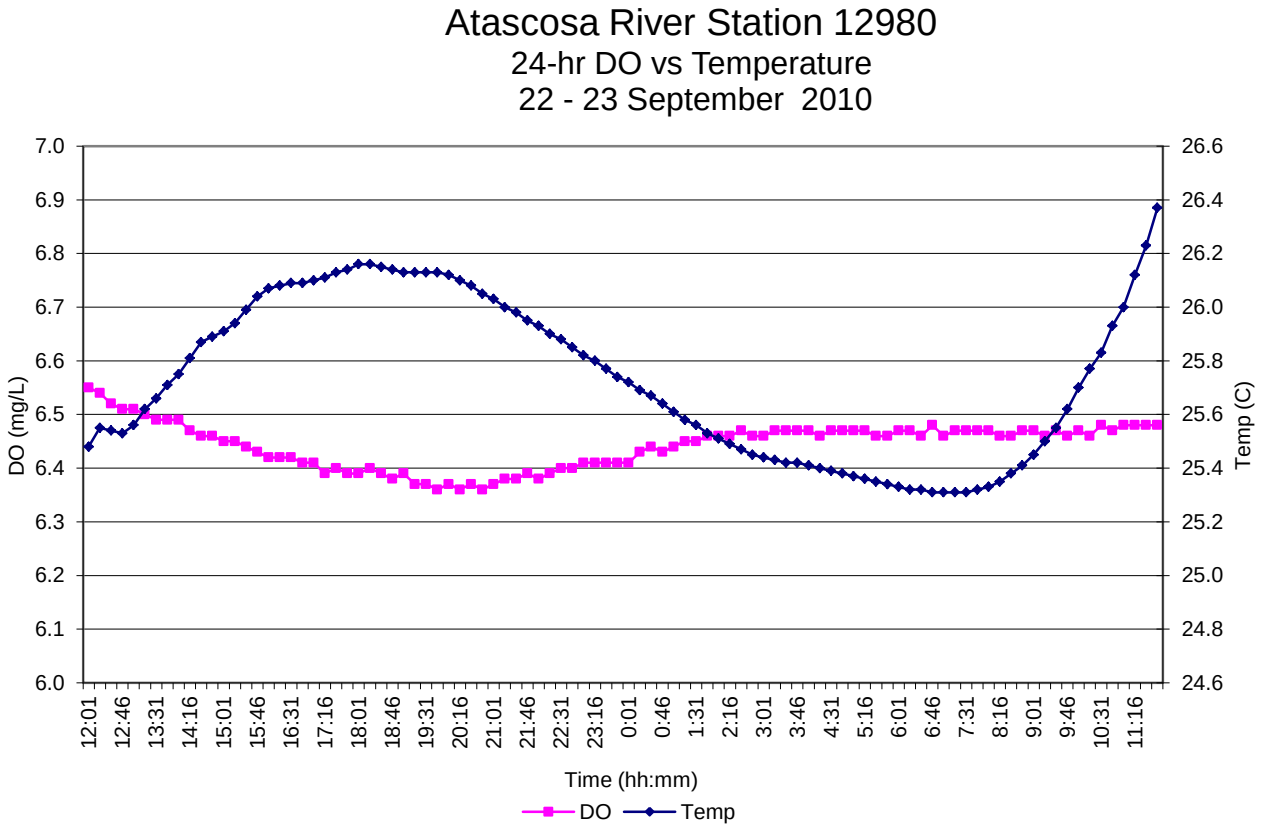
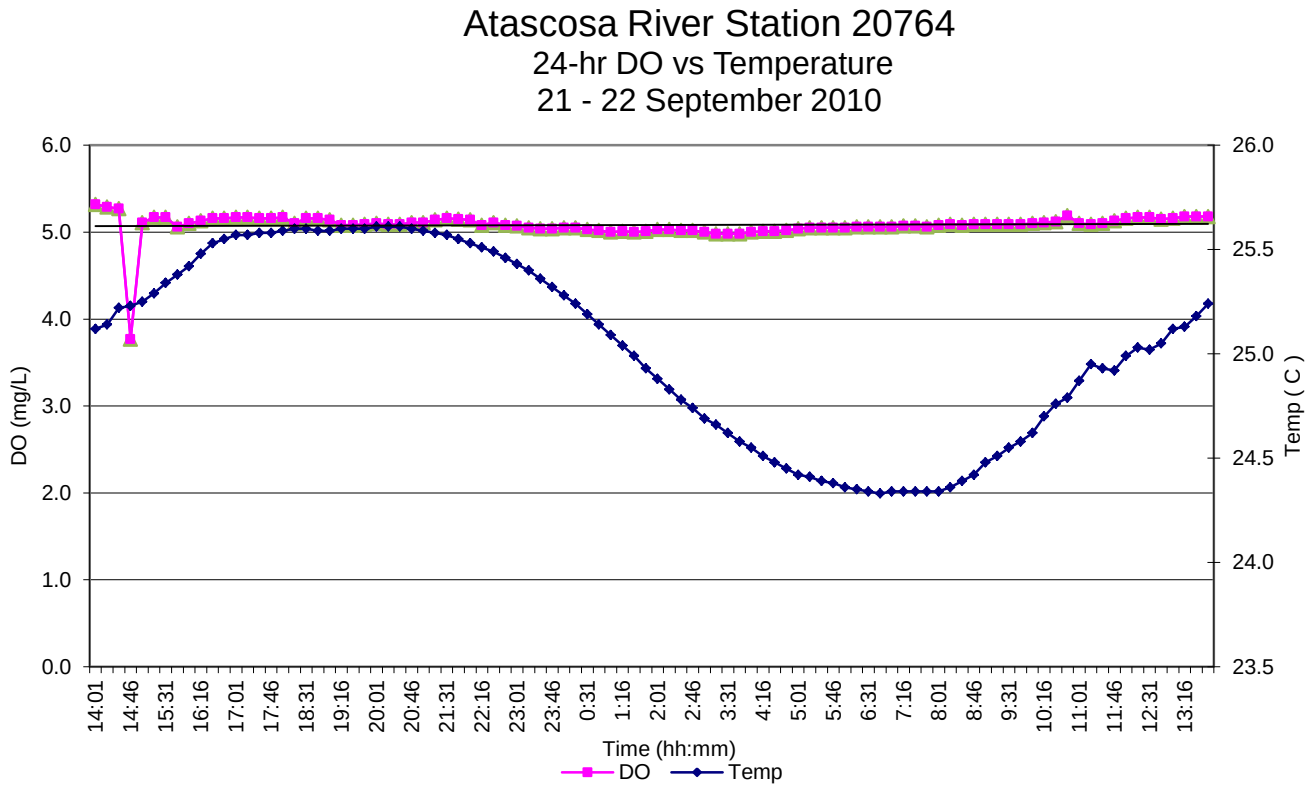
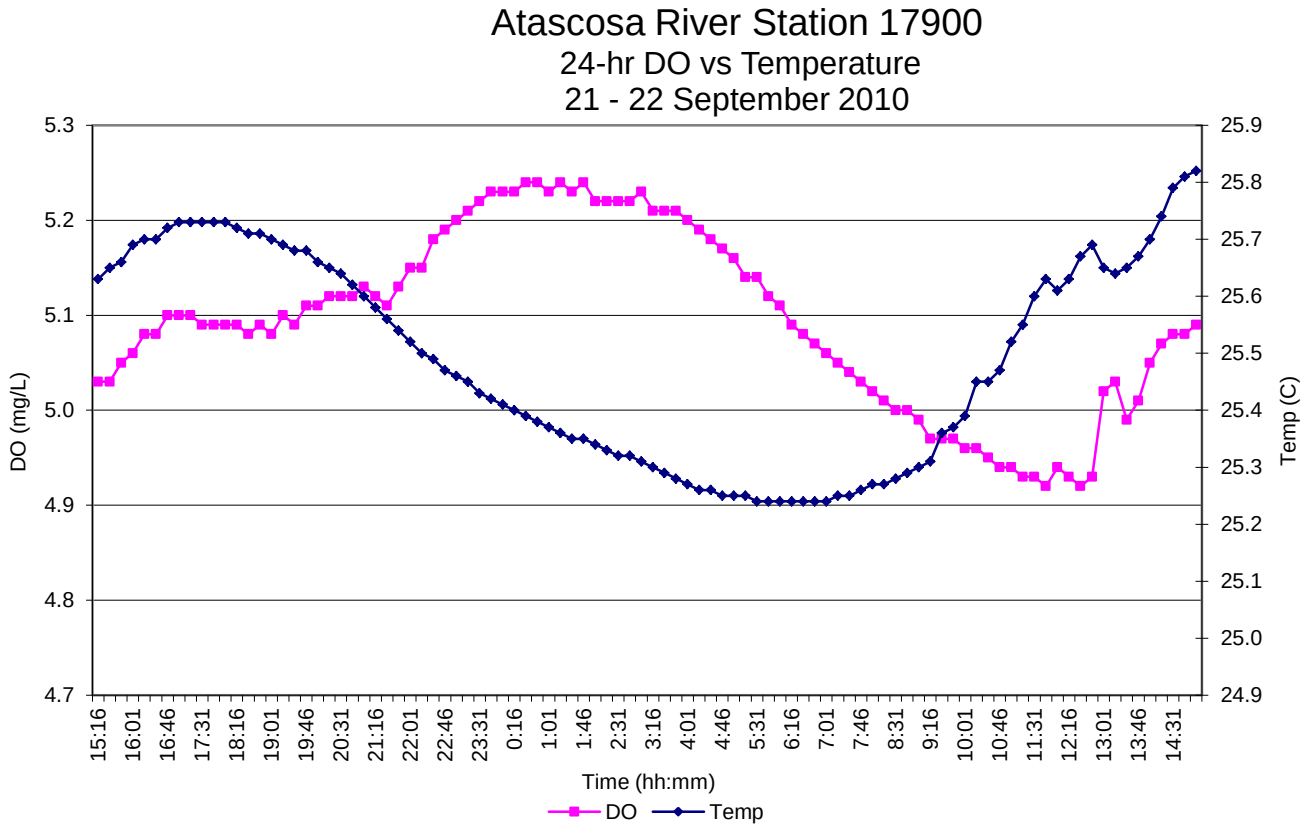
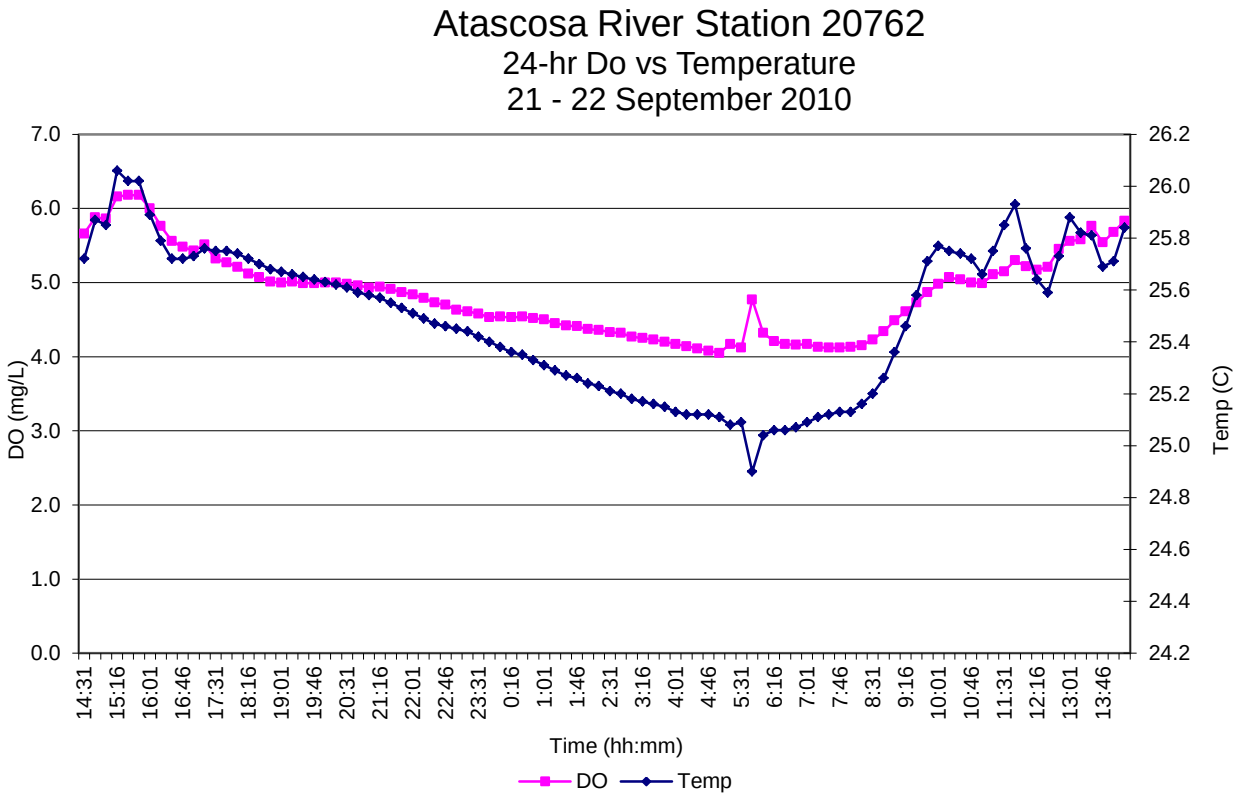
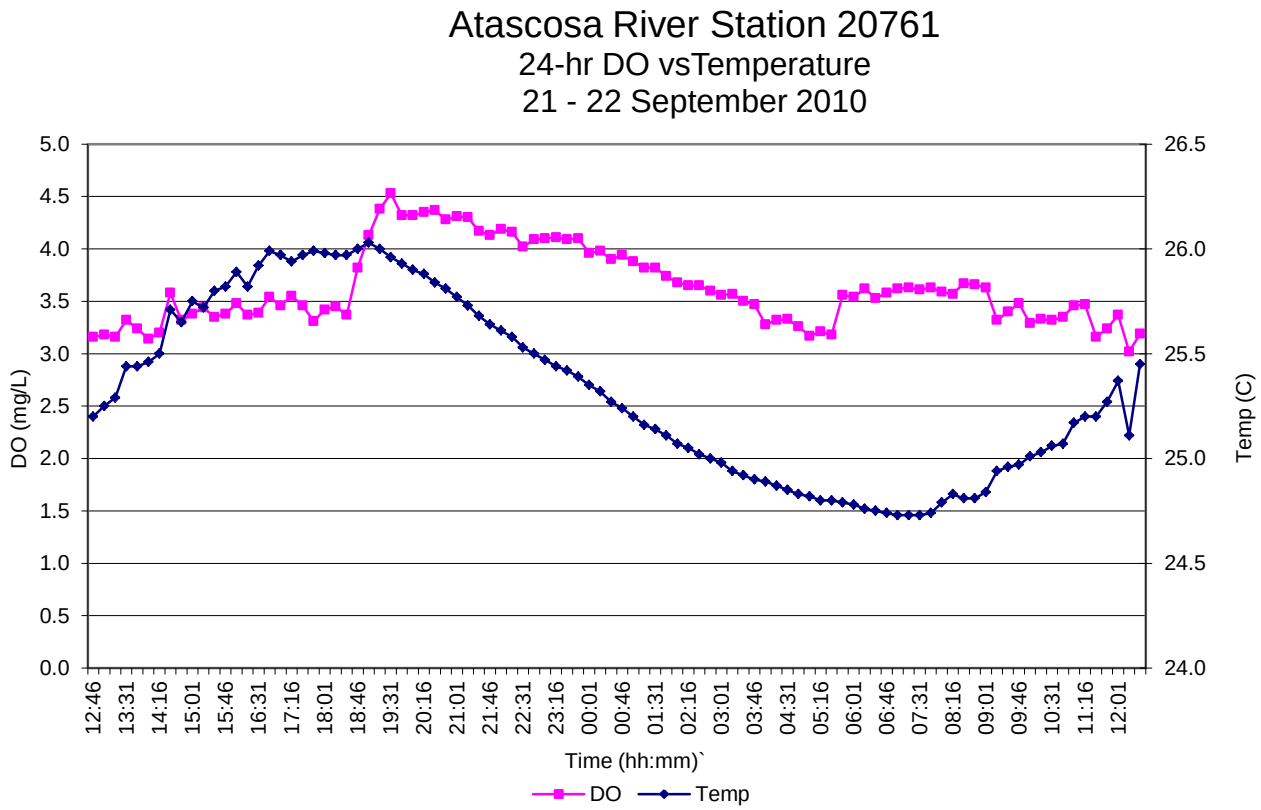

Atascosa River Station 20773
24-hr DO vs Temperature
22 - 23 September 2010
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp

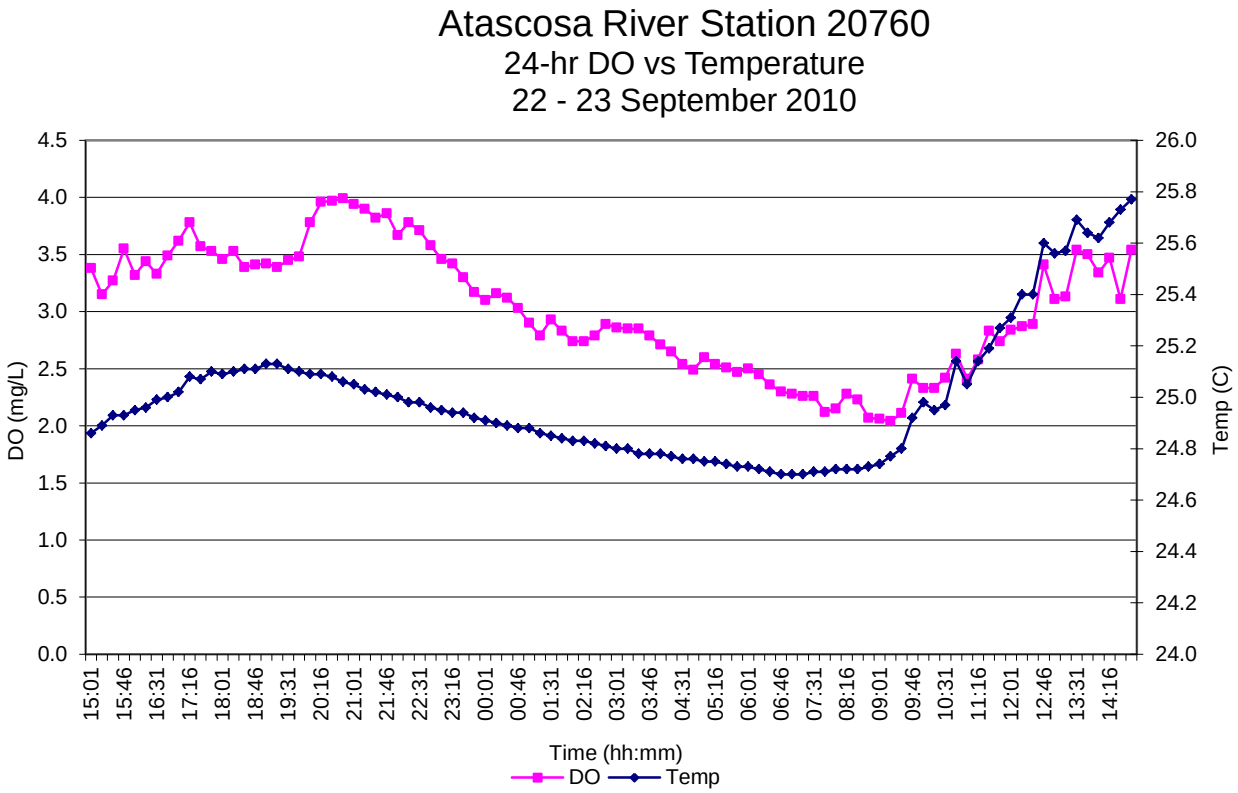

Atascosa River Station 12980
24-hr DO vs Temperature
22 - 23 September 2010
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp

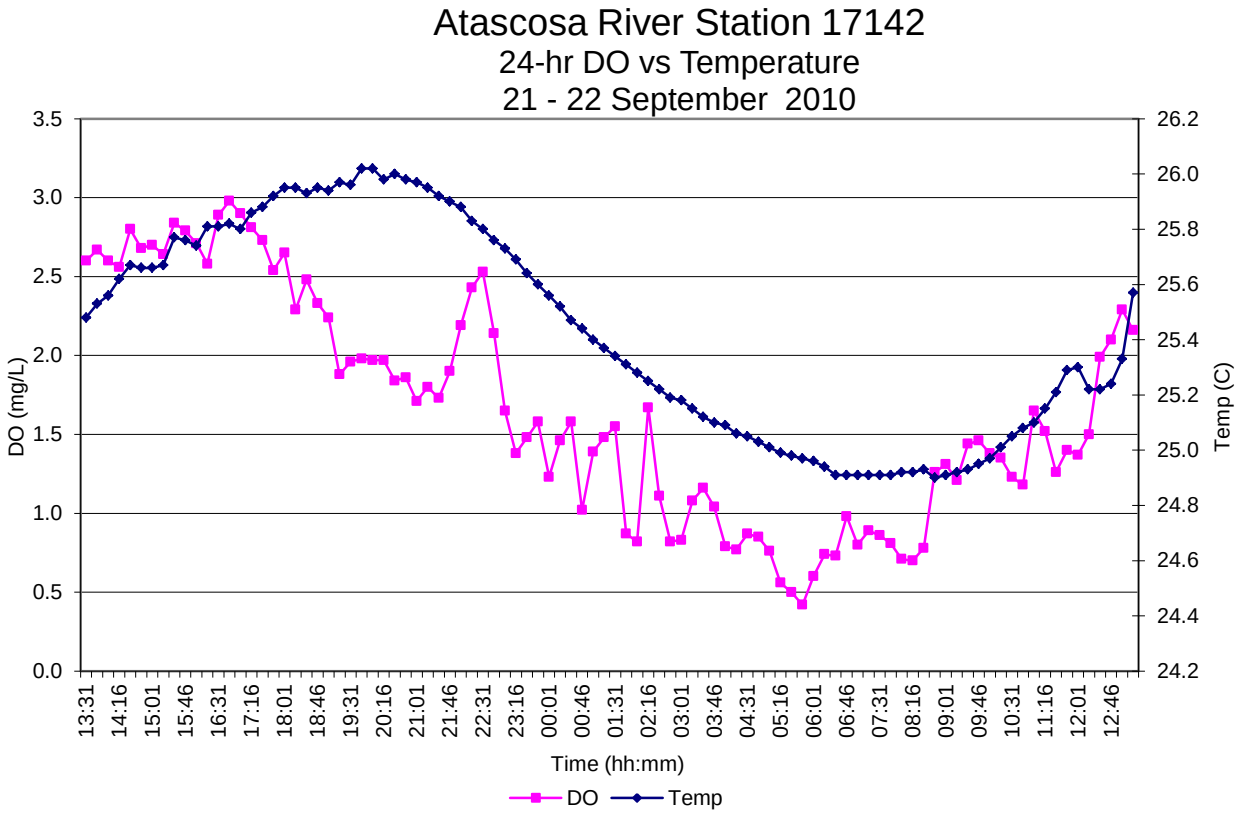

Atascosa River Station 20764
24-hr DO vs Temperature
21 - 22 September 2010
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp

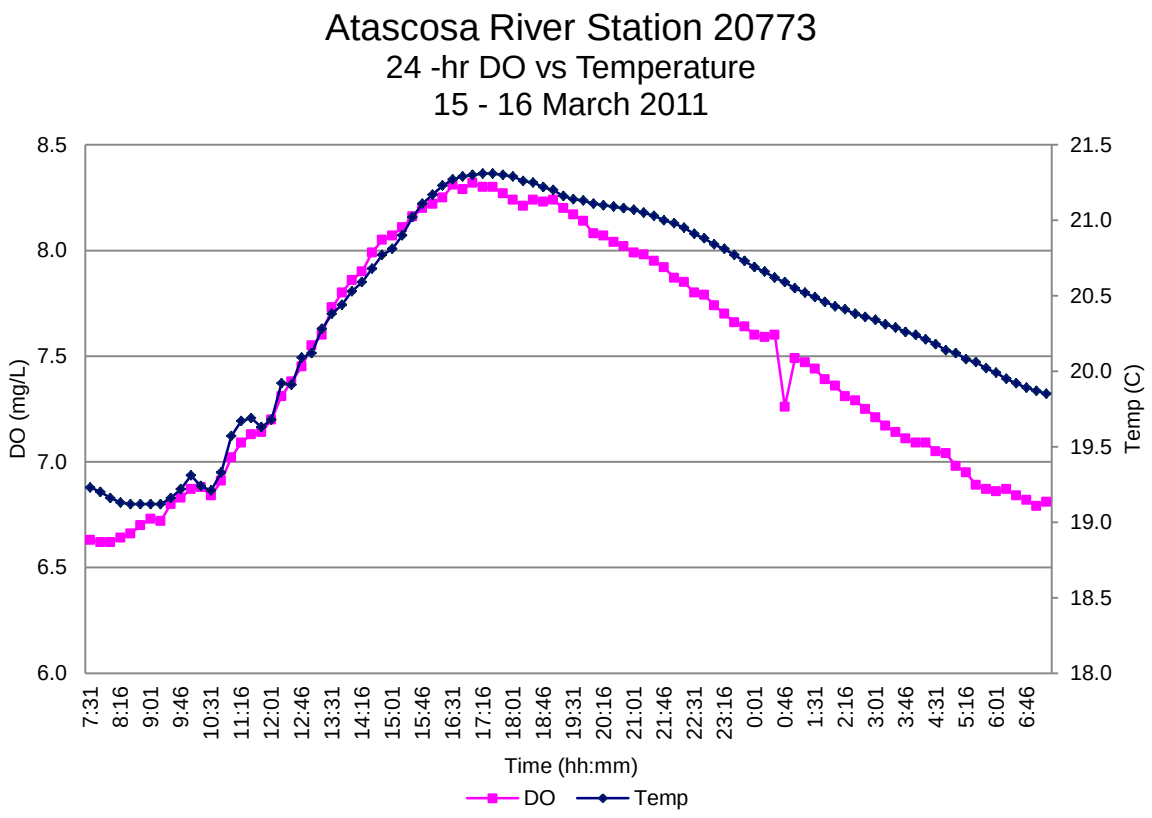

Atascosa River Station 17900
24-hr DO vs Temperature
21 - 22 September 2010
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp

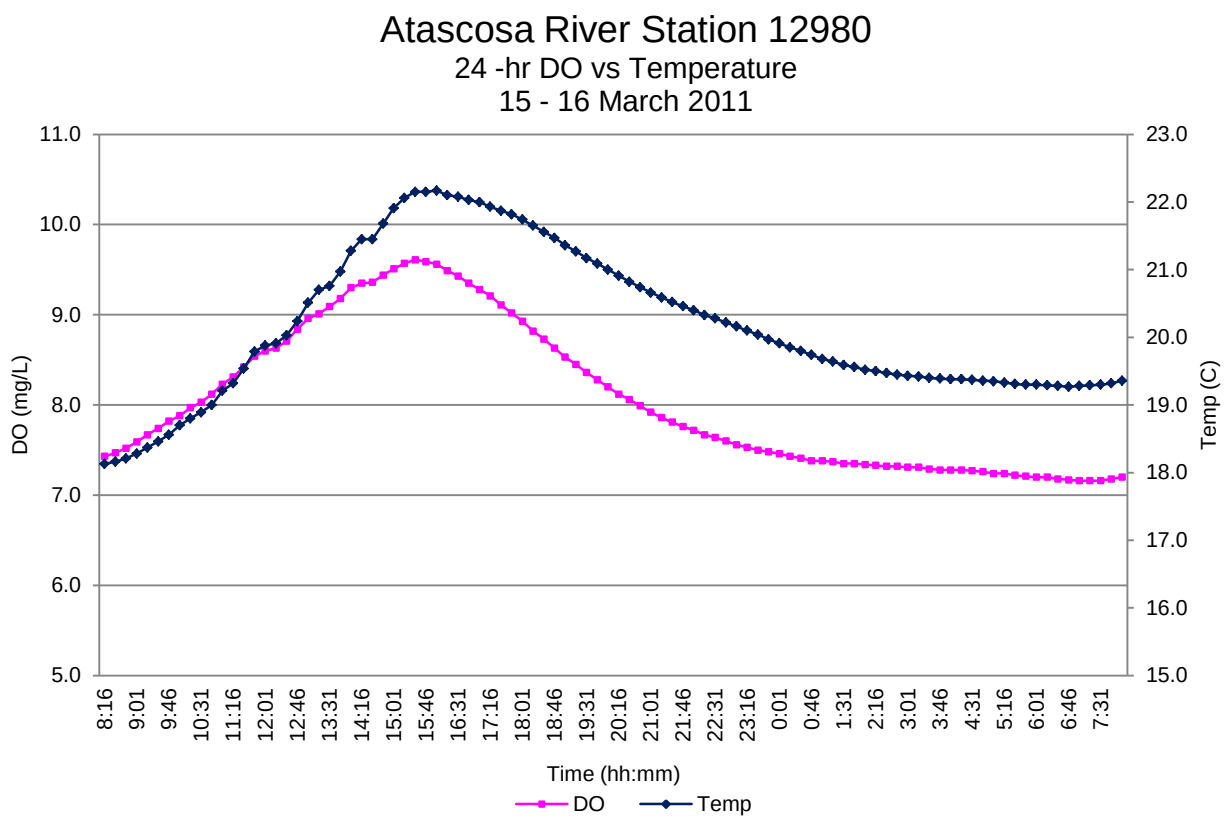

Atascosa River Station 20762
24-hr Do vs Temperature
21 - 22 September 2010
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp

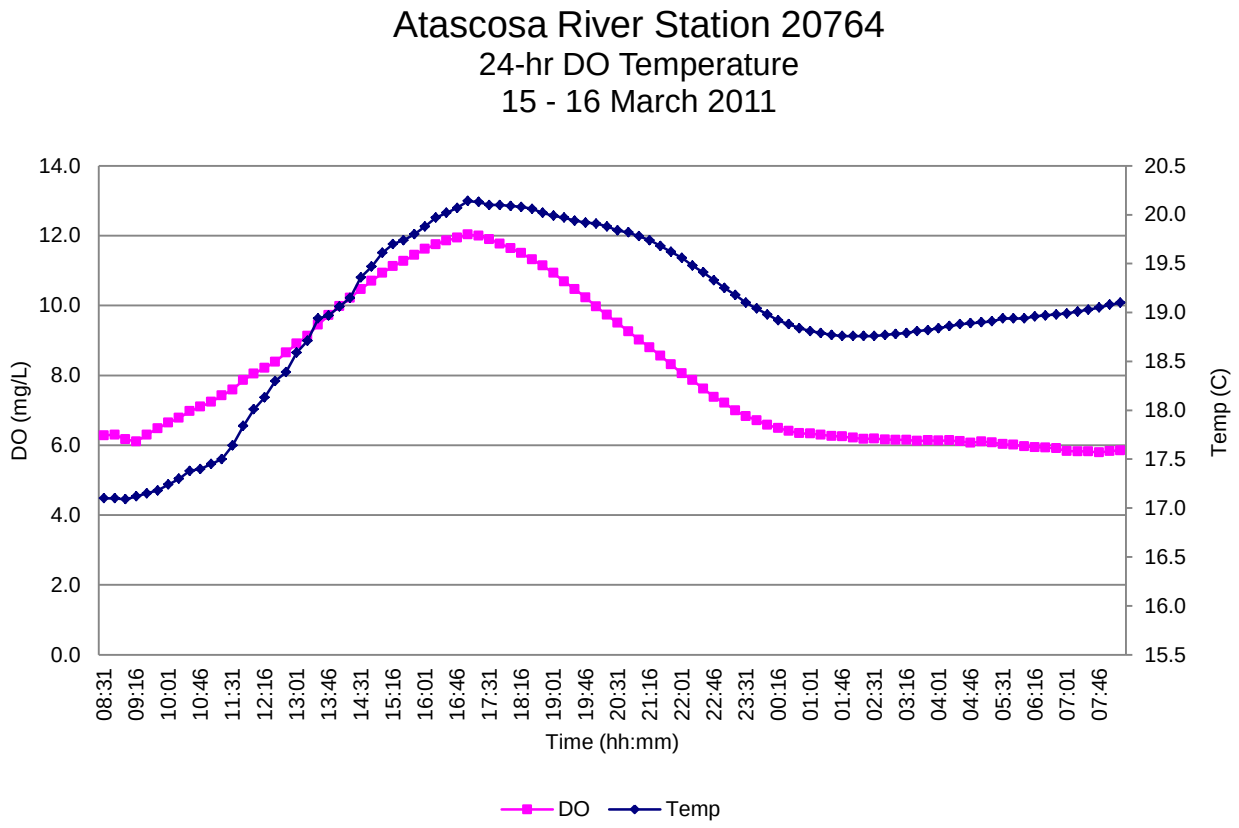

Atascosa River Station 20761
24-hr DO vsTemperature
21 - 22 September 2010
DO (mg/L)
Temp (C)
Time (hh:mm)`
DO
Temp

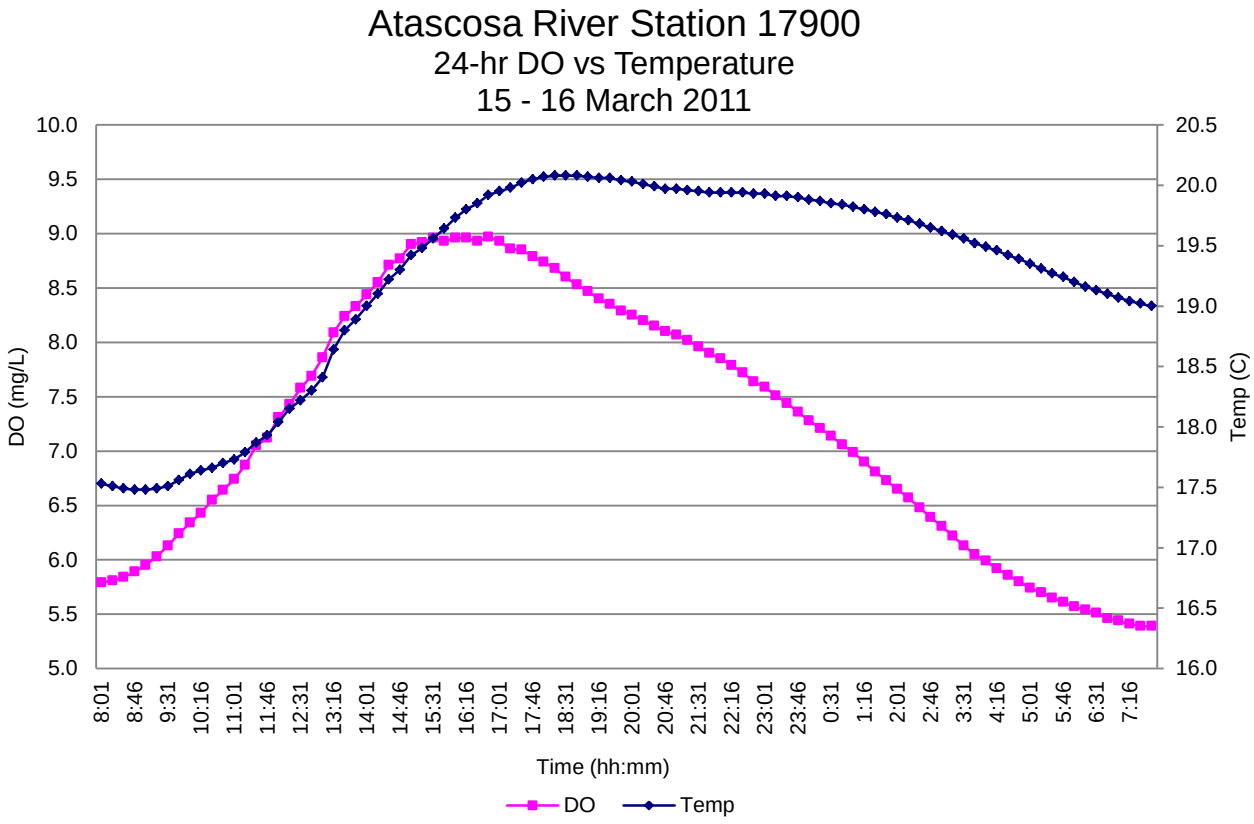

Atascosa River Station 20760
24-hr DO vs Temperature
22 - 23 September 2010
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp

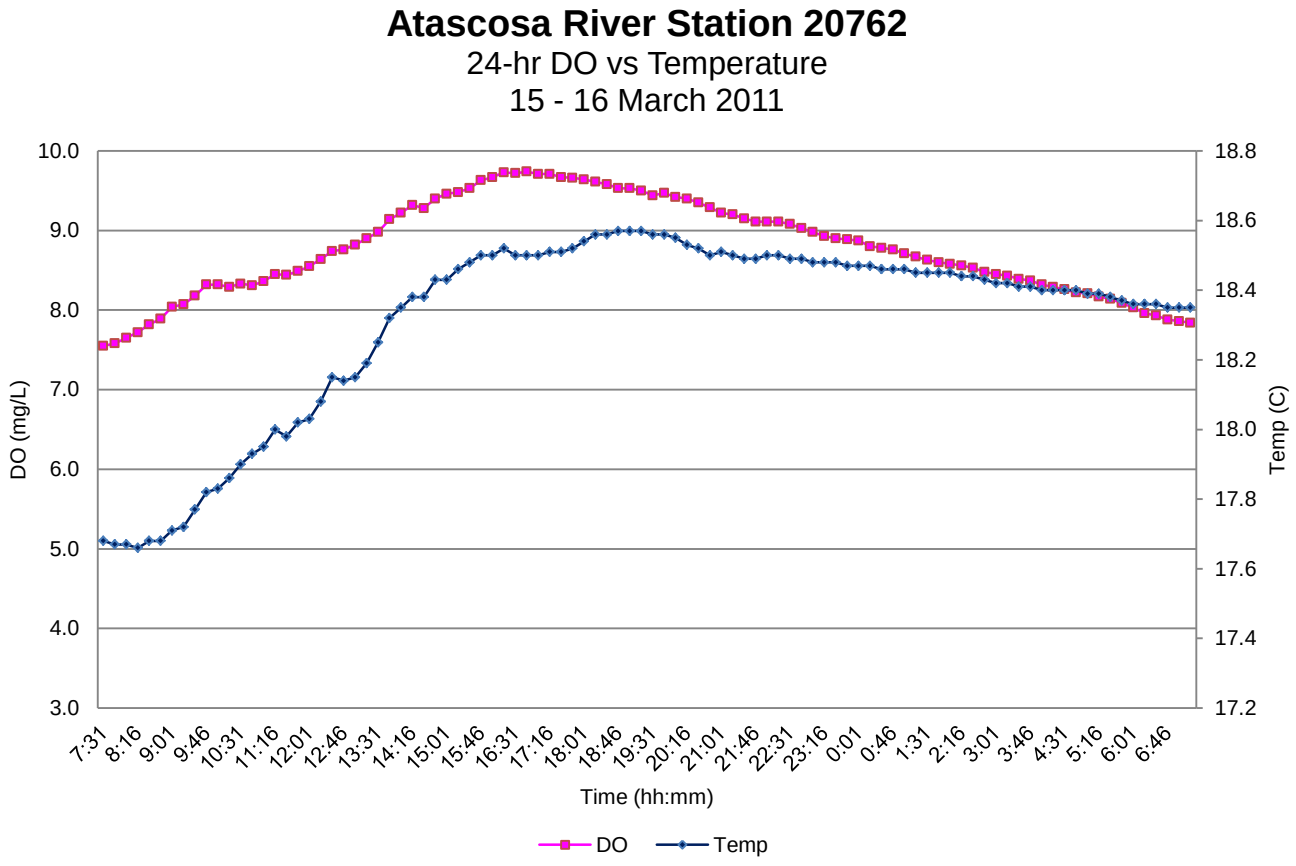

Atascosa River Station 17142
24-hr DO vs Temperature
21 - 22 September 2010
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp


Atascosa River Station 20773
24 -hr DO vs Temperature
15 - 16 March 2011
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp


Atascosa River Station 12980
24 -hr DO vs Temperature
15 - 16 March 2011
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp


Atascosa River Station 20764
24-hr DO Temperature
15 - 16 March 2011
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp


Atascosa River Station 17900
24-hr DO vs Temperature
15 - 16 March 2011
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp



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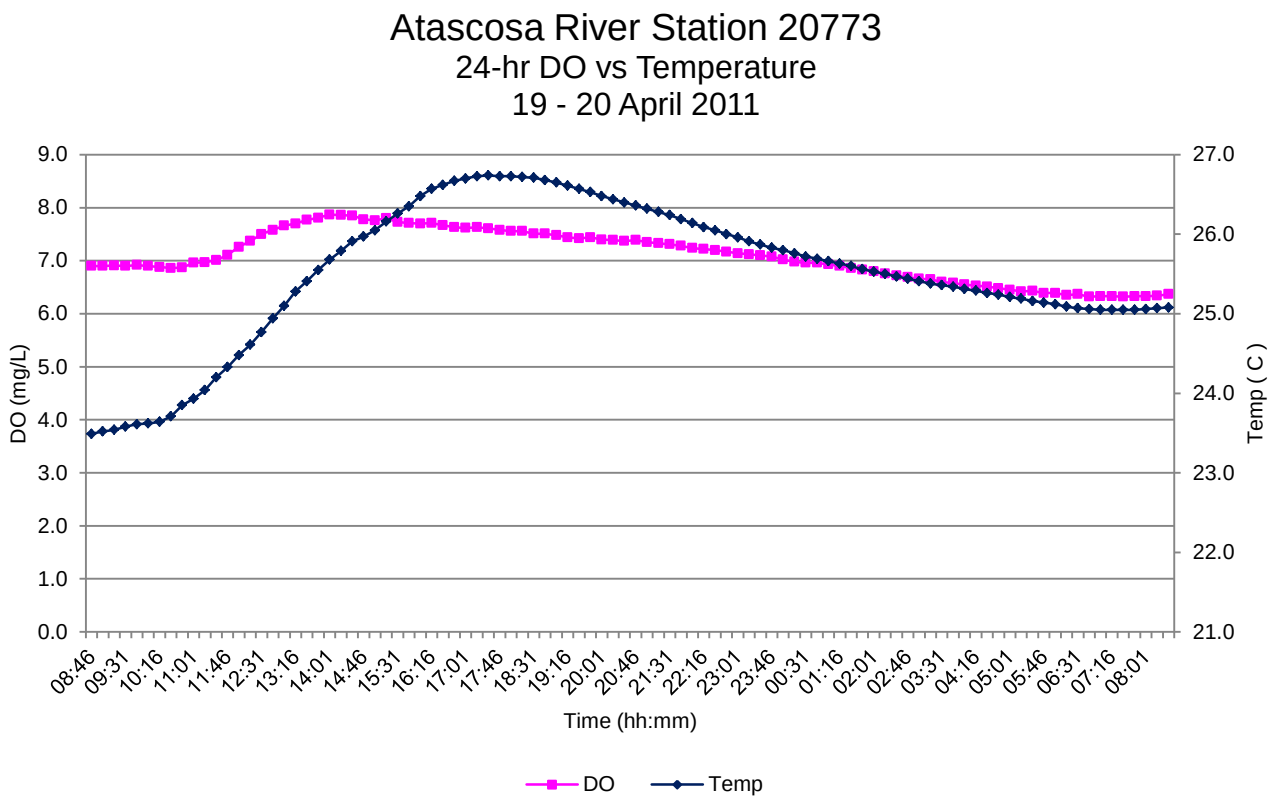
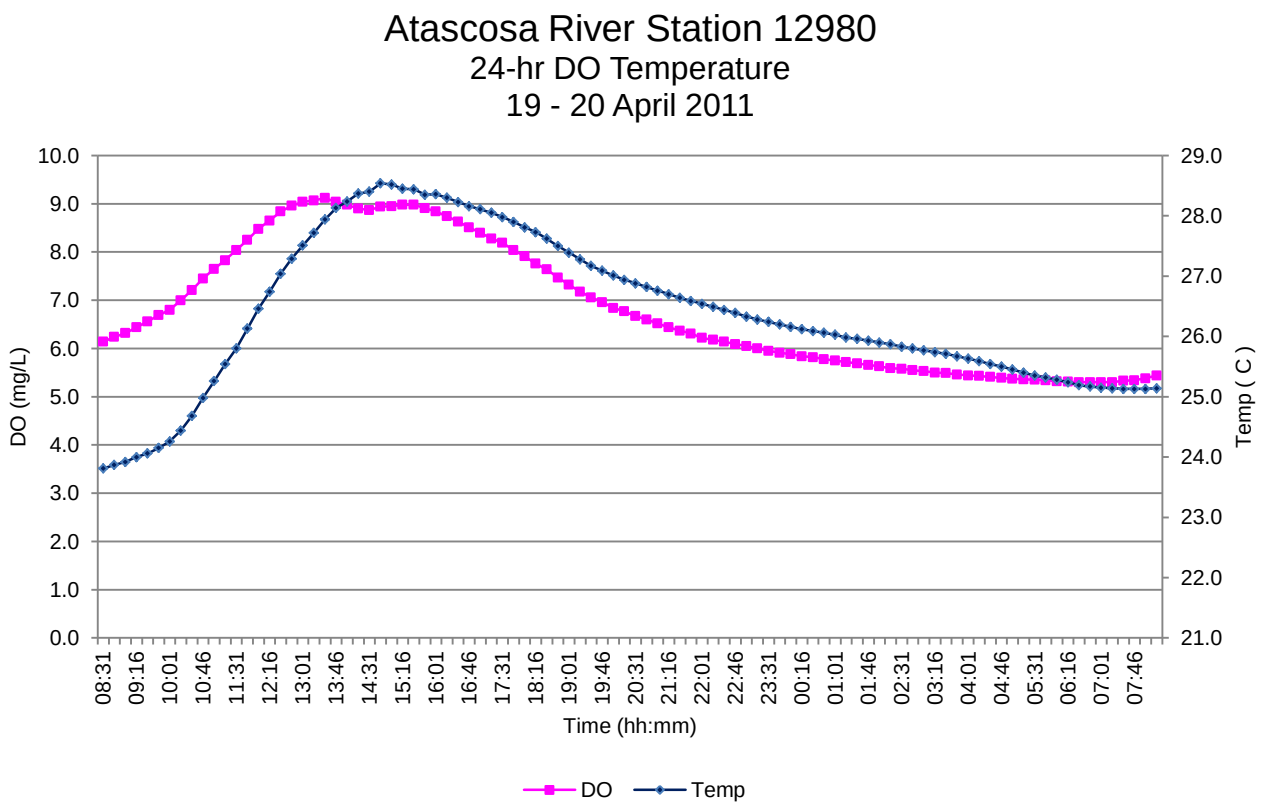
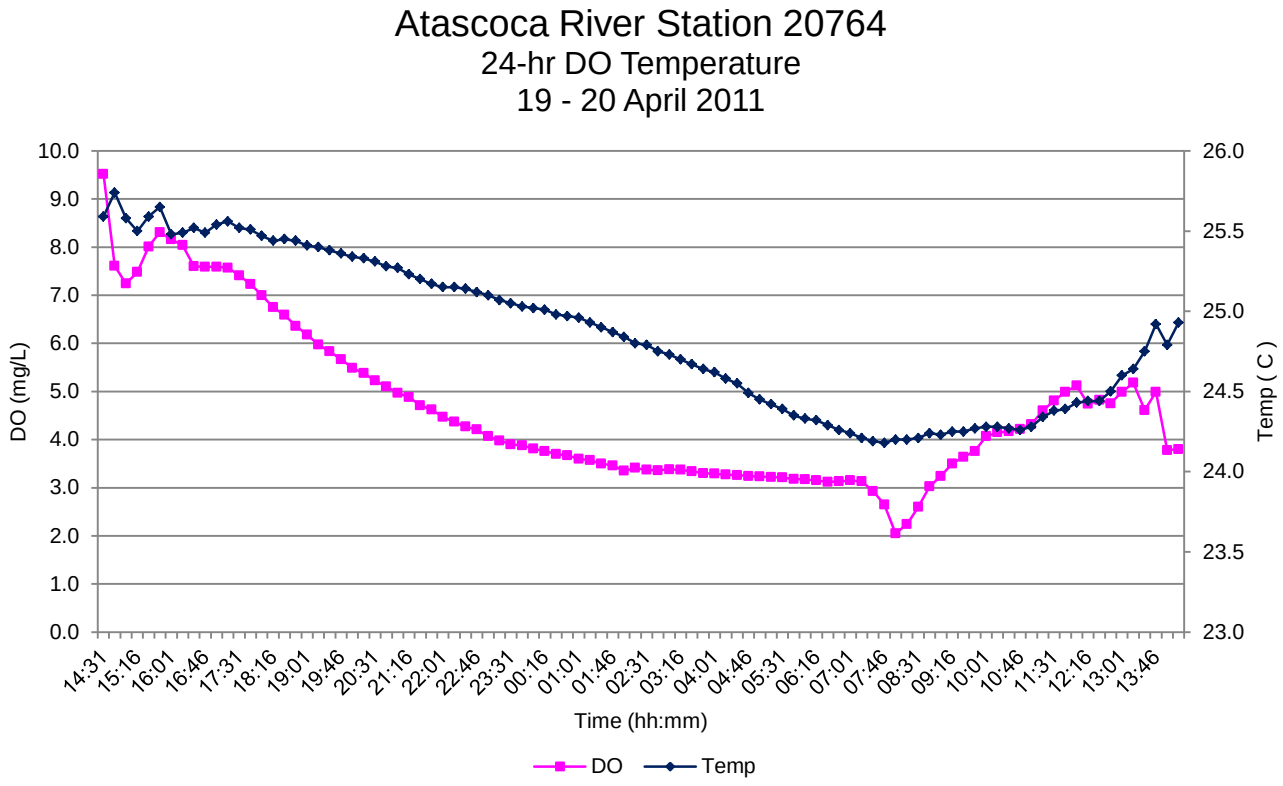
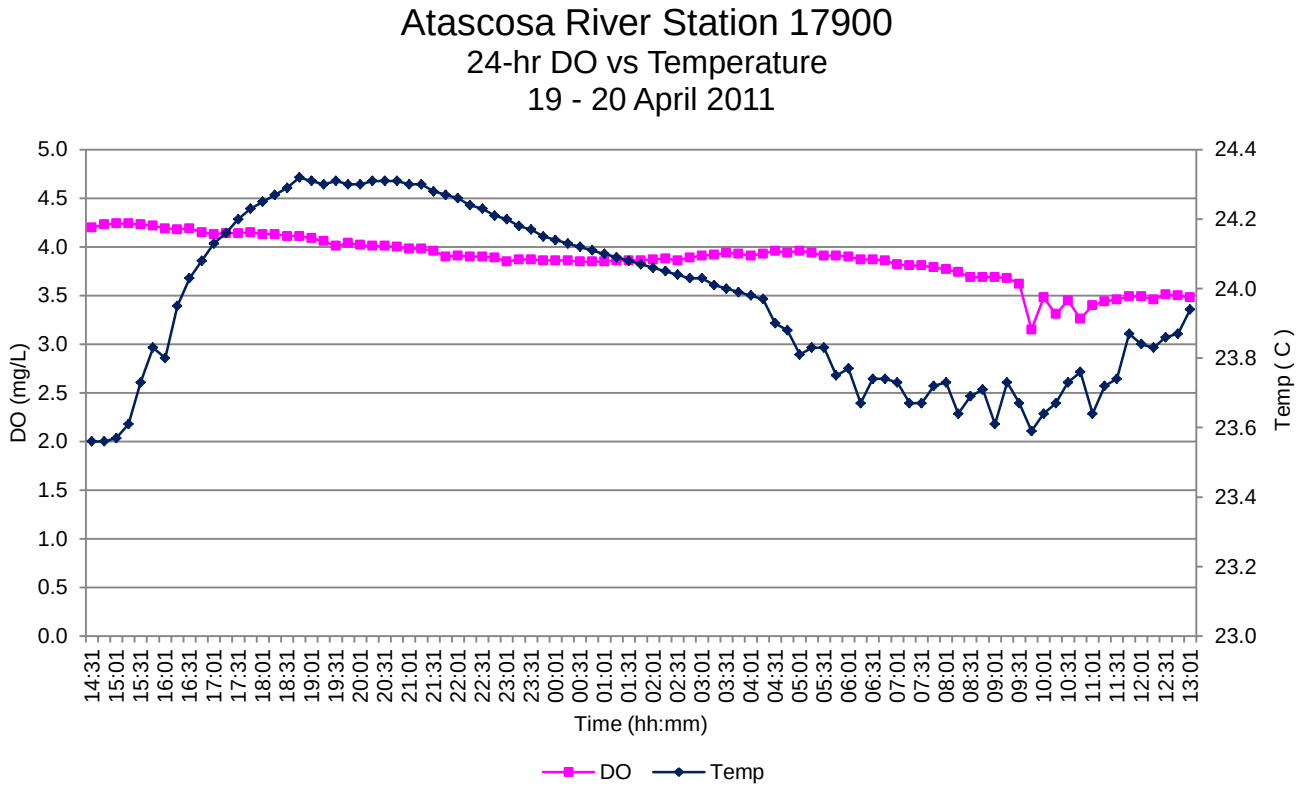
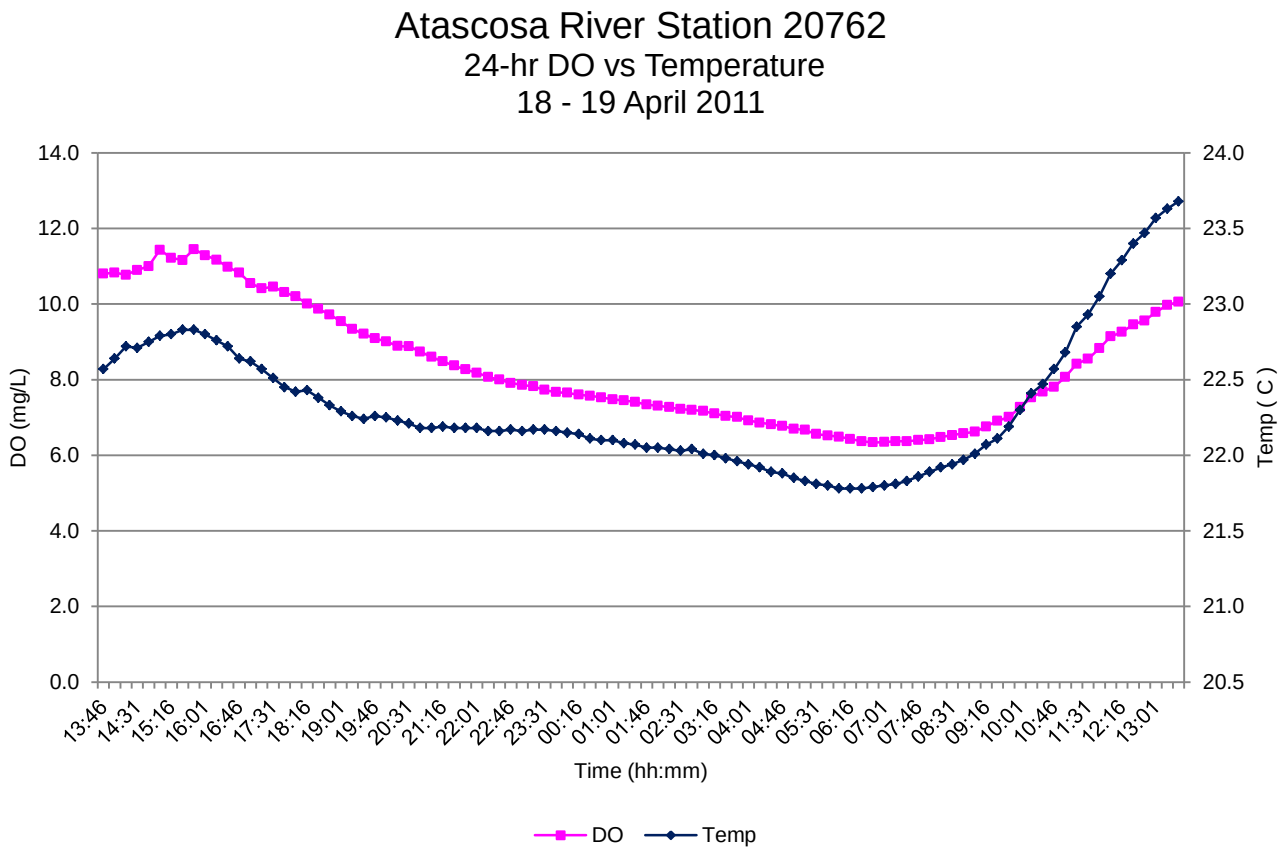

Atascosa River Station 20773
24-hr DO vs Temperature
19 - 20 April 2011
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp


Atascosa River Station 12980
24-hr DO Temperature
19 - 20 April 2011
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp


Atascoca River Station 20764
24-hr DO Temperature
19 - 20 April 2011
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp


Atascosa River Station 17900
24-hr DO vs Temperature
19 - 20 April 2011
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp



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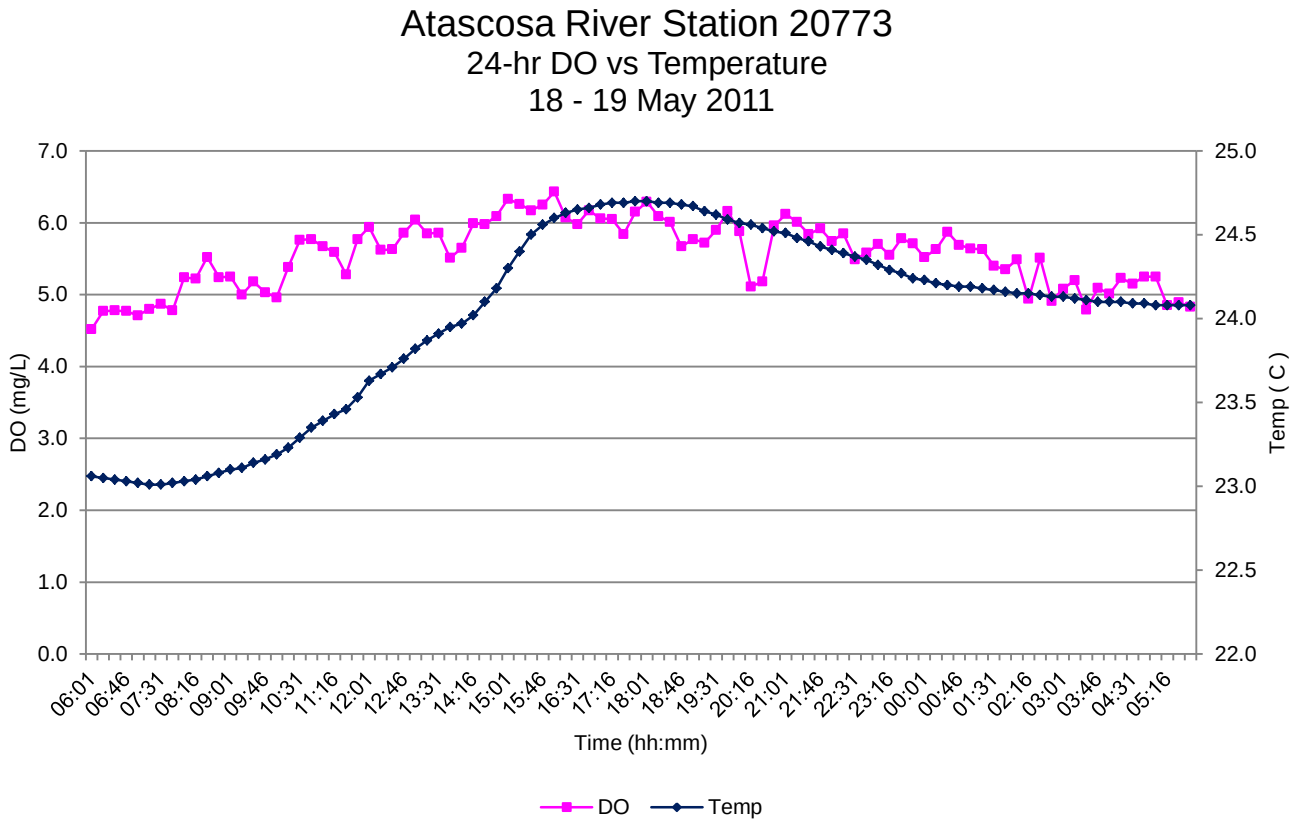
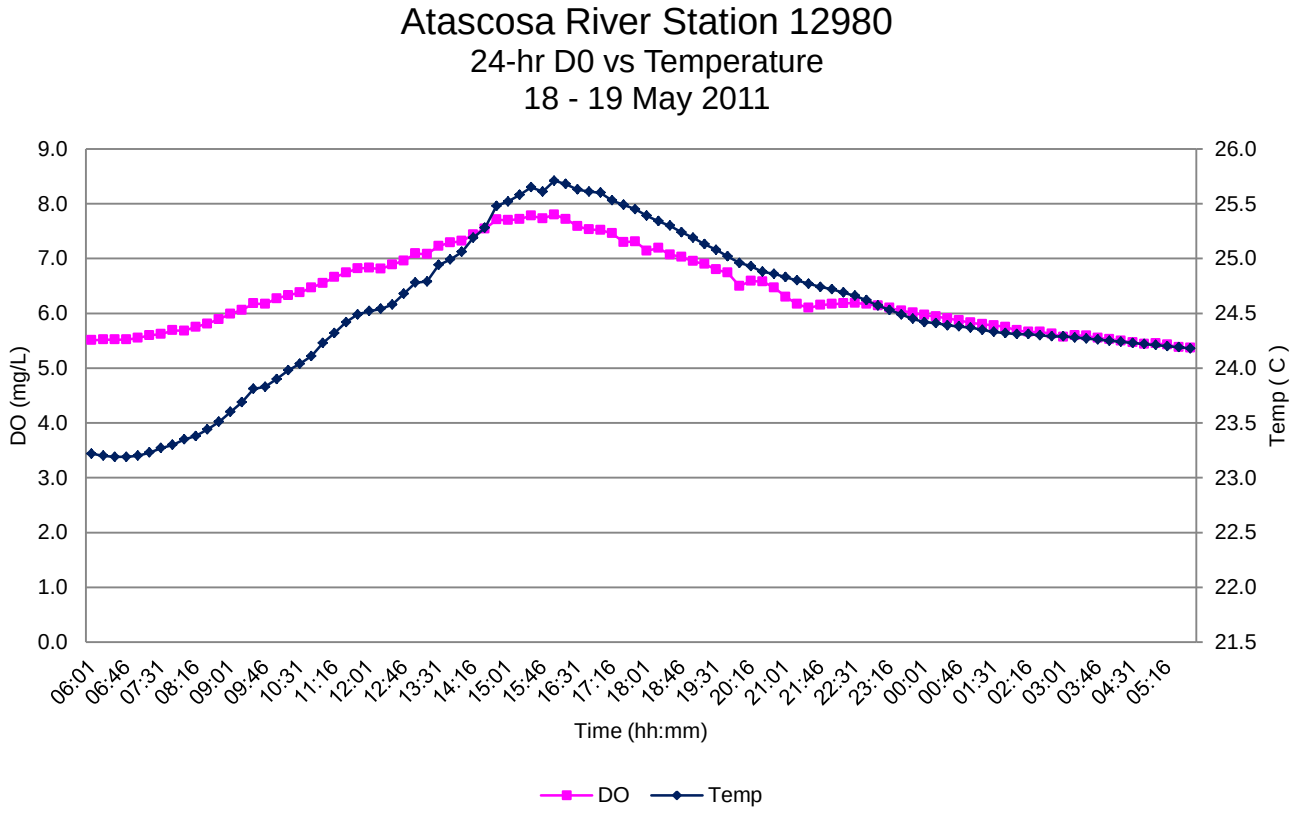
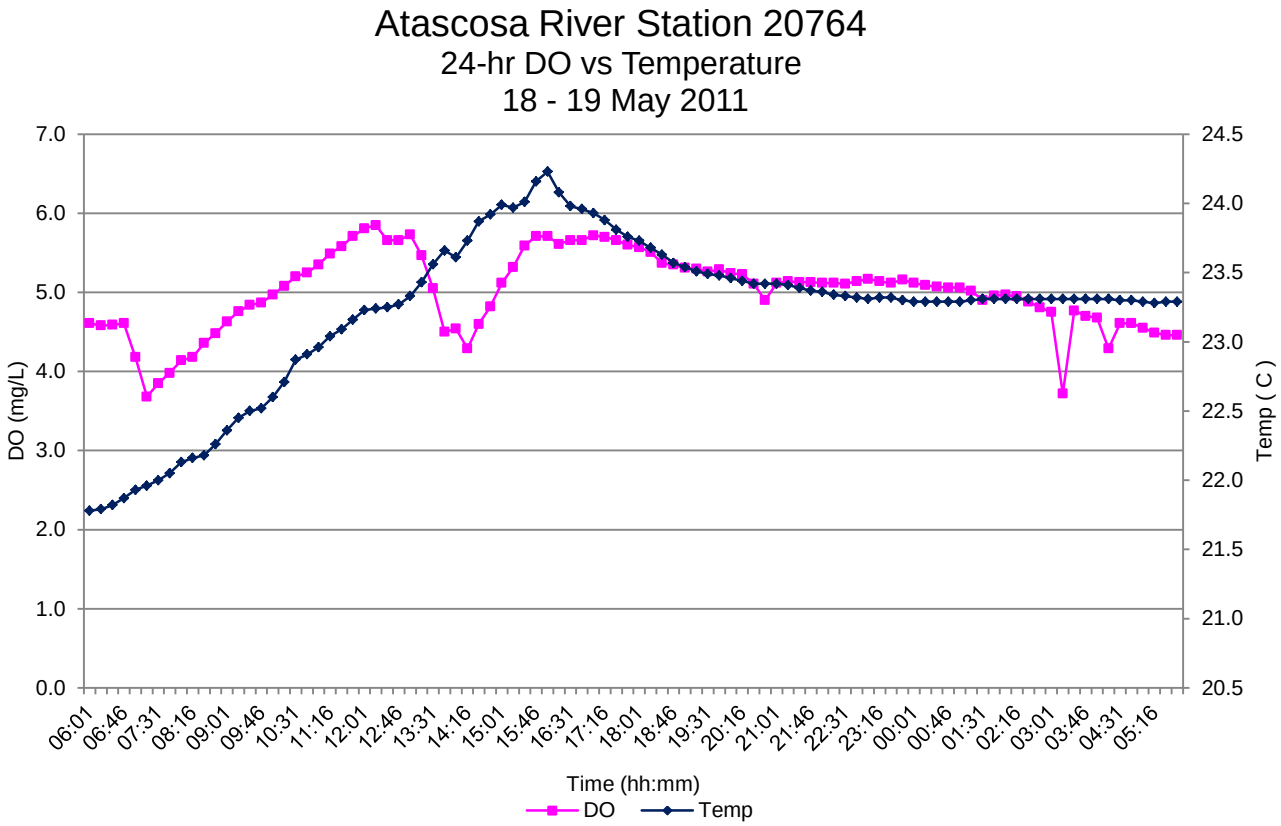
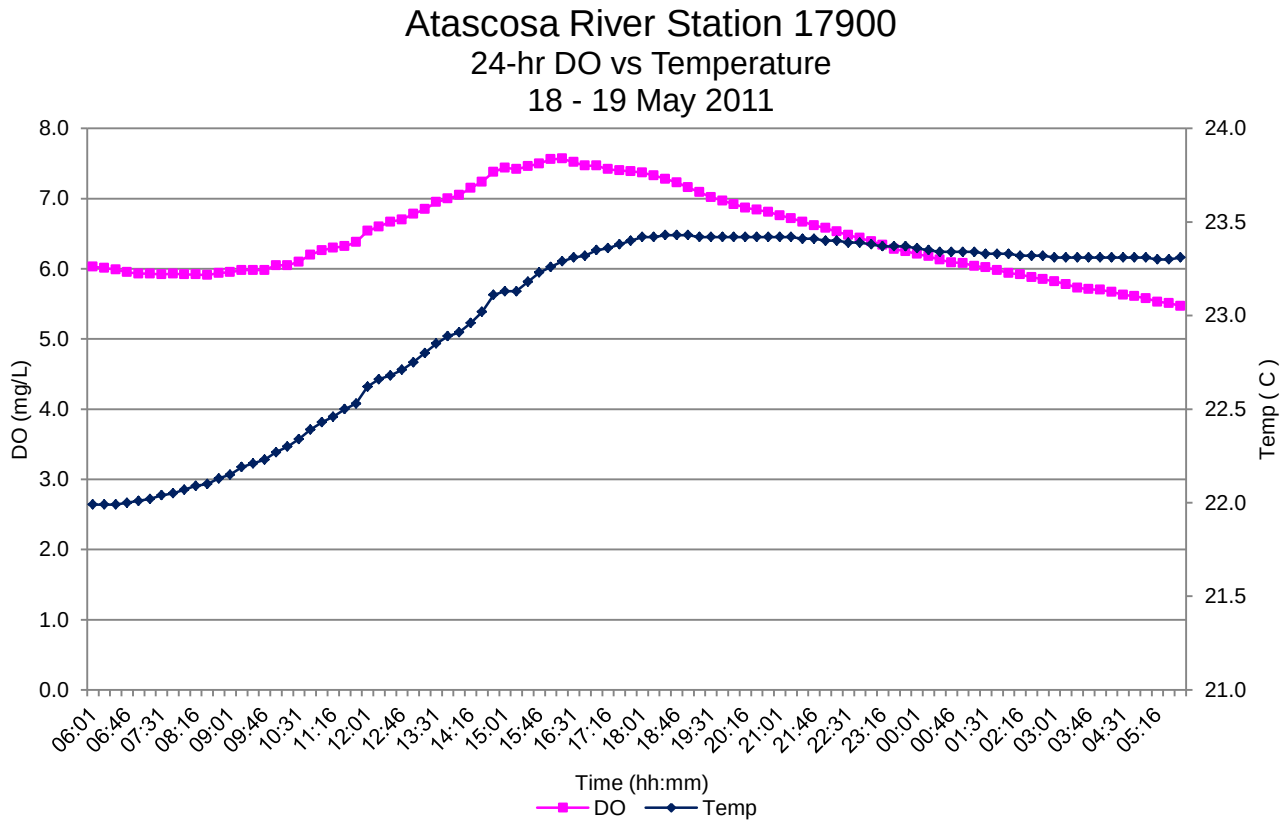
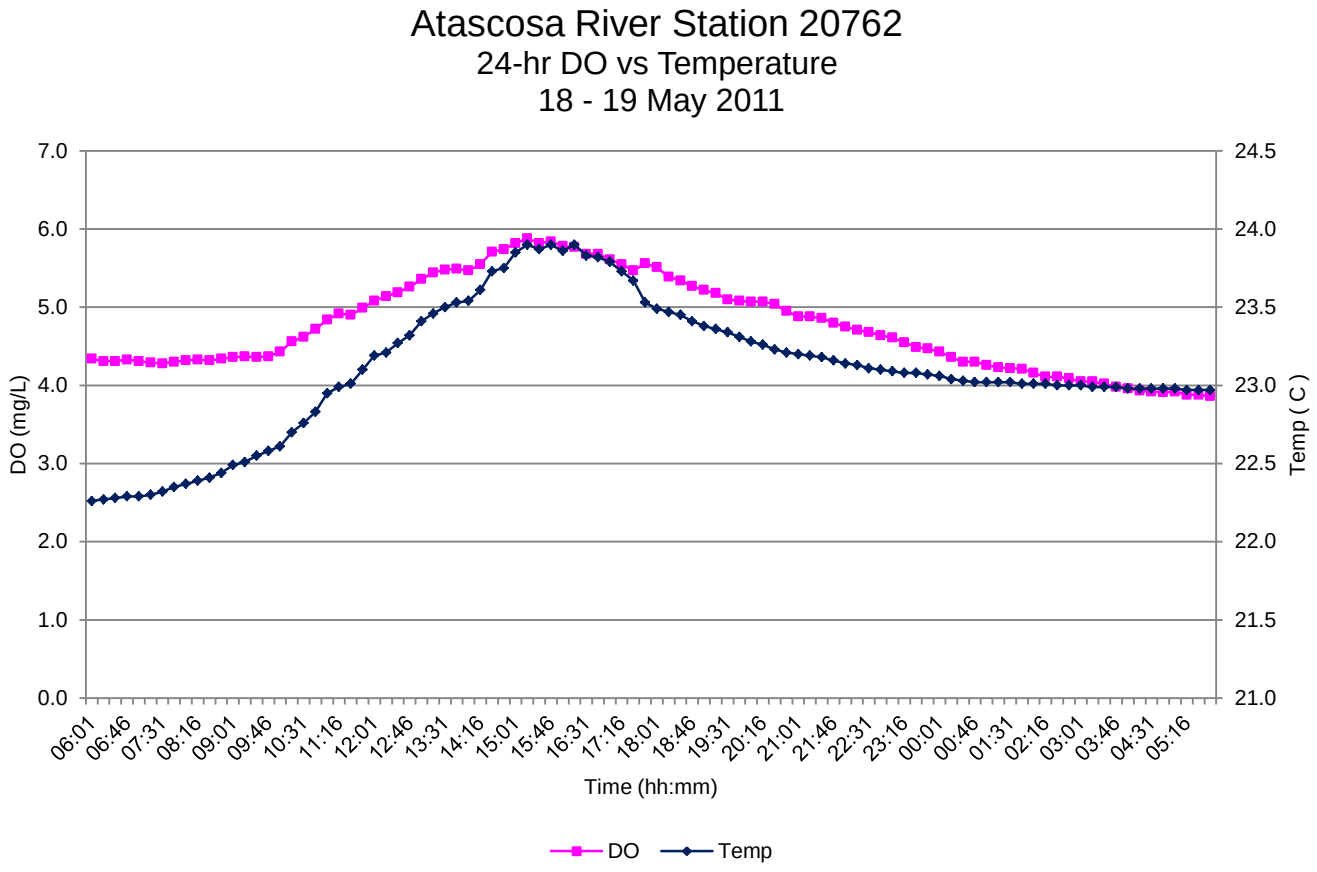

Atascosa River Station 20773
24-hr DO vs Temperature
18 - 19 May 2011
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp


Atascosa River Station 12980
24-hr D0 vs Temperature
18 - 19 May 2011
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp


Atascosa River Station 20764
24-hr DO vs Temperature
18 - 19 May 2011
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp


Atascosa River Station 17900
24-hr DO vs Temperature
18 - 19 May 2011
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp



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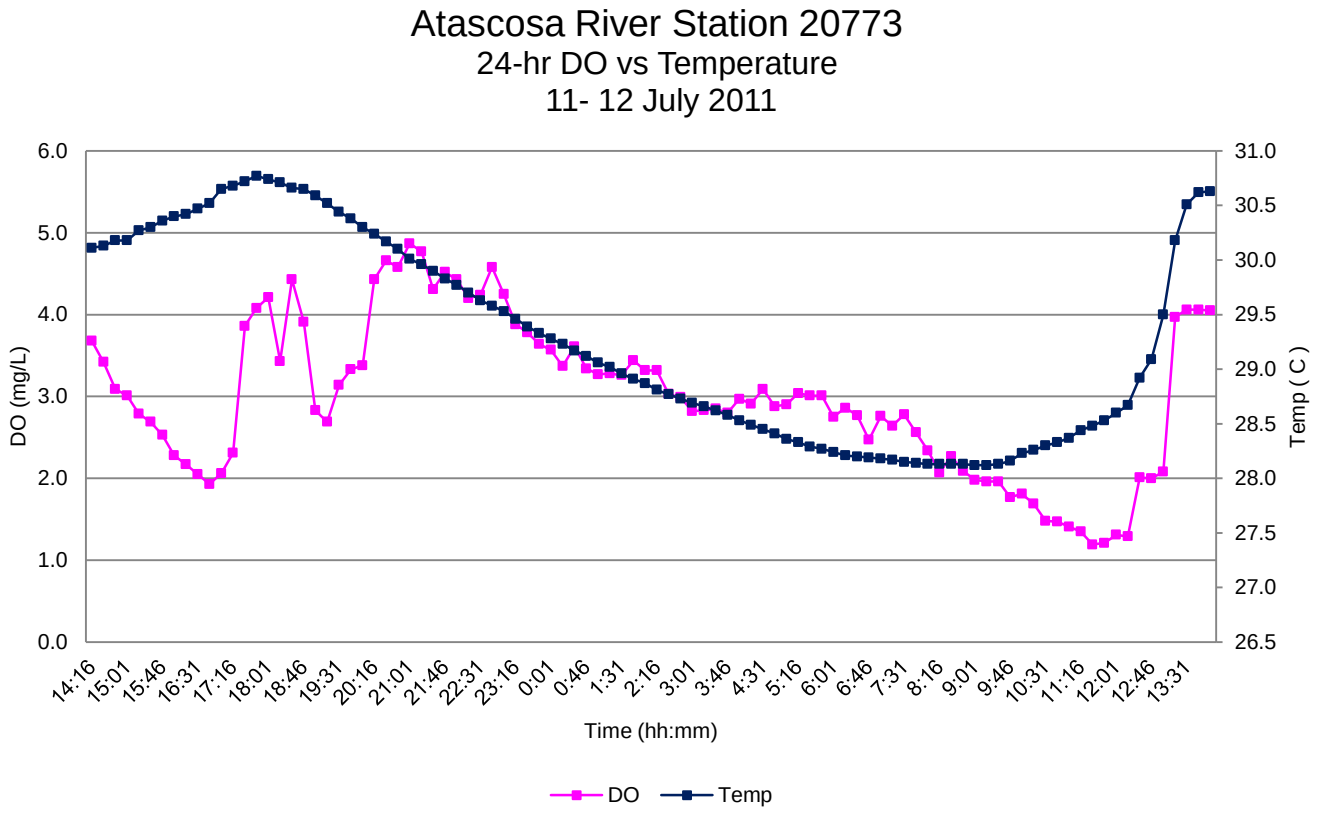
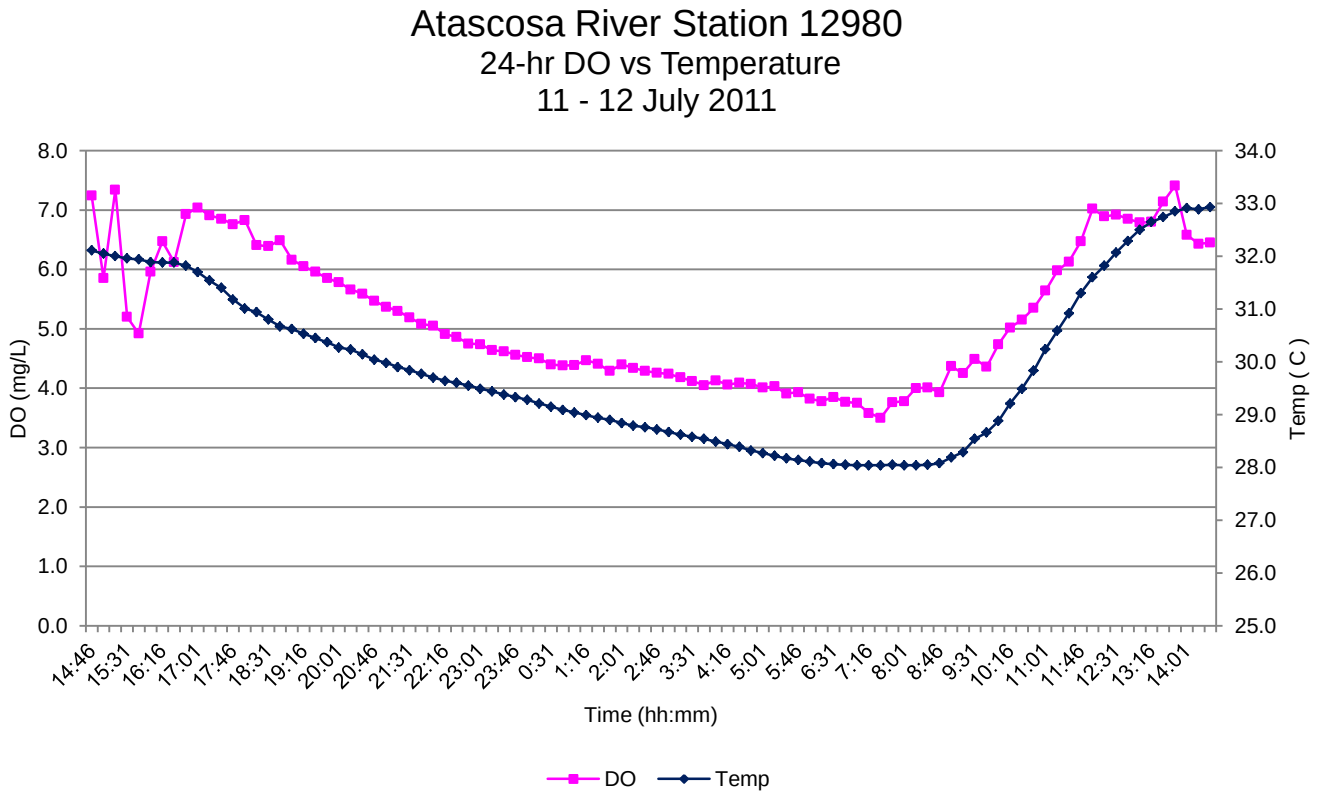
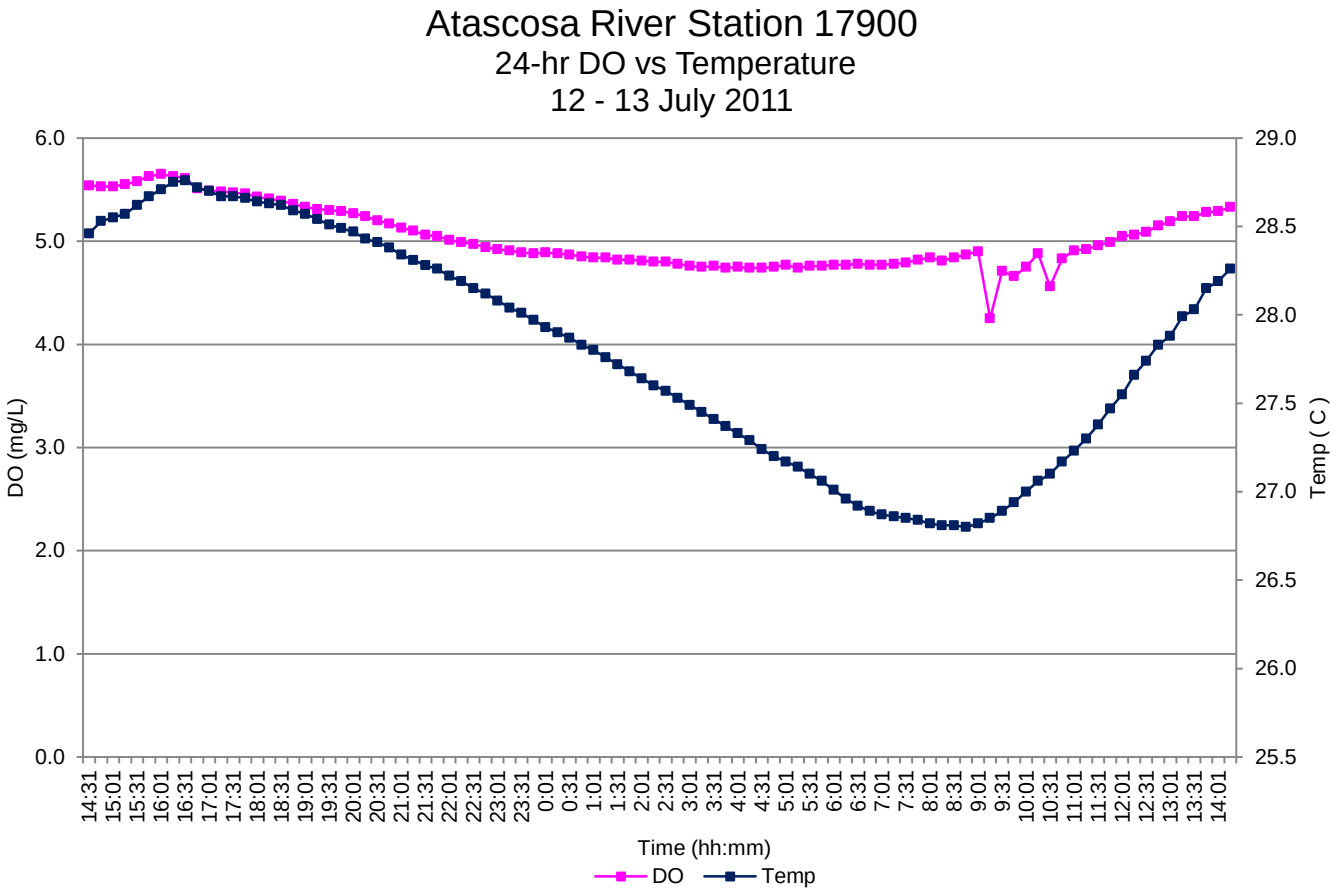
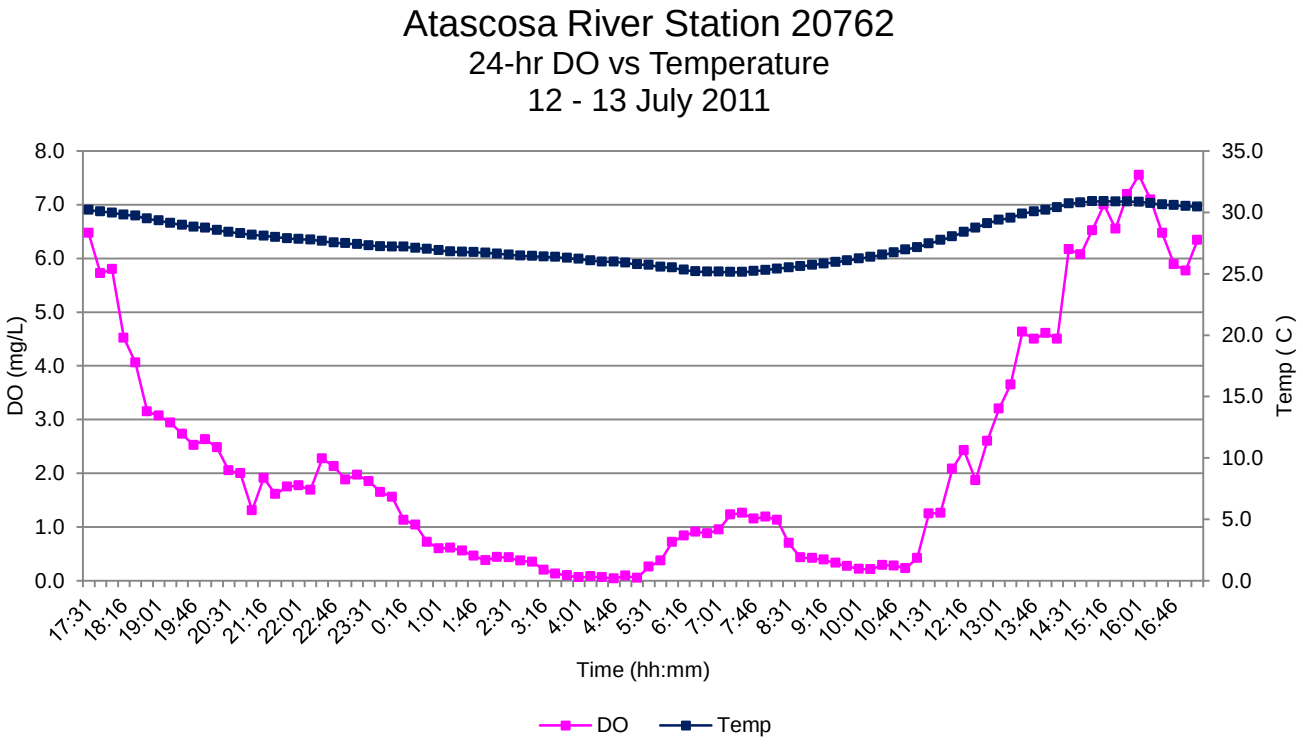
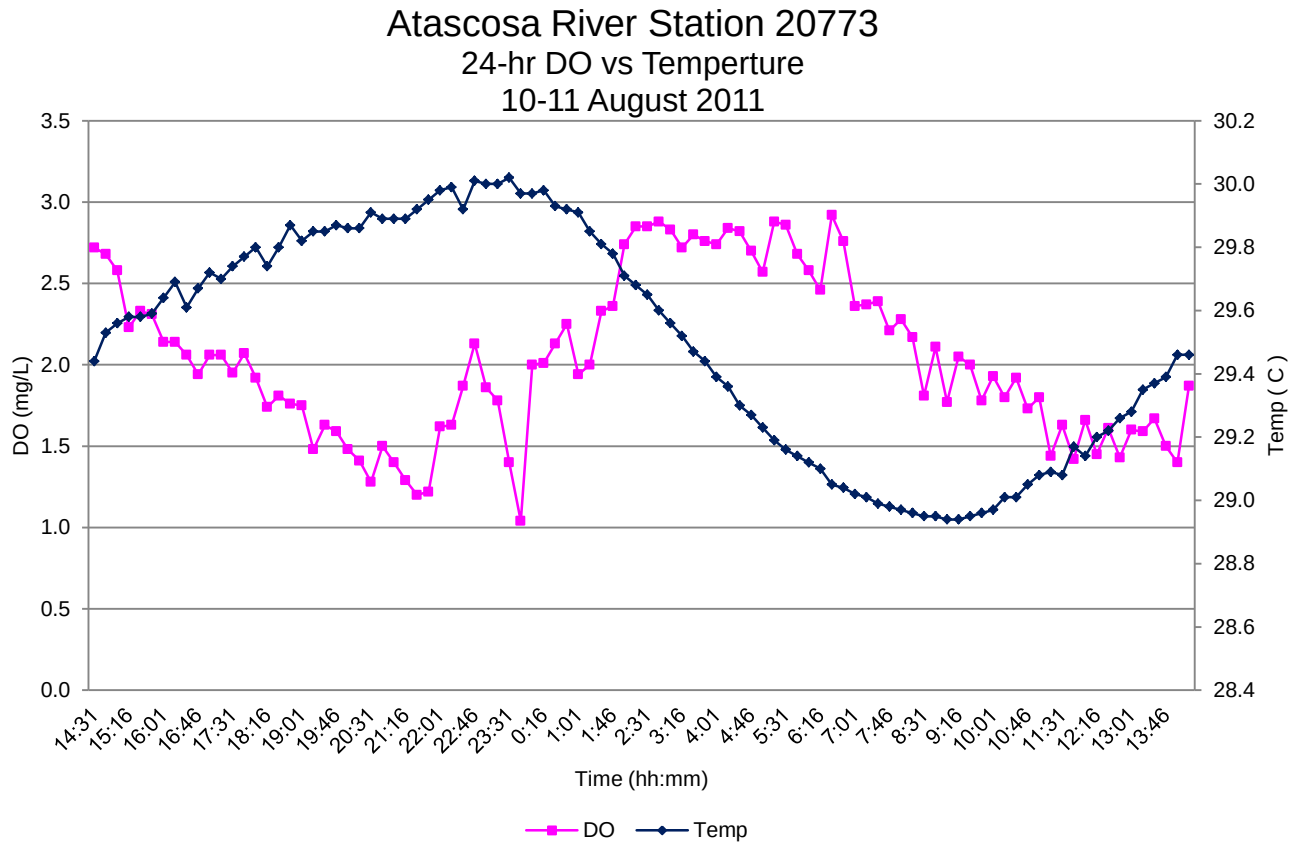
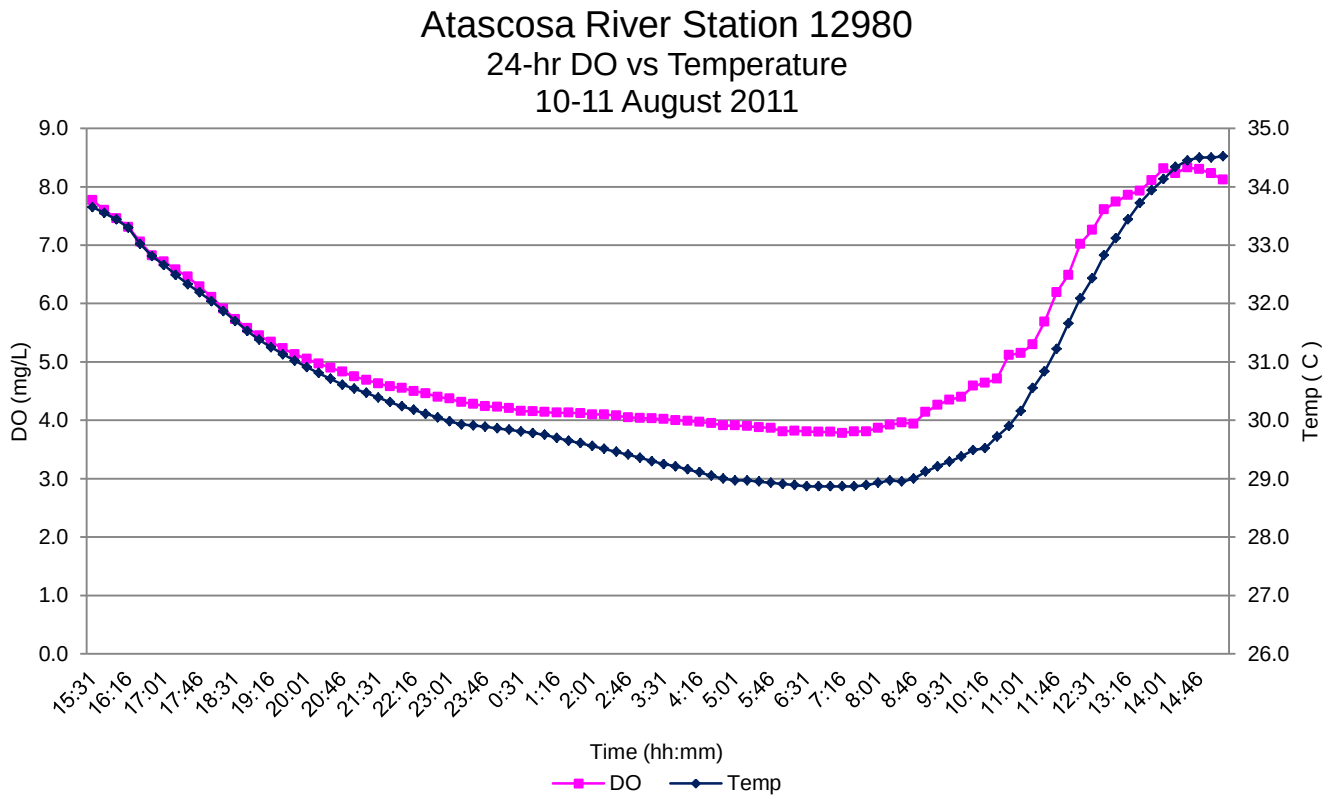

Atascosa River Station 20773
24-hr DO vs Temperature
11- 12 July 2011
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp

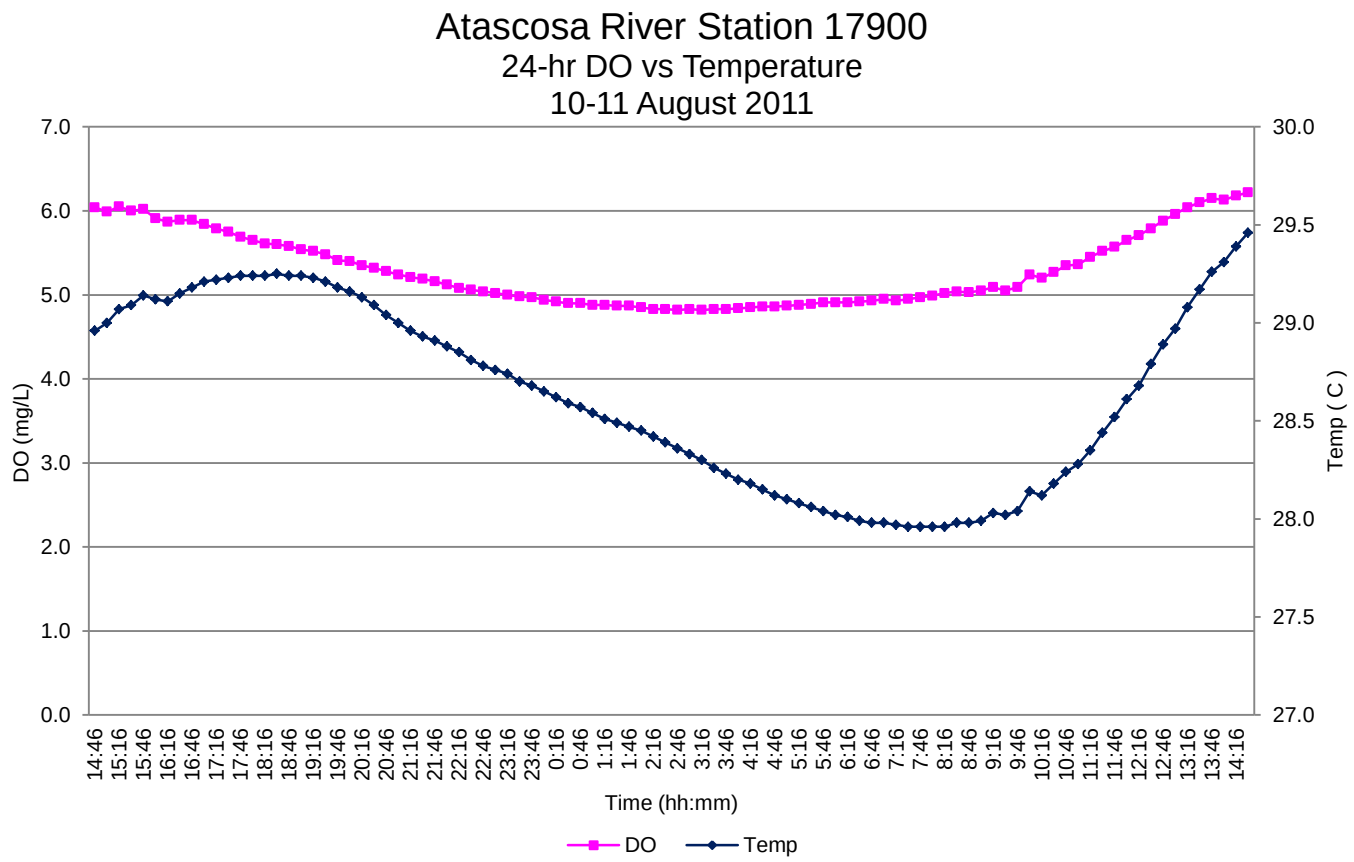

Atascosa River Station 12980
24-hr DO vs Temperature
11 - 12 July 2011
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp

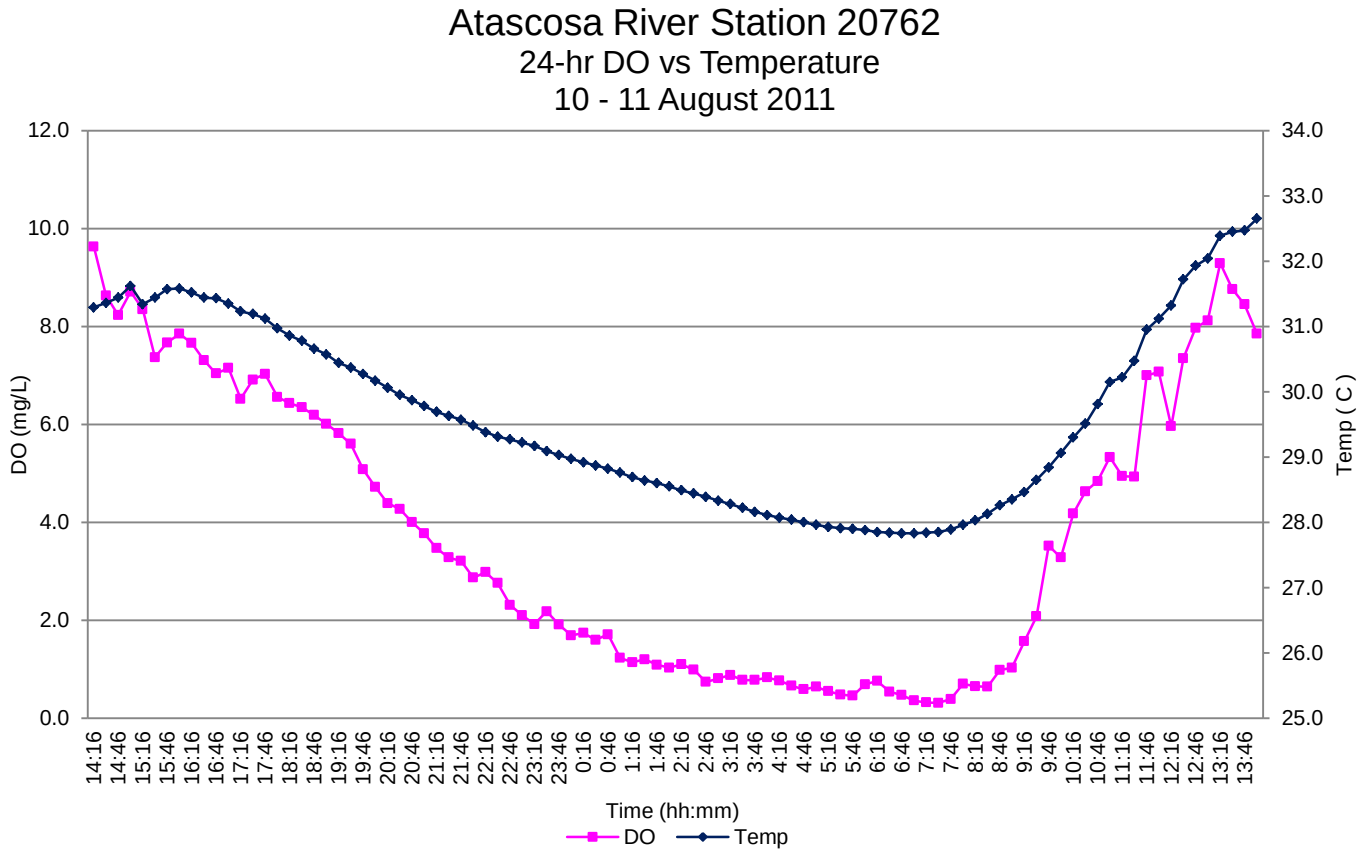

Atascosa River Station 17900
24-hr DO vs Temperature
12 - 13 July 2011
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp

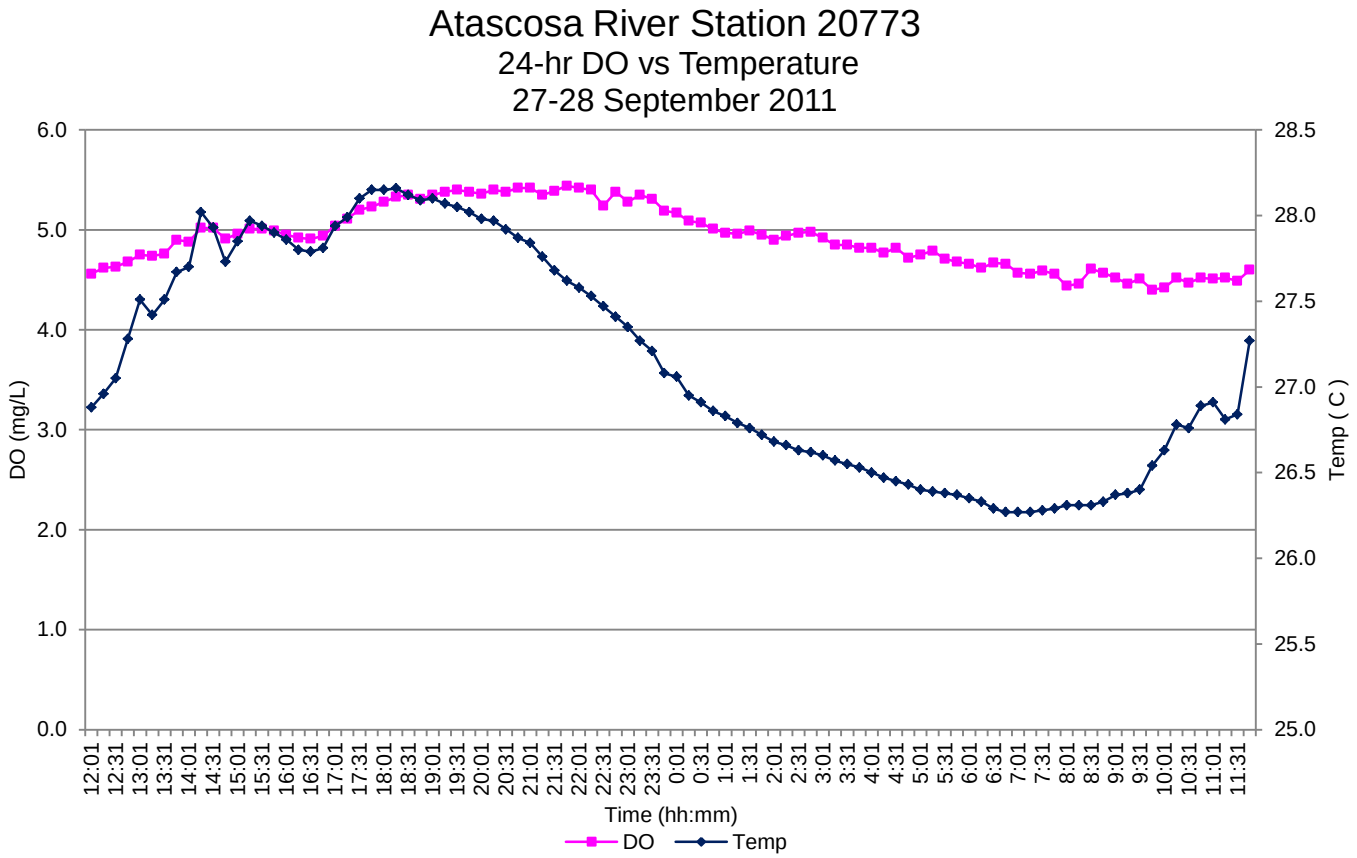

Atascosa River Station 20762
24-hr DO vs Temperature
12 - 13 July 2011
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp

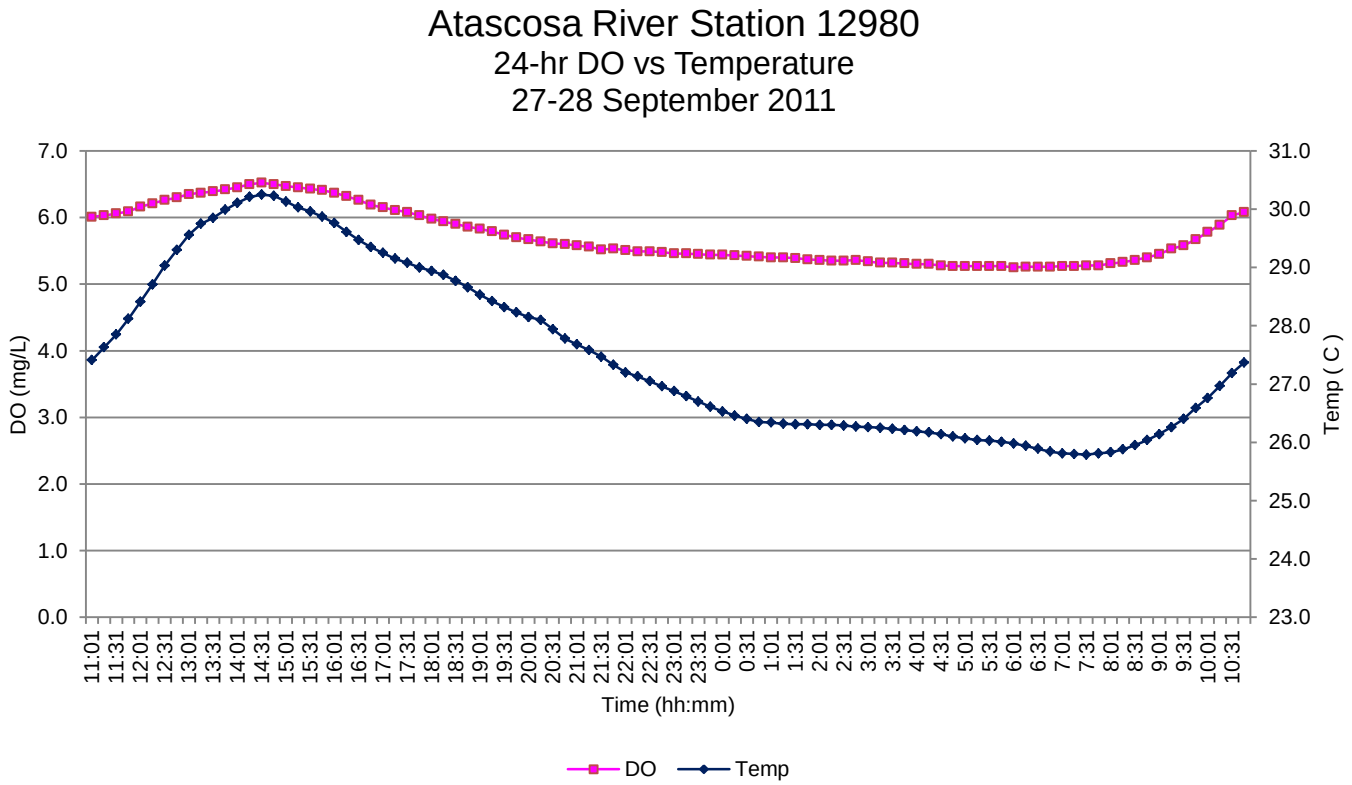

Atascosa River Station 20773
24-hr DO vs Temperture
10-11 August 2011
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp

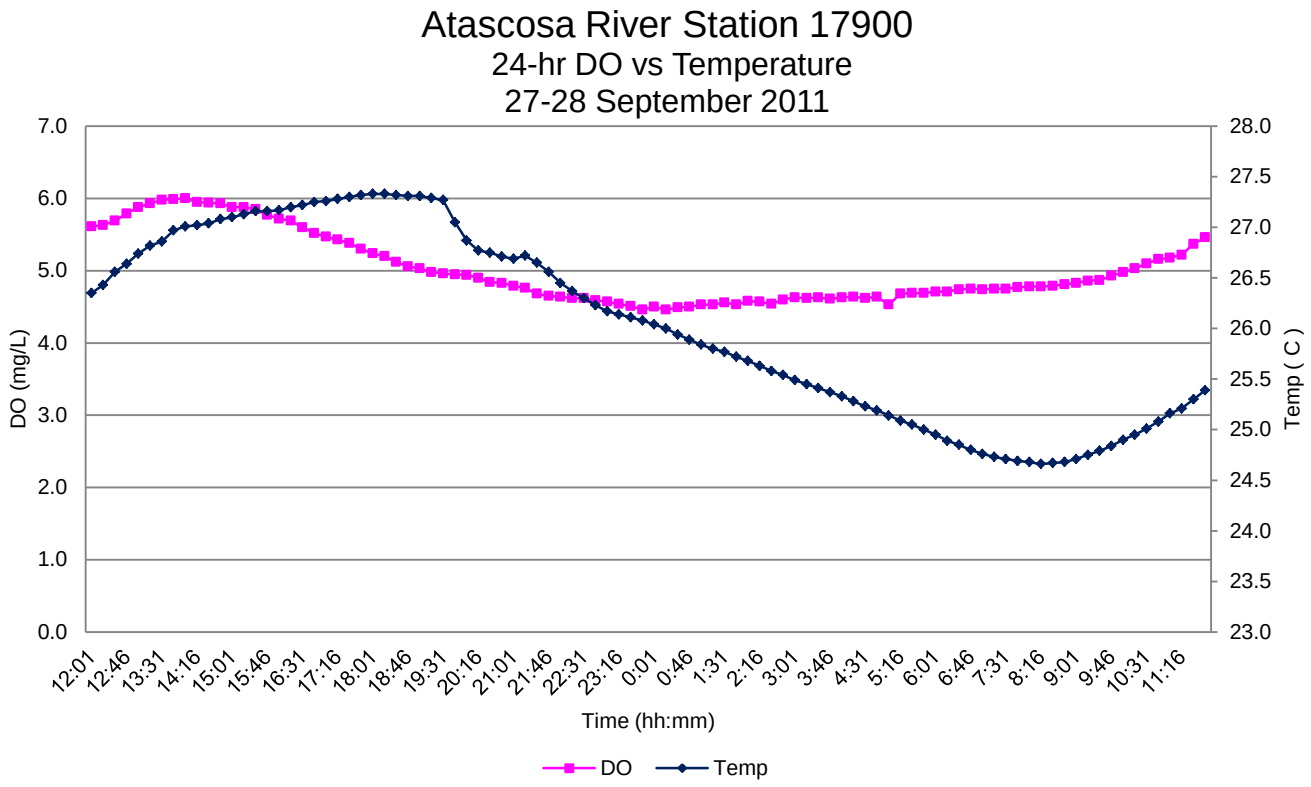

Atascosa River Station 12980
24-hr DO vs Temperature
10-11 August 2011
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp

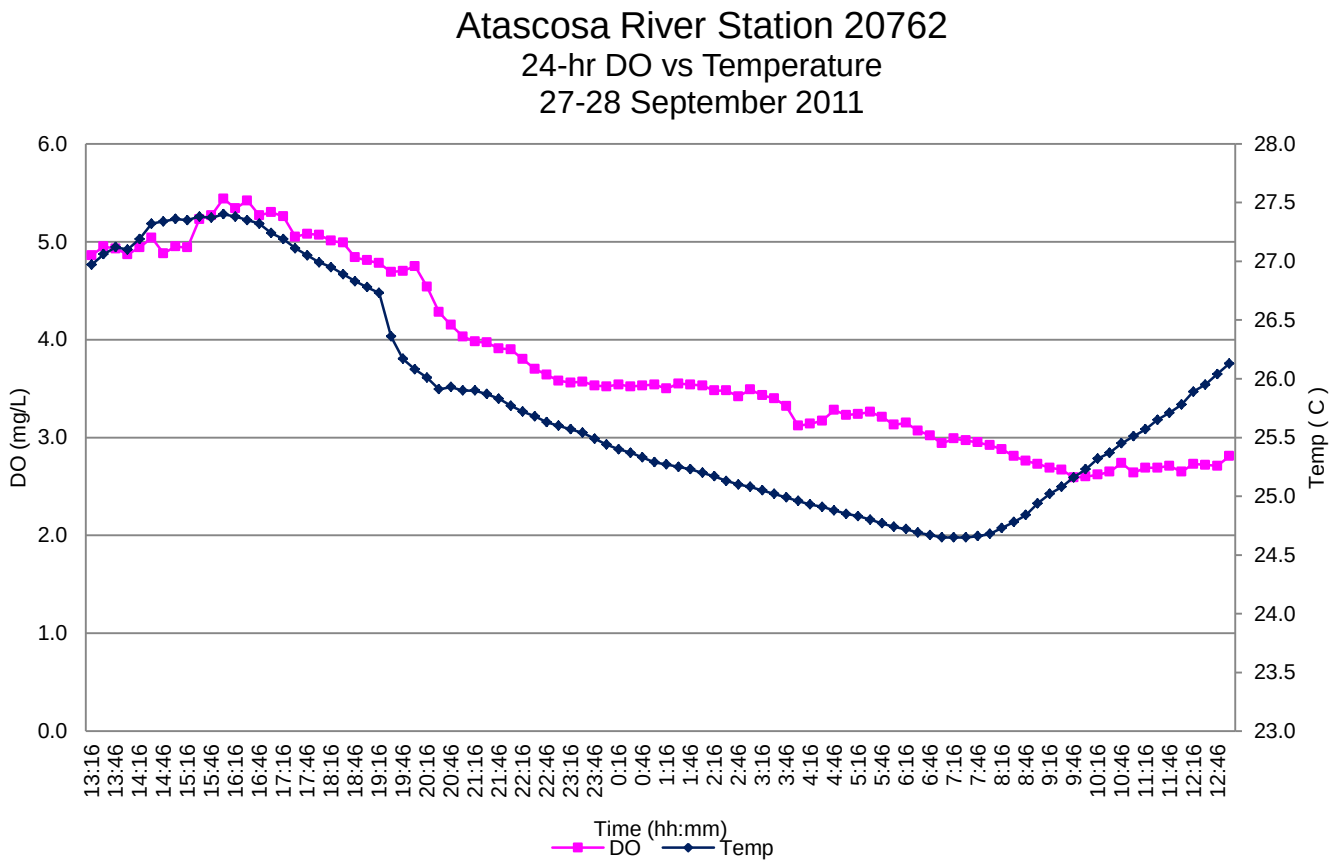

Atascosa River Station 17900
24-hr DO vs Temperature
10-11 August 2011
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp


Atascosa River Station 20762
24-hr DO vs Temperature
10 - 11 August 2011
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp


Atascosa River Station 20773
24-hr DO vs Temperature
27-28 September 2011
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp


Atascosa River Station 12980
24-hr DO vs Temperature
27-28 September 2011
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp


Atascosa River Station 17900
24-hr DO vs Temperature
27-28 September 2011
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp


Atascosa River Station 20762
24-hr DO vs Temperature
27-28 September 2011
DO (mg/L)
Temp (C)
Time (hh:mm)
DO
Temp

Appendix C
24-Hour Data Summary
Atascosa River

Table C - 1. 24-hr Deployment Data Summary – Atascosa River - 15-16 Jun 2010

				Surface			
Station	Date (start/end) (dd-mmm-yy)	Time (start/end) (hh:mm)		T (ºC)	SC (uS/cm)	DO (mg/L)	pH (SU)
20773	15-Jun-10	09:01	Min	28.0	1030	6.5	7.8
			Max	29.4	1180	6.7	7.9
	16-Jun-10	08:46	Mean	28.7	1110	6.6	-
12980	15-Jun-10	09:01	Min	27.5	1110	6.1	7.6
			Max	29.5	1250	6.4	7.7
	16-Jun-10	08:46	Mean	28.5	1180	6.3	-
20764	15-Jun-10	09:46	Min	27.2	1520	5.3	7.4
			Max	28.5	1650	5.5	7.4
	16-Jun-10	09:31	Mean	27.7	1590	5.4	-
17900	15-Jun-10	10:16	Min	27.2	1610	4.6	7.3
			Max	28.5	1750	4.9	7.3
	16-Jun-10	10:01	Mean	27.9	1690	4.7	-
20762	15-Jun-10	11:01	Min	27.4	986	5.0	7.4
			Max	29.5	1130	10.7	7.8
	16-Jun-10	10:46	Mean	28.3	1070	7.1	-
20761	15-Jun-10	11:16	Min	27.3	1920	0.4	7.3
			Max	30.1	2060	6.0	7.5
	16-Jun-10	11:01	Mean	28.5	1980	2.4	-
20760	15-Jun-10	11:46	Min	26.5	542	0.2	7.4
			Max	29.2	551	2.2	7.5
	16-Jun-10	11:31	Mean	27.8	546	0.7	-
17142	15-Jun-10		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
			Mean	dry	dry	dry	-

Table C - 2. 24-hr Deployment Data Summary – Atascosa River – 26-29 July 2010

				Surface			
Station	Date (start/end) (dd-mmm-yy)	Time (start/end) (hh:mm)		T (ºC)	SC (uS/cm)	DO (mg/L)	pH (SU)
20773	28-Jul-10	08:31	Min	26.6	1710	5.3	8.1
			Max	28.4	1810	6.0	8.1
	29-Jul10	08:16	Mean	27.6	1750	5.6	-
12980	28-Jul-10	08:16	Min	26.1	1740	5.8	7.7
			Max	28.3	1810	6.7	7.8
	29-Jul10	08:01	Mean	27.1	1790	6.3	-
20764	27-Jul-10	07:46	Min	26.7	2020	4.8	7.5
			Max	28.0	2080	6.4	7.7
	28-Jul-10	07:31	Mean	27.6	2050	5.4	-
17900	27-Jul-10	08:01	Min	26.8	1920	5.0	7.6
			Max	27.9	2010	5.4	7.7
	28-Jul-10	07:46	Mean	27.4	1970	5.1	-
20762	26-Jul-10	14:46	Min	27.7	1790	4.7	7.5
			Max	29.8	1800	8.7	7.7
	27-Jul-10	14:31	Mean	28.6	1800	6.1	-
20761	26-Jul-10		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
			Mean	dry	dry	dry	-
20760	26-Jul-10		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
			Mean	dry	dry	dry	-
17142	26-Jul-10		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
			Mean	dry	dry	dry	-

Table C - 3. 24-hr Deployment Data Summary – Atascosa River – 25-26 August 2010

				Surface			
Station	Date (start/end) (dd-mmm-yy)	Time (start/end) (hh:mm)		T (ºC)	SC (uS/cm)	DO (mg/L)	pH (SU)
20773	25-Aug-10	08:01	Min	27.9	2160	5.2	8.3
			Max	30.5	2170	6.7	8.4
	26-Aug-10	07:46	Mean	29.3	2170	5.9	-
12980	25-Aug-10	08:46	Min	27.2	2020	4.9	8.2
			Max	31.7	2040	8.2	8.3
	26-Aug-10	08:31	Mean	29.5	2040	6.1	-
20764	25-Aug-10	09:01	Min	25.8	2200	4.1	7.9
			Max	27.7	2230	6.1	8.0
	26-Aug-10	08:46	Mean	26.9	2220	4.9	-
17900	25-Aug-10	08:16	Min	26.3	1540	3.4	7.8
			Max	27.6	1670	4.7	7.9
	26-Aug-10	08:01	Mean	27.0	1630	4.0	-
20762	25-Aug-10	07:46	Min	27.2	1880	4.1	7.6
			Max	30.1	1900	7.4	8.1
	26-Aug-10	07:31	Mean	28.5	1900	5.2	-
20761	25-Aug-10		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
			Mean	dry	dry	dry	-
20760	25-Aug-10		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
			Mean	dry	dry	dry	-
17142	25-Aug-10		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
			Mean	dry	dry	dry	-

Table C - 4. 24-hr Deployment Data Summary – Atascosa River – 21-23 September 2010

				Surface			
Station	Date (start/end) (dd-mmm-yy)	Time (start/end) (hh:mm)		T (ºC)	SC (uS/cm)	DO (mg/L)	pH (SU)
20773	22-Sep-10	13:16	Min	25.3	598	6.7	7.8
			Max	26.7	653	7.0	8.0
	23-Sep-10	13:01	Mean	25.7	622	6.8	-
12980	22-Sep-10	12:01	Min	25.3	617	6.4	7.7
			Max	26.4	703	6.6	7.8
	23-Sep-10	11:46	Mean	25.7	651	6.4	-
20764	21-Sep-10	14:01	Min	24.3	764	3.8	7.6
			Max	25.6	1010	5.3	7.6
	22-Sep-10	13:46	Mean	25.0	929	5.1	-
17900	21-Sep-10	15:16	Min	25.2	997	4.9	7.6
			Max	25.8	1110	5.2	7.7
	22-Sep-10	15:01	Mean	25.5	1070	5.1	-
20762	21-Sep-10	14:31	Min	24.9	1060	4.1	7.4
			Max	26.1	1220	6.2	7.5
	22-Sep-10	14:16	Mean	25.5	1200	4.9	-
20761	22-Sep-10	12:46	Min	24.7	702	3.0	7.5
			Max	26.0	721	4.5	7.7
	23-Sep-10	12:31	Mean	25.3	714	3.6	-
20760	22-Sep-10	15:01	Min	24.7	481	2.0	7.4
			Max	25.8	528	4.0	7.5
	23-Sep-10	14:46	Mean	25.0	507	3.0	-
17142	21-Sep-10	13:31	Min	24.9	689	0.4	7.3
			Max	26.0	709	3.0	7.4
	22-Sep-10	13:16	Mean	25.4	705	1.7	-

Table C - 5. 24-hr Deployment Data Summary – Atascosa River – 15-16 March 2011

				Surface			
Station	Date (start/end) (dd-mmm-yy)	Time (start/end) (hh:mm)		T (ºC)	SC (uS/cm)	DO (mg/L)	pH (SU)
20773	15-Mar-11	07:31	Min	19.1	2140	6.6	8.3
			Max	21.3	2160	8.3	8.4
	16-Mar-11	07:16	Mean	20.4	2150	7.5	-
12980	15-Mar-11	08:16	Min	18.1	2120	7.2	8.3
			Max	22.2	2140	9.6	8.4
	16-Mar-11	08:01	Mean	20.2	2130	8.1	-
20764	15-Mar-11	08:31	Min	17.1	1060	5.8	8.0
			Max	20.1	1090	12.0	8.4
	16-Mar-11	08:16	Mean	19.0	1070	8.1	-
17900	15-Mar-11	08:01	Min	17.5	1680	5.4	7.8
			Max	20.1	1820	9.0	8.1
	16-Mar-11	07:46	Mean	19.2	1720	7.2	-
20762	15-Mar-11	07:31	Min	17.7	1430	7.6	7.6
			Max	18.6	1640	9.7	7.7
	16-Mar-11	07:16	Mean	18.3	1560	8.8	-
20761	15-Mar-11		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
			Mean	dry	dry	dry	-
20760	15-Mar-11		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
			Mean	dry	dry	dry	-
17142	15-Mar-11		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
			Mean	dry	dry	dry	-

Table C - 6. 24-hr Deployment Data Summary – Atascosa River – 18-20 April 2011

				Surface			
Station	Date (start/end) (dd-mmm-yy)	Time (start/end) (hh:mm)		T (ºC)	SC (uS/cm)	DO (mg/L)	pH (SU)
20773	19-Apr-11	08:46	Min	23.5	2700	6.3	8.4
			Max	26.7	2770	7.9	8.5
	20-Apr-11	08:31	Mean	25.5	2750	7.1	-
12980	19-Apr-11	08:31	Min	23.8	2460	5.3	8.5
			Max	28.5	2510	9.1	8.6
	20-Apr-11	08:16	Mean	26.4	2480	6.8	-
20764	19-Apr-11	14:31	Min	24.2	2040	2.1	7.7
			Max	25.7	2060	9.5	8.2
	20-Apr-11	14:16	Mean	24.9	2050	4.6	-
17900	19-Apr-11	14:31	Min	23.6	1480	3.2	7.7
			Max	24.3	1560	4.2	7.8
	20-Apr-11	14:16	Mean	24.0	1520	3.9	-
20762	18-Apr-11	14:46	Min	21.8	1120	6.3	7.6
			Max	23.7	1440	11.5	8.3
	19-Apr-11	14:31	Mean	22.3	1300	8.4	-
20761	18-Apr-11		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
			Mean	dry	dry	dry	-
20760	18-Apr-11		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
			Mean	dry	dry	dry	-
17142	18-Apr-11		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
			Mean	dry	dry	dry	-

Table C - 7. 24-hr Deployment Data Summary – Atascosa River – 18-19 May 2011

				Surface			
Station	Date (start/end) (dd-mmm-yy)	Time (start/end) (hh:mm)		T (ºC)	SC (uS/cm)	DO (mg/L)	pH (SU)
20773	18-May-11	06:01	Min	23.0	2510	4.5	8.7
			Max	24.7	2570	6.4	8.8
	19-May-11	05:46	Mean	24.0	2550	5.6	-
12980	18-May-11	06:01	Min	23.2	2380	5.4	8.8
			Max	25.7	2420	7.8	8.8
	19-May-11	05:46	Mean	24.5	2410	6.4	-
20764	18-May-11	06:01	Min	21.8	1870	3.7	8.0
			Max	24.2	1890	5.9	8.1
	19-May-11	05:46	Mean	23.2	1880	5.0	-
17900	18-May-11	06:01	Min	22.0	1300	5.5	7.9
			Max	23.4	1400	7.6	8.1
	19-May-11	05:46	Mean	23.0	1340	6.5	-
20762	18-May-11	06:01	Min	22.3	1240	3.9	7.4
			Max	23.9	1270	5.9	7.6
	19-May-11	05:46	Mean	23.1	1250	4.8	-
20761	18-May-11		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
			Mean	dry	dry	dry	-
20760	18-May-11		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
			Mean	dry	dry	dry	-
17142	18-May-11		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
			Mean	dry	dry	dry	-

Table C - 8. 24-hr Deployment Data Summary – Atascosa River – 11-12 July 2011

				Surface			
Station	Date (start/end) (dd-mmm-yy)	Time (start/end) (hh:mm)		T (ºC)	SC (uS/cm)	DO (mg/L)	pH (SU)
20773	11-Jul-11	14:16	Min	28.1	1560	1.2	8.8
			Max	30.8	1570	4.9	8.9
	12-Jul-11	14:01	Mean	29.3	1560	3.0	-
12980	11-Jul-11	14:46	Min	28.0	2010	3.5	8.8
			Max	32.9	2070	7.4	8.9
	12-Jul-11	14:31	Mean	29.9	2027	5.2	-
20764	11-Jul-11		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
	12-Jul-11		Mean	dry	dry	dry	-
17900	11-Jul-11	14:31	Min	26.8	1110	4.3	7.8
			Max	28.8	1120	5.7	-
	12-Jul-11	14:16	Mean	27.8	1117	5.0	7.8
20762	11-Jul-11	17:31	Min	25.1	1400	0.0	7.1
			Max	30.9	1550	7.6	7.6
	12-Jul-11	17:16	Mean	27.7	1470	2.2	-
20761	11-Jul-11		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
			Mean	dry	dry	dry	-
20760	11-Jul-11		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
			Mean	dry	dry	dry	-
17142	11-Jul-11		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
			Mean	dry	dry	dry	-

Table C - 9. 24-hr Deployment Data Summary – Atascosa River – 10-11August 2011

				Surface			
Station	Date (start/end) (dd-mmm-yy)	Time (start/end) (hh:mm)		T (ºC)	SC (uS/cm)	DO (mg/L)	pH (SU)
20773	10-Aug-11	14:31	Min	28.9	1950	1.0	8.8
			Max	30.0	1970	2.9	8.9
	11-Aug-11	14:16	Mean	29.5	1960	2.0	-
12980	10-Aug-11	15:31	Min	28.9	2280	3.8	9.0
			Max	34.5	2370	8.3	9.0
	11-Aug-11	15:16	Mean	30.7	2320	5.2	-
20764	10-Aug-11		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
			Mean	dry	dry	dry	-
17900	10-Aug-11	14:46	Min	28.0	1230	4.8	7.8
			Max	29.5	1240	6.2	8.0
	11-Aug-11	14:31	Mean	28.6	1240	5.3	-
20762	10-Aug-11	14:16	Min	27.8	1180	0.3	7.5
			Max	32.7	1190	9.6	8.4
	11-Aug-11	14:01	Mean	29.7	1190	3.8	-
20761	10-Aug-11		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
			Mean	dry	dry	dry	-
20760	10-Aug-11		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
			Mean	dry	dry	dry	-
17142	10-Aug-11		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
			Mean	dry	dry	dry	-

Table C - 10. 24-hr Deployment Data Summary – Atascosa River – 27-28 September 2011

				Surface			
Station	Date (start/end) (dd-mmm-yy)	Time (start/end) (hh:mm)		T (ºC)	SC (uS/cm)	DO (mg/L)	pH (SU)
20773	27-Sep-11	12:01	Min	26.3	722	4.4	8.0
			Max	28.2	749	5.4	8.2
	28-Sep-11	11:46	Mean	27.1	736	4.9	-
12980	27-Sep-11	11:01	Min	25.8	953	5.3	8.3
			Max	30.3	1010	6.5	8.4
	28-Sep-11	10:46	Mean	27.5	979	5.7	-
20764	27-Sep-11		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
			Mean	dry	dry	dry	-
17900	27-Sep-11	12:01	Min	24.7	1290	4.5	7.7
			Max	27.3	1310	6.0	7.8
	28-Sep-11	11:46	Mean	26.0	1300	5.0	-
20762	27-Sep-11	13:16	Min	24.7	584	2.6	7.0
			Max	27.4	592	5.4	7.2
	28-Sep-11	13:01	Mean	25.8	588	3.8	-
20761	27-Sep-11		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
			Mean	dry	dry	dry	-
20760	27-Sep-11		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
			Mean	dry	dry	dry	-
17142	27-Sep-11		Min	dry	dry	dry	dry
			Max	dry	dry	dry	dry
			Mean	dry	dry	dry	-

Appendix D
Habitat Summary Tables for Development of Indices of Biotic Integrity and Aquatic Life Use Categories

Station 20773 Seg. 2107
Atascosa River @ CR 413
27 July 2010

Ecoregion 31 or 33

Metric	Value	Score
Available instream cover	Rare	2
Bottom substrate stability	Moderately unstable	2
Number of riffles	Common	3
Dimensions of largest pool	Large	4
Channel flow status	Moderate	2
Bank stability	Unstable	0
Channel sinuosity	Low	1
Riparian buffer vegetation	Extensive	3
Aesthetics of reach	Natural area	2
	HABITAT QUALITY INDEX SCORING SCORE	**19**
	HABITAT QUALITY INDEX SCORING RATING	**Intermediate**

Habitat Quality Index Scoring Criteria

Exceptional 26-31
High 20-25
Intermediate 14-19
Limited ≤ 13

Metric	Parameter Code	Value
Instantaneous stream flow (in ft^3/sec)	00061	14.2
Stream bed slope over evaluated reach	72051	0.7
Average instream cover (%)	84159	18.3
Stream order	84161	6
Number of lateral transects made	89832	6
Flow measurement method	89835	5
Total number of stream bends	89839	2
Number of well defined stream bends	89840	0
Number of moderately defined stream bends	89841	0
Number of poorly defined stream bends	89842	2
Total number of riffles	89843	2
Dominant substrate[2]	89844	3
Average substrate gravel size (>2mm) or larger (%)	89845	18.7
Average stream bank erosion (%)	89846	61.3
Average stream bank angle (degrees)	89847	65.7
Channel flow status[1]	89848	3
Average trees as riparian vegetation (%)	89849	85
Average shrubs as riparian vegetation (%)	89850	7.5
Average grasses and forbs as riparian vegetation (%)	89851	7.5
Average percent cultivated fields as riparian vegetation (%)	89852	0
Average other as riparian vegetation (%)	89853	0
Average tree canopy coverage (%)	89854	73.7
Approx. drainage area above transect furthest downstream (km^2)	89859	3588
Length of stream evaluated (km)	89860	0.375
Average stream width (m)	89861	9.1
Average stream depth (m)	89862	0.4
Maximum pool width at time of study (m)	89864	9.7
Maximum pool depth in study area (m)	89865	1.3
Average width of natural riparian vegetation (m)	89866	>20
Aesthetics[3]	89867	2
Number of stream cover types	89929	5
Ecoregion (Texas Ecoregion Code)	89961	31 or 33
Land development impact[4]	89962	1

[1] 1=no flow, 2=low, 3=moderate, 4=high
[2] 1=clay, 2=silt, 3=sand, 4=gravel, 5=cobble, 6=boulder, 7=bedrock, 8=other
[3] 1=wilderness, 2=natural, 3=common, 4=offensive
[4] 1=unimpacted, 2=low, 3=moderate, 4=high

Station 12980 Seg. 2107
Atascosa River @ FM 99
28 July 2010

Ecoregion 31 or 33

Metric	Value	Score
Available instream cover	Absent	1
Bottom substrate stability	Unstable	1
Number of riffles	Rare	2
Dimensions of largest pool	Moderate	3
Channel flow status	Moderate	2
Bank stability	Moderately unstable	1
Channel sinuosity	Low	1
Riparian buffer vegetation	Extensive	3
Aesthetics of reach	Natural area	2
	HABITAT QUALITY INDEX SCORING SCORE	**16**
	HABITAT QUALITY INDEX SCORING RATING	**Intermediate**

Habitat Quality Index Scoring Criteria

Exceptional 26-31
High 20-25
Intermediate 14-19
Limited ≤ 13

Metric	Parameter Code	Value
Instantaneous stream flow (in ft^3/sec)	00061	12.4
Stream bed slope over evaluated reach	72051	0.7
Average instream cover (%)	84159	5
Stream order	84161	6
Number of lateral transects made	89832	6
Flow measurement method	89835	5
Total number of stream bends	89839	3
Number of well defined stream bends	89840	0
Number of moderately defined stream bends	89841	1
Number of poorly defined stream bends	89842	2
Total number of riffles	89843	1
Dominant substrate[2]	89844	3
Average substrate gravel size (>2mm) or larger (%)	89845	0.8
Average stream bank erosion (%)	89846	67.3
Average stream bank angle (degrees)	89847	34
Channel flow status[1]	89848	3
Average trees as riparian vegetation (%)	89849	60
Average shrubs as riparian vegetation (%)	89850	20
Average grasses and forbs as riparian vegetation (%)	89851	20
Average percent cultivated fields as riparian vegetation (%)	89852	0
Average other as riparian vegetation (%)	89853	0
Average tree canopy coverage (%)	89854	81
Approx. drainage area above transect furthest downstream (km^2)	89859	2967
Length of stream evaluated (km)	89860	0.3
Average stream width (m)	89861	6.2
Average stream depth (m)	89862	0.4
Maximum pool width at time of study (m)	89864	9.9
Maximum pool depth in study area (m)	89865	0.9
Average width of natural riparian vegetation (m)	89866	>20
Aesthetics[3]	89867	2
Number of stream cover types	89929	5
Ecoregion (Texas Ecoregion Code)	89961	31 or 33
Land development impact[4]	89962	2

[1] 1=no flow, 2=low, 3=moderate, 4=high
[2] 1=clay, 2=silt, 3=sand, 4=gravel, 5=cobble, 6=boulder, 7=bedrock, 8=other
[3] 1=wilderness, 2=natural, 3=common, 4=offensive
[4] 1=unimpacted, 2=low, 3=moderate, 4=high

Station 20764 Seg. 2107
Atascosa River @ FM 541
27 July 2010

Ecoregion 31 or 33

Metric	Value	Score
Available instream cover	Rare	2
Bottom substrate stability	Unstable	1
Number of riffles	Common	3
Dimensions of largest pool	Large	4
Channel flow status	Moderate	2
Bank stability	Unstable	0
Channel sinuosity	Low	1
Riparian buffer vegetation	Wide	2
Aesthetics of reach	Natural Area	2
	HABITAT QUALITY INDEX SCORING SCORE	**17**
	HABITAT QUALITY INDEX SCORING RATING	**Intermediate**

Habitat Quality Index Scoring Criteria

Exceptional 26-31
High 20-25
Intermediate 14-19
Limited ≤ 13

Metric	Parameter Code	Value
Instantaneous stream flow (in ft^3/sec)	00061	4.1
Stream bed slope over evaluated reach	72051	1.15
Average instream cover (%)	84159	16
Stream order	84161	5
Number of lateral transects made	89832	5
Flow measurement method	89835	5
Total number of stream bends	89839	3
Number of well defined stream bends	89840	0
Number of moderately defined stream bends	89841	0
Number of poorly defined stream bends	89842	3
Total number of riffles	89843	2
Dominant substrate[2]	89844	3
Average substrate gravel size (>2mm) or larger (%)	89845	0
Average stream bank erosion (%)	89846	63.5
Average stream bank angle (degrees)	89847	45
Channel flow status[1]	89848	3
Average trees as riparian vegetation (%)	89849	43
Average shrubs as riparian vegetation (%)	89850	47.5
Average grasses and forbs as riparian vegetation (%)	89851	10
Average percent cultivated fields as riparian vegetation (%)	89852	0
Average other as riparian vegetation (%)	89853	0
Average tree canopy coverage (%)	89854	96.2
Approx. drainage area above transect furthest downstream (km^2)	89859	1323
Length of stream evaluated (km)	89860	0.2
Average stream width (m)	89861	5.4
Average stream depth (m)	89862	0.3
Maximum pool width at time of study (m)	89864	6.4
Maximum pool depth in study area (m)	89865	1.3
Average width of natural riparian vegetation (m)	89866	19.2
Aesthetics[3]	89867	2
Number of stream cover types	89929	4
Ecoregion (Texas Ecoregion Code)	89961	31 or 33
Land development impact[4]	89962	2

[1] 1=no flow, 2=low, 3=moderate, 4=high
[2] 1=clay, 2=silt, 3=sand, 4=gravel, 5=cobble, 6=boulder, 7=bedrock, 8=other
[3] 1=wilderness, 2=natural, 3=common, 4=offensive
[4] 1=unimpacted, 2=low, 3=moderate, 4=high

Station 17900 Seg. 2107
Atascosa River @ IH 37
27 July 2010

Ecoregion 31 or 33

Metric	Value	Score
Available instream cover	Rare	2
Bottom substrate stability	Unstable	1
Number of riffles	Common	3
Dimensions of largest pool	Large	4
Channel flow status	Moderate	2
Bank stability	Unstable	0
Channel sinuosity	Low	1
Riparian buffer vegetation	Extensive	3
Aesthetics of reach	Common setting	1
	HABITAT QUALITY INDEX SCORING SCORE	**17**
	HABITAT QUALITY INDEX SCORING RATING	**Intermediate**

Habitat Quality Index Scoring Criteria

Exceptional 26-31
High 20-25
Intermediate 14-19
Limited ≤ 13

Metric	Parameter Code	Value
Instantaneous stream flow (in ft^3/sec)	00061	2.4
Stream bed slope over evaluated reach	72051	0.62
Average instream cover (%)	84159	15
Stream order	84161	5
Number of lateral transects made	89832	5
Flow measurement method	89835	5
Total number of stream bends	89839	1
Number of well defined stream bends	89840	0
Number of moderately defined stream bends	89841	0
Number of poorly defined stream bends	89842	1
Total number of riffles	89843	2
Dominant substrate[2]	89844	3
Average substrate gravel size (>2mm) or larger (%)	89845	0
Average stream bank erosion (%)	89846	63
Average stream bank angle (degrees)	89847	53.4
Channel flow status[1]	89848	3
Average trees as riparian vegetation (%)	89849	85
Average shrubs as riparian vegetation (%)	89850	10
Average grasses and forbs as riparian vegetation (%)	89851	5
Average percent cultivated fields as riparian vegetation (%)	89852	0
Average other as riparian vegetation (%)	89853	0
Average tree canopy coverage (%)	89854	98.2
Approx. drainage area above transect furthest downstream (km^2)	89859	1170
Length of stream evaluated (km)	89860	0.24
Average stream width (m)	89861	4.9
Average stream depth (m)	89862	0.4
Maximum pool width at time of study (m)	89864	7
Maximum pool depth in study area (m)	89865	1.3
Average width of natural riparian vegetation (m)	89866	20
Aesthetics[3]	89867	3
Number of stream cover types	89929	3
Ecoregion (Texas Ecoregion Code)	89961	31 or 33
Land development impact[4]	89962	2

[1] 1=no flow, 2=low, 3=moderate, 4=high
[2] 1=clay, 2=silt, 3=sand, 4=gravel, 5=cobble, 6=boulder, 7=bedrock, 8=other
[3] 1=wilderness, 2=natural, 3=common, 4=offensive
[4] 1=unimpacted, 2=low, 3=moderate, 4=high

Station 20762 Seg. 2107
Atascosa River @ Granato Road
26 July 2010

Ecoregion 31 or 33

Metric	Value	Score
Available instream cover	Rare	2
Bottom substrate stability	Moderately unstable	2
Number of riffles	Abundant	4
Dimensions of largest pool	Small	2
Channel flow status	Moderate	2
Bank stability	Moderately unstable	1
Channel sinuosity	Low	1
Riparian buffer vegetation	Wide	2
Aesthetics of reach	Natural area	2
	HABITAT QUALITY INDEX SCORING SCORE	**18**
	HABITAT QUALITY INDEX SCORING RATING	**Intermediate**

Habitat Quality Index Scoring Criteria

Exceptional 26-31
High 20-25
Intermediate 14-19
Limited ≤ 13

Metric	Parameter Code	Value
Instantaneous stream flow (in ft^3/sec)	00061	0.5
Stream bed slope over evaluated reach	72051	1.22
Average instream cover (%)	84159	24
Stream order	84161	4
Number of lateral transects made	89832	5
Flow measurement method	89835	5
Total number of stream bends	89839	2
Number of well defined stream bends	89840	0
Number of moderately defined stream bends	89841	0
Number of poorly defined stream bends	89842	2
Total number of riffles	89843	5
Dominant substrate[2]	89844	3
Average substrate gravel size (>2mm) or larger (%)	89845	28
Average stream bank erosion (%)	89846	46
Average stream bank angle (degrees)	89847	45.3
Channel flow status[1]	89848	3
Average trees as riparian vegetation (%)	89849	18
Average shrubs as riparian vegetation (%)	89850	32.5
Average grasses and forbs as riparian vegetation (%)	89851	50
Average percent cultivated fields as riparian vegetation (%)	89852	0
Average other as riparian vegetation (%)	89853	0
Average tree canopy coverage (%)	89854	93.4
Approx. drainage area above transect furthest downstream (km^2)	89859	754
Length of stream evaluated (km)	89860	0.15
Average stream width (m)	89861	4.1
Average stream depth (m)	89862	0.2
Maximum pool width at time of study (m)	89864	5.5
Maximum pool depth in study area (m)	89865	0.5
Average width of natural riparian vegetation (m)	89866	17.5
Aesthetics[3]	89867	2
Number of stream cover types	89929	5
Ecoregion (Texas Ecoregion Code)	89961	31 or 33
Land development impact[4]	89962	2

[1] 1=no flow, 2=low, 3=moderate, 4=high
[2] 1=clay, 2=silt, 3=sand, 4=gravel, 5=cobble, 6=boulder, 7=bedrock, 8=other
[3] 1=wilderness, 2=natural, 3=common, 4=offensive
[4] 1=unimpacted, 2=low, 3=moderate, 4=high

Station 20773 Seg. 2107
Atascosa River @ CR 413
19 April 2011

Ecoregion 31 or 33

Metric	Value	Score
Available instream cover	Rare	2
Bottom substrate stability	Unstable	1
Number of riffles	Common	3
Dimensions of largest pool	Large	4
Channel flow status	Low	1
Bank stability	Moderately unstable	1
Channel sinuosity	Low	1
Riparian buffer vegetation	Extensive	3
Aesthetics of reach	Natural area	2
	HABITAT QUALITY INDEX SCORING SCORE	**18**
	HABITAT QUALITY INDEX SCORING RATING	**Intermediate**

Habitat Quality Index Scoring Criteria

Exceptional 26-31
High 20-25
Intermediate 14-19
Limited ≤ 13

Metric	Parameter Code	Value
Instantaneous stream flow (in ft^3/sec)	00061	1.94
Stream bed slope over evaluated reach	72051	0.7
Average instream cover (%)	84159	10
Stream order	84161	6
Number of lateral transects made	89832	6
Flow measurement method	89835	5
Total number of stream bends	89839	2
Number of well defined stream bends	89840	0
Number of moderately defined stream bends	89841	0
Number of poorly defined stream bends	89842	2
Total number of riffles	89843	2
Dominant substrate[2]	89844	3
Average substrate gravel size (>2mm) or larger (%)	89845	5
Average stream bank erosion (%)	89846	52.9
Average stream bank angle (degrees)	89847	35.25
Channel flow status[1]	89848	2
Average trees as riparian vegetation (%)	89849	60
Average shrubs as riparian vegetation (%)	89850	20
Average grasses and forbs as riparian vegetation (%)	89851	20
Average percent cultivated fields as riparian vegetation (%)	89852	0
Average other as riparian vegetation (%)	89853	0
Average tree canopy coverage (%)	89854	75.8
Approx. drainage area above transect furthest downstream (km^2)	89859	3588
Length of stream evaluated (km)	89860	0.2
Average stream width (m)	89861	8.2
Average stream depth (m)	89862	0.24
Maximum pool width at time of study (m)	89864	8.7
Maximum pool depth in study area (m)	89865	1
Average width of natural riparian vegetation (m)	89866	>20
Aesthetics[3]	89867	2
Number of stream cover types	89929	5
Ecoregion (Texas Ecoregion Code)	89961	31 or 33
Land development impact[4]	89962	1

[1] 1=no flow, 2=low, 3=moderate, 4=high
[2] 1=clay, 2=silt, 3=sand, 4=gravel, 5=cobble, 6=boulder, 7=bedrock, 8=other
[3] 1=wilderness, 2=natural, 3=common, 4=offensive
[4] 1=unimpacted, 2=low, 3=moderate, 4=high

Station 12980 Seg. 2107
Atascosa River @ FM 99
19 April 2011

Ecoregion 31 or 33

Metric	Value	Score
Available instream cover	Absent	1
Bottom substrate stability	Moderately unstable	2
Number of riffles	Rare	2
Dimensions of largest pool	Small	2
Channel flow status	Low	1
Bank stability	Moderately unstable	1
Channel sinuosity	Low	1
Riparian buffer vegetation	Extensive	3
Aesthetics of reach	Natural area	2
	HABITAT QUALITY INDEX SCORING SCORE	**15**
	HABITAT QUALITY INDEX SCORING RATING	**Intermediate**

Habitat Quality Index Scoring Criteria

Exceptional 26-31
High 20-25
Intermediate 14-19
Limited ≤ 13

Metric	Parameter Code	Value
Instantaneous stream flow (in ft^3/sec)	00061	2.56
Stream bed slope over evaluated reach	72051	0.7
Average instream cover (%)	84159	10
Stream order	84161	6
Number of lateral transects made	89832	5
Flow measurement method	89835	5
Total number of stream bends	89839	3
Number of well defined stream bends	89840	0
Number of moderately defined stream bends	89841	2
Number of poorly defined stream bends	89842	1
Total number of riffles	89843	1
Dominant substrate[2]	89844	3
Average substrate gravel size (>2mm) or larger (%)	89845	5
Average stream bank erosion (%)	89846	30
Average stream bank angle (degrees)	89847	37.5
Channel flow status[1]	89848	2
Average trees as riparian vegetation (%)	89849	55
Average shrubs as riparian vegetation (%)	89850	15
Average grasses and forbs as riparian vegetation (%)	89851	30
Average percent cultivated fields as riparian vegetation (%)	89852	0
Average other as riparian vegetation (%)	89853	0
Average tree canopy coverage (%)	89854	63.4
Approx. drainage area above transect furthest downstream (km^2)	89859	2967
Length of stream evaluated (km)	89860	0.2
Average stream width (m)	89861	5.7
Average stream depth (m)	89862	0.12
Maximum pool width at time of study (m)	89864	9
Maximum pool depth in study area (m)	89865	0.26
Average width of natural riparian vegetation (m)	89866	>20
Aesthetics[3]	89867	2
Number of stream cover types	89929	5
Ecoregion (Texas Ecoregion Code)	89961	31 or 33
Land development impact[4]	89962	2

[1] 1=no flow, 2=low, 3=moderate, 4=high
[2] 1=clay, 2=silt, 3=sand, 4=gravel, 5=cobble, 6=boulder, 7=bedrock, 8=other
[3] 1=wilderness, 2=natural, 3=common, 4=offensive
[4] 1=unimpacted, 2=low, 3=moderate, 4=high

Station 20764 Seg. 2107
Atascosa River @ FM 541
20 April 2011

Ecoregion 31 or 33

Metric	Value	Score
Available instream cover	Rare	2
Bottom substrate stability	Unstable	1
Number of riffles	Common	3
Dimensions of largest pool	Large	4
Channel flow status	Low	1
Bank stability	Moderately unstable	1
Channel sinuosity	Low	1
Riparian buffer vegetation	Wide	2
Aesthetics of reach	Natural area	2
	HABITAT QUALITY INDEX SCORING SCORE	**17**
	HABITAT QUALITY INDEX SCORING RATING	**Intermediate**

Habitat Quality Index Scoring Criteria

Exceptional 26-31
High 20-25
Intermediate 14-19
Limited ≤ 13

Metric	Parameter Code	Value
Instantaneous stream flow (in ft^3/sec)	00061	0.79
Stream bed slope over evaluated reach	72051	1.15
Average instream cover (%)	84159	28
Stream order	84161	5
Number of lateral transects made	89832	5
Flow measurement method	89835	5
Total number of stream bends	89839	3
Number of well defined stream bends	89840	0
Number of moderately defined stream bends	89841	1
Number of poorly defined stream bends	89842	2
Total number of riffles	89843	2
Dominant substrate[2]	89844	3
Average substrate gravel size (>2mm) or larger (%)	89845	0
Average stream bank erosion (%)	89846	31.5
Average stream bank angle (degrees)	89847	36.1
Channel flow status[1]	89848	2
Average trees as riparian vegetation (%)	89849	40
Average shrubs as riparian vegetation (%)	89850	50
Average grasses and forbs as riparian vegetation (%)	89851	10
Average percent cultivated fields as riparian vegetation (%)	89852	0
Average other as riparian vegetation (%)	89853	0
Average tree canopy coverage (%)	89854	86.8
Approx. drainage area above transect furthest downstream (km^2)	89859	1323
Length of stream evaluated (km)	89860	0.16
Average stream width (m)	89861	5.1
Average stream depth (m)	89862	0.37
Maximum pool width at time of study (m)	89864	5.9
Maximum pool depth in study area (m)	89865	1.2
Average width of natural riparian vegetation (m)	89866	18
Aesthetics[3]	89867	2
Number of stream cover types	89929	4
Ecoregion (Texas Ecoregion Code)	89961	31 or 33
Land development impact[4]	89962	2

[1] 1=no flow, 2=low, 3=moderate, 4=high
[2] 1=clay, 2=silt, 3=sand, 4=gravel, 5=cobble, 6=boulder, 7=bedrock, 8=other
[3] 1=wilderness, 2=natural, 3=common, 4=offensive
[4] 1=unimpacted, 2=low, 3=moderate, 4=high

Station 17900 Seg. 2107
Atascosa River @ IH 37
20 April 2011

Ecoregion 31 or 33

Metric	Value	Score
Available instream cover	Rare	2
Bottom substrate stability	Unstable	1
Number of riffles	Common	3
Dimensions of largest pool	Large	4
Channel flow status	Low	1
Bank stability	Moderately unstable	1
Channel sinuosity	Low	1
Riparian buffer vegetation	Extensive	3
Aesthetics of reach	Common setting	1
	HABITAT QUALITY INDEX SCORING SCORE	**17**
	HABITAT QUALITY INDEX SCORING RATING	**Intermediate**

Habitat Quality Index Scoring Criteria

Exceptional 26-31
High 20-25
Intermediate 14-19
Limited ≤ 13

Metric	Parameter Code	Value
Instantaneous stream flow (in ft^3/sec)	00061	1.37
Stream bed slope over evaluated reach	72051	0.62
Average instream cover (%)	84159	21
Stream order	84161	5
Number of lateral transects made	89832	5
Flow measurement method	89835	5
Total number of stream bends	89839	1
Number of well defined stream bends	89840	0
Number of moderately defined stream bends	89841	0
Number of poorly defined stream bends	89842	1
Total number of riffles	89843	2
Dominant substrate[2]	89844	3
Average substrate gravel size (>2mm) or larger (%)	89845	1
Average stream bank erosion (%)	89846	47
Average stream bank angle (degrees)	89847	44.9
Channel flow status[1]	89848	2
Average trees as riparian vegetation (%)	89849	85
Average shrubs as riparian vegetation (%)	89850	10
Average grasses and forbs as riparian vegetation (%)	89851	5
Average percent cultivated fields as riparian vegetation (%)	89852	0
Average other as riparian vegetation (%)	89853	0
Average tree canopy coverage (%)	89854	98.2
Approx. drainage area above transect furthest downstream (km^2)	89859	1170
Length of stream evaluated (km)	89860	0.2
Average stream width (m)	89861	4.5
Average stream depth (m)	89862	0.4
Maximum pool width at time of study (m)	89864	6.4
Maximum pool depth in study area (m)	89865	1.3
Average width of natural riparian vegetation (m)	89866	20
Aesthetics[3]	89867	3
Number of stream cover types	89929	4
Ecoregion (Texas Ecoregion Code)	89961	31 or 33
Land development impact[4]	89962	2

[1] 1=no flow, 2=low, 3=moderate, 4=high
[2] 1=clay, 2=silt, 3=sand, 4=gravel, 5=cobble, 6=boulder, 7=bedrock, 8=other
[3] 1=wilderness, 2=natural, 3=common, 4=offensive
[4] 1=unimpacted, 2=low, 3=moderate, 4=high

Station 20762 Seg. 2107
Atascosa River @ Granato Road
18 April 2011

Ecoregion 31 or 33

Metric	Value	Score
Available instream cover	Common	3
Bottom substrate stability	Moderately stable	3
Number of riffles	Abundant	4
Dimensions of largest pool	Absent	1
Channel flow status	Low	1
Bank stability	Moderately unstable	1
Channel sinuosity	Low	1
Riparian buffer vegetation	Wide	2
Aesthetics of reach	Natural area	2
	HABITAT QUALITY INDEX SCORING SCORE	**18**
	HABITAT QUALITY INDEX SCORING RATING	**Intermediate**

Habitat Quality Index Scoring Criteria

Exceptional 26-31
High 20-25
Intermediate 14-19
Limited ≤ 13

Metric	Parameter Code	Value
Instantaneous stream flow (in ft^3/sec)	00061	0.29
Stream bed slope over evaluated reach	72051	1.22
Average instream cover (%)	84159	44
Stream order	84161	4
Number of lateral transects made	89832	5
Flow measurement method	89835	5
Total number of stream bends	89839	2
Number of well defined stream bends	89840	0
Number of moderately defined stream bends	89841	0
Number of poorly defined stream bends	89842	2
Total number of riffles	89843	7
Dominant substrate[2]	89844	3
Average substrate gravel size (>2mm) or larger (%)	89845	38
Average stream bank erosion (%)	89846	36.5
Average stream bank angle (degrees)	89847	42.7
Channel flow status[1]	89848	2
Average trees as riparian vegetation (%)	89849	18
Average shrubs as riparian vegetation (%)	89850	40
Average grasses and forbs as riparian vegetation (%)	89851	42.5
Average percent cultivated fields as riparian vegetation (%)	89852	0
Average other as riparian vegetation (%)	89853	0
Average tree canopy coverage (%)	89854	74
Approx. drainage area above transect furthest downstream (km^2)	89859	754
Length of stream evaluated (km)	89860	0.15
Average stream width (m)	89861	2.2
Average stream depth (m)	89862	0.9
Maximum pool width at time of study (m)	89864	0
Maximum pool depth in study area (m)	89865	0
Average width of natural riparian vegetation (m)	89866	20
Aesthetics[3]	89867	3
Number of stream cover types	89929	5
Ecoregion (Texas Ecoregion Code)	89961	31 or 33
Land development impact[4]	89962	2

[1] 1=no flow, 2=low, 3=moderate, 4=high
[2] 1=clay, 2=silt, 3=sand, 4=gravel, 5=cobble, 6=boulder, 7=bedrock, 8=other
[3] 1=wilderness, 2=natural, 3=common, 4=offensive
[4] 1=unimpacted, 2=low, 3=moderate, 4=high

Station 20773 Seg. 2107
Atascosa River @ CR 413
12 July 2011

Ecoregion 31 or 33

Metric	Value	Score
Available instream cover	Rare	2
Bottom substrate stability	Unstable	1
Number of riffles	Abundant	4
Dimensions of largest pool	Small	2
Channel flow status	Low	1
Bank stability	Moderately unstable	1
Channel sinuosity	Low	1
Riparian buffer vegetation	Extensive	3
Aesthetics of reach	Natural area	2
	HABITAT QUALITY INDEX SCORING SCORE	**17**
	HABITAT QUALITY INDEX SCORING RATING	**Intermediate**

Habitat Quality Index Scoring Criteria

Exceptional 26-31
High 20-25
Intermediate 14-19
Limited ≤ 13

Metric	Parameter Code	Value
Instantaneous stream flow (in ft^3/sec)	00061	0.22
Stream bed slope over evaluated reach	72051	0.7
Average instream cover (%)	84159	13
Stream order	84161	6
Number of lateral transects made	89832	5
Flow measurement method	89835	5
Total number of stream bends	89839	3
Number of well defined stream bends	89840	0
Number of moderately defined stream bends	89841	0
Number of poorly defined stream bends	89842	3
Total number of riffles	89843	5
Dominant substrate[2]	89844	3
Average substrate gravel size (>2mm) or larger (%)	89845	5
Average stream bank erosion (%)	89846	30
Average stream bank angle (degrees)	89847	32.9
Channel flow status[1]	89848	2
Average trees as riparian vegetation (%)	89849	80
Average shrubs as riparian vegetation (%)	89850	10
Average grasses and forbs as riparian vegetation (%)	89851	10
Average percent cultivated fields as riparian vegetation (%)	89852	0
Average other as riparian vegetation (%)	89853	0
Average tree canopy coverage (%)	89854	66.2
Approx. drainage area above transect furthest downstream (km^2)	89859	3588
Length of stream evaluated (km)	89860	0.2
Average stream width (m)	89861	5.14
Average stream depth (m)	89862	0.22
Maximum pool width at time of study (m)	89864	9
Maximum pool depth in study area (m)	89865	1.1
Average width of natural riparian vegetation (m)	89866	>20
Aesthetics[3]	89867	2
Number of stream cover types	89929	4
Ecoregion (Texas Ecoregion Code)	89961	31 or 33
Land development impact[4]	89962	1

[1] 1=no flow, 2=low, 3=moderate, 4=high
[2] 1=clay, 2=silt, 3=sand, 4=gravel, 5=cobble, 6=boulder, 7=bedrock, 8=other
[3] 1=wilderness, 2=natural, 3=common, 4=offensive
[4] 1=unimpacted, 2=low, 3=moderate, 4=high

Station 12980 Seg. 2107
Atascosa River @ FM 99
12 July 2011

Ecoregion 31 or 33

Metric	Value	Score
Available instream cover	Rare	2
Bottom substrate stability	Unstable	1
Number of riffles	Common	3
Dimensions of largest pool	Small	2
Channel flow status	Low	1
Bank stability	Moderately stable	2
Channel sinuosity	Low	1
Riparian buffer vegetation	Extensive	3
Aesthetics of reach	Natural area	2
	HABITAT QUALITY INDEX SCORING SCORE	**17**
	HABITAT QUALITY INDEX SCORING RATING	**Intermediate**

Habitat Quality Index Scoring Criteria

Exceptional 26-31
High 20-25
Intermediate 14-19
Limited ≤ 13

Metric	Parameter Code	Value
Instantaneous stream flow (in ft^3/sec)	00061	0.6
Stream bed slope over evaluated reach	72051	0.7
Average instream cover (%)	84159	17
Stream order	84161	6
Number of lateral transects made	89832	5
Flow measurement method	89835	5
Total number of stream bends	89839	2
Number of well defined stream bends	89840	0
Number of moderately defined stream bends	89841	1
Number of poorly defined stream bends	89842	1
Total number of riffles	89843	3
Dominant substrate[2]	89844	3
Average substrate gravel size (>2mm) or larger (%)	89845	8
Average stream bank erosion (%)	89846	19.4
Average stream bank angle (degrees)	89847	54.6
Channel flow status[1]	89848	2
Average trees as riparian vegetation (%)	89849	50
Average shrubs as riparian vegetation (%)	89850	15
Average grasses and forbs as riparian vegetation (%)	89851	35
Average percent cultivated fields as riparian vegetation (%)	89852	0
Average other as riparian vegetation (%)	89853	0
Average tree canopy coverage (%)	89854	73
Approx. drainage area above transect furthest downstream (km^2)	89859	2967
Length of stream evaluated (km)	89860	0.15
Average stream width (m)	89861	3.3
Average stream depth (m)	89862	0.14
Maximum pool width at time of study (m)	89864	5.8
Maximum pool depth in study area (m)	89865	0.63
Average width of natural riparian vegetation (m)	89866	>20
Aesthetics[3]	89867	2
Number of stream cover types	89929	4
Ecoregion (Texas Ecoregion Code)	89961	31 or 33
Land development impact[4]	89962	2

[1] 1=no flow, 2=low, 3=moderate, 4=high
[2] 1=clay, 2=silt, 3=sand, 4=gravel, 5=cobble, 6=boulder, 7=bedrock, 8=other
[3] 1=wilderness, 2=natural, 3=common, 4=offensive
[4] 1=unimpacted, 2=low, 3=moderate, 4=high

Station 17900 Seg. 2107
Atascosa River @ IH 37
13 July 2011

Ecoregion 31 or 33

Metric	Value	Score
Available instream cover	Rare	2
Bottom substrate stability	Unstable	1
Number of riffles	Common	3
Dimensions of largest pool	Large	4
Channel flow status	Moderate	2
Bank stability	Moderately unstable	1
Channel sinuosity	Low	1
Riparian buffer vegetation	Extensive	3
Aesthetics of reach	Common setting	1
	HABITAT QUALITY INDEX SCORING SCORE	**18**
	HABITAT QUALITY INDEX SCORING RATING	**Intermediate**

Habitat Quality Index Scoring Criteria

Exceptional 26-31
High 20-25
Intermediate 14-19
Limited ≤ 13

Metric	Parameter Code	Value
Instantaneous stream flow (in ft^3/sec)	00061	0.99
Stream bed slope over evaluated reach	72051	0.62
Average instream cover (%)	84159	16
Stream order	84161	5
Number of lateral transects made	89832	5
Flow measurement method	89835	5
Total number of stream bends	89839	1
Number of well defined stream bends	89840	0
Number of moderately defined stream bends	89841	1
Number of poorly defined stream bends	89842	0
Total number of riffles	89843	3
Dominant substrate[2]	89844	3
Average substrate gravel size (>2mm) or larger (%)	89845	5
Average stream bank erosion (%)	89846	43.5
Average stream bank angle (degrees)	89847	40.3
Channel flow status[1]	89848	2
Average trees as riparian vegetation (%)	89849	80
Average shrubs as riparian vegetation (%)	89850	10
Average grasses and forbs as riparian vegetation (%)	89851	10
Average percent cultivated fields as riparian vegetation (%)	89852	0
Average other as riparian vegetation (%)	89853	0
Average tree canopy coverage (%)	89854	88.2
Approx. drainage area above transect furthest downstream (km^2)	89859	1170
Length of stream evaluated (km)	89860	0.2
Average stream width (m)	89861	4.5
Average stream depth (m)	89862	0.4
Maximum pool width at time of study (m)	89864	8.3
Maximum pool depth in study area (m)	89865	1.2
Average width of natural riparian vegetation (m)	89866	>20
Aesthetics[3]	89867	3
Number of stream cover types	89929	5
Ecoregion (Texas Ecoregion Code)	89961	31 or 33
Land development impact[4]	89962	2

[1] 1=no flow, 2=low, 3=moderate, 4=high
[2] 1=clay, 2=silt, 3=sand, 4=gravel, 5=cobble, 6=boulder, 7=bedrock, 8=other
[3] 1=wilderness, 2=natural, 3=common, 4=offensive
[4] 1=unimpacted, 2=low, 3=moderate, 4=high

Station 20762 Seg. 2107
Atascosa River @ Granato Road
12 July 2011

Ecoregion 31 or 33

Metric	Value	Score
Available instream cover	Abundant	4
Bottom substrate stability	Moderately stable	3
Number of riffles	Common	3
Dimensions of largest pool	Small	2
Channel flow status	Low	1
Bank stability	Moderately unstable	1
Channel sinuosity	Low	1
Riparian buffer vegetation	Wide	2
Aesthetics of reach	Natural area	2
	HABITAT QUALITY INDEX SCORING SCORE	**19**
	HABITAT QUALITY INDEX SCORING RATING	**Intermediate**

Habitat Quality Index Scoring Criteria
Exceptional 26-31
High 20-25
Intermediate 14-19
Limited ≤ 13

Metric	Parameter Code	Value
Instantaneous stream flow (in ft^3/sec)	00061	<0.1
Stream bed slope over evaluated reach	72051	1.22
Average instream cover (%)	84159	52
Stream order	84161	4
Number of lateral transects made	89832	5
Flow measurement method	89835	5
Total number of stream bends	89839	2
Number of well defined stream bends	89840	0
Number of moderately defined stream bends	89841	0
Number of poorly defined stream bends	89842	2
Total number of riffles	89843	5
Dominant substrate[2]	89844	3
Average substrate gravel size (>2mm) or larger (%)	89845	48
Average stream bank erosion (%)	89846	37
Average stream bank angle (degrees)	89847	37.4
Channel flow status[1]	89848	2
Average trees as riparian vegetation (%)	89849	18
Average shrubs as riparian vegetation (%)	89850	40
Average grasses and forbs as riparian vegetation (%)	89851	42.5
Average percent cultivated fields as riparian vegetation (%)	89852	0
Average other as riparian vegetation (%)	89853	0
Average tree canopy coverage (%)	89854	81.4
Approx. drainage area above transect furthest downstream (km^2)	89859	754
Length of stream evaluated (km)	89860	0.15
Average stream width (m)	89861	1.42
Average stream depth (m)	89862	0.04
Maximum pool width at time of study (m)	89864	2.8
Maximum pool depth in study area (m)	89865	0.67
Average width of natural riparian vegetation (m)	89866	20
Aesthetics[3]	89867	3
Number of stream cover types	89929	6
Ecoregion (Texas Ecoregion Code)	89961	31 or 33
Land development impact[4]	89962	2

[1] 1=no flow, 2=low, 3=moderate, 4=high
[2] 1=clay, 2=silt, 3=sand, 4=gravel, 5=cobble, 6=boulder, 7=bedrock, 8=other
[3] 1=wilderness, 2=natural, 3=common, 4=offensive
[4] 1=unimpacted, 2=low, 3=moderate, 4=high

Appendix E
Table of Fish Tolerance Values and Trophic Groups,

Tables for Calculation Of Indices of Biotic Integrity and Aquatic Life Use Categories, and

Fish Species Lists

Summary of fish taxa collected at each site with tolerance values (TV) and trophic groups.

26-28 July 2010	T = Tolerant IF = Invertivore; H = Herbivore; O = Omnivore; P = Piscivore					
Station	**Parameter Code**	**Scientific Name**	**Common Name**	**Count**	**Tolerance**	**Trophic Group**
20773	98713	*Gambusia affinis*	Western mosquitofish	76		IF
	98459	*Notropis amabilis*	Texas shiner	32		IF
	98474	*Cyprinella lutrensis*	Red shiner	19	T	IF
	98570	*Pylodictis olivaris*	Flathead catfish	10		P
	98435	*Astyanax mexicanus*	Mexican tetra	8		IF
	98498	*Pimephales vigilax*	Bullhead minnow	8		IF
	98562	*Ictalurus furcatus*	Blue catfish	6		P
	99094	*Lepomis cyanellus*	Green sunfish	6	T	P
	98561	*Ictalurus punctatus*	Channel catfish	5	T	O
	98437	*Cyprinus carpio*	Common carp	2	T	O
	99097	*Lepomis macrochirus*	Bluegill	2	T	IF
	99099	*Lepomis megalotis*	Longear sunfish	1		IF
	99090	*Micropterus salmoides*	Largemouth bass	1		P
12980	98713	*Gambusia affinis*	Western mosquitofish	38		IF
	98498	*Pimephales vigilax*	Bullhead minnow	18		IF
	98474	*Cyprinella lutrensis*	Red shiner	11	T	IF
	98570	*Pylodictis olivaris*	Flathead catfish	5		P
	98561	*Ictalurus punctatus*	Channel catfish	4	T	O
	99097	*Lepomis macrochirus*	Bluegill	4	T	IF
	99095	*Lepomis gulosus*	Warmouth	3	T	P
	98340	*Lepisosteus oculatus*	Spotted gar	2	T	P
	99094	*Lepomis cyanellus*	Green sunfish	2	T	P
	99099	*Lepomis megalotis*	Longear sunfish	1		IF
	99108	*Pomoxis annularis*	White crappie	1		P

26-28 July 2010	T = Tolerant IF = Invertivore; H = Herbivore; O = Omnivore; P = Piscivore					
Station	**Parameter Code**	**Scientific Name**	**Common Name**	**Count**	**Tolerance**	**Trophic Group**
20764	99094	*Lepomis cyanellus*	Green sunfish	9	T	P
	99090	*Micropterus salmoides*	Largemouth bass	9		P
	99097	*Lepomis macrochirus*	Bluegill	8	T	IF
	98498	*Pimephales vigilax*	Bullhead minnow	8		IF
	98713	*Gambusia affinis*	Western mosquitofish	7		IF
	98435	*Astyanax mexicanus*	Mexican tetra	3		IF
	99095	*Lepomis gulosus*	Warmouth	3	T	P
	98474	*Cyprinella lutrensis*	Red shiner	2	T	IF
	98430	*Dorosoma cepedianum*	Gizzard shad	2	T	O
	98953	*Cichlasoma cyanoguttatum*	Rio Grande cichlid	1		IF
	98437	*Cyprinus carpio*	Common carp	1	T	O
	98562	*Ictalurus furcatus*	Blue catfish	1		P
	99099	*Lepomis megalotis*	Longear sunfish	1		IF
	99100	*Lepomis microlophus*	Redear sunfish	1		IF
17900	99097	*Lepomis macrochirus*	Bluegill	19	T	IF
	98713	*Gambusia affinis*	Western mosquitofish	9		IF
	98474	*Cyprinella lutrensis*	Red shiner	7	T	IF
	99099	*Lepomis megalotis*	Longear sunfish	3		IF
	98340	*Lepisosteus oculatus*	Spotted gar	2	T	P
	99094	*Lepomis cyanellus*	Green sunfish	2	T	P
	99100	*Lepomis microlophus*	Redear sunfish	2		IF
	--	*Lepomis sp.(unknown)*	Sunfish species	1		IF

26-28 July 2010	T = Tolerant IF = Invertivore; H = Herbivore; O = Omnivore; P = Piscivore					
Station	**Parameter Code**	**Scientific Name**	**Common Name**	**Count**	**Tolerance**	**Trophic Group**
20762	98563	*Ameiurus melas*	Black bullhead	101	T	O
	99097	*Lepomis macrochirus*	Bluegill	77	T	IF
	98713	*Gambusia affinis*	Western mosquitofish	54		IF
	99094	*Lepomis cyanellus*	Green sunfish	31	T	P
	98564	*Ameiurus natalis*	Yellow bullhead	20		O
	99093	*Lepomis auritus*	Redbreast sunfish	17		IF
	99099	*Lepomis megalotis*	Longear sunfish	14		IF
	99095	*Lepomis gulosus*	Warmouth	8	T	P
	99090	*Micropterus salmoides*	Largemouth bass	8		P
	98437	*Cyprinus carpio*	Common carp	7	T	O
	99096	*Lepomis humilis*	Orangespotted sunfish	7		IF
	98561	*Ictalurus punctatus*	Channel catfish	6	T	O
	99100	*Lepomis microlophus*	Redear sunfish	5		IF
	98435	*Astyanax mexicanus*	Mexican tetra	4		IF
	98474	*Cyprinella lutrensis*	Red shiner	2	T	IF
	98430	*Dorosoma cepedianum*	Gizzard shad	1	T	O
	98459	*Notropis amabilis*	Texas shiner	1		IF

18-20 April 2011	T = Tolerant IF = Invertivore; H = Herbivore; O = Omnivore; P = Piscivore					
Station	**Parameter Code**	**Scientific Name**	**Common Name**	**Count**	**Tolerance**	**Trophic Group**
20773	98474	*Cyprinella lutrensis*	Red shiner	171	T	IF
	98498	*Pimephales vigilax*	Bullhead minnow	11		IF
	98713	*Gambusia affinis*	Western mosquitofish	7		IF
	99099	*Lepomis megalotis*	Longear sunfish	7		IF
	98561	*Ictalurus punctatus*	Channel catfish	5	T	O
	99094	*Lepomis cyanellus*	Green sunfish	5	T	P
	99096	*Lepomis humilis*	Orangespotted sunfish	3		IF
	98340	*Lepisosteus oculatus*	Spotted gar	1	T	P
	99097	*Lepomis macrochirus*	Bluegill	1	T	IF
	98570	*Pylodictis olivaris*	Flathead catfish	1		P
12980	98474	*Cyprinella lutrensis*	Red shiner	61	T	IF
	98498	*Pimephales vigilax*	Bullhead minnow	11		IF
	98713	*Gambusia affinis*	Western mosquitofish	9		IF
	98459	*Notropis amabilis*	Texas shiner	4		IF
	99094	*Lepomis cyanellus*	Green sunfish	3	T	P
	98570	*Pylodictis olivaris*	Flathead catfish	3		P
	98561	*Ictalurus punctatus*	Channel catfish	2	T	O
	99097	*Lepomis macrochirus*	Bluegill	2	T	IF
	98340	*Lepisosteus oculatus*	Spotted gar	1	T	P
	99099	*Lepomis megalotis*	Longear sunfish	1		IF

18-20 April 2011	T = Tolerant IF = Invertivore; H = Herbivore; O = Omnivore; P = Piscivore					
Station	**Parameter Code**	**Scientific Name**	**Common Name**	**Count**	**Tolerance**	**Trophic Group**
20764	99094	*Lepomis cyanellus*	Green sunfish	21	T	P
	98474	*Cyprinella lutrensis*	Red shiner	15	T	IF
	99099	*Lepomis megalotis*	Longear sunfish	4		IF
	98713	*Gambusia affinis*	Western mosquitofish	3		IF
	99097	*Lepomis macrochirus*	Bluegill	3	T	IF
	98430	*Dorosoma cepedianum*	Gizzard shad	2	T	O
	98562	*Ictalurus furcatus*	Blue catfish	1		P
	98340	*Lepisosteus oculatus*	Spotted gar	1	T	P
	99095	*Lepomis gulosus*	Warmouth	1	T	P
	99090	*Micropterus salmoides*	Largemouth bass	1		P
	98459	*Notropis amabilis*	Texas shiner	1		IF
	98452	*Opsopoeodus emiliae*	Pugnose minnow	1		IF
17900	99094	*Lepomis cyanellus*	Green sunfish	15	T	P
	99099	*Lepomis megalotis*	Longear sunfish	12		IF
	99097	*Lepomis macrochirus*	Bluegill	11	T	IF
	98474	*Cyprinella lutrensis*	Red shiner	5	T	IF
	98459	*Notropis amabilis*	Texas shiner	4		IF
	98340	*Dorosoma cepedianum*	Gizzard shad	3	T	O
	99095	*Lepomis gulosus*	Warmouth	3	T	P
	98958	*Aplodinotus grunniens*	Freshwater drum	2	T	IF
	99093	*Lepomis auritus*	Redbreast sunfish	2		IF
	98713	*Gambusia affinis*	Western mosquitofish	1		IF
	98507	*Ictiobus bubalus*	Smallmouth buffalo	1		O
	99090	*Micropterus salmoides*	Largemouth bass	1		P
	98570	*Pylodictis olivaris*	Flathead catfish	1		P

18-20 April 2011	T = Tolerant IF = Invertivore; H = Herbivore; O = Omnivore; P = Piscivore					
Station	**Parameter Code**	**Scientific Name**	**Common Name**	**Count**	**Tolerance**	**Trophic Group**
20762	99094	*Lepomis cyanellus*	Green sunfish	51	T	P
	99097	*Lepomis macrochirus*	Bluegill	27	T	IF
	98713	*Gambusia affinis*	Western mosquitofish	19		IF
	98564	*Ameiurus natalis*	Yellow bullhead	16		O
	98563	*Ameiurus melas*	Black bullhead	13	T	O
	99099	*Lepomis megalotis*	Longear sunfish	13		IF
	99093	*Lepomis auritus*	Redbreast sunfish	6		IF
	99095	*Lepomis gulosus*	Warmouth	3	T	P
	98474	*Cyprinella lutrensis*	Red shiner	2	T	IF
	98953	*Cichlasoma cyanoguttatum*	Rio Grande cichlid	1		IF
	99090	*Micropterus salmoides*	Largemouth bass	1		P
	98724	*Poecilia latipinna*	Sailfin molly	1	T	O

11-13 July 2011	T = Tolerant IF = Invertivore; H = Herbivore; O = Omnivore; P = Piscivore					
Station	**Parameter Code**	**Scientific Name**	**Common Name**	**Count**	**Tolerance**	**Trophic Group**
20773	98713	*Gambusia affinis*	Western mosquitofish	158		IF
	98474	*Cyprinella lutrensis*	Red shiner	116	T	IF
	98498	*Pimephales vigilax*	Bullhead minnow	38		IF
	98724	*Poecilia latipinna*	Sailfin molly	27	T	O
	99099	*Lepomis megalotis*	Longear sunfish	14		IF
	99094	*Lepomis cyanellus*	Green sunfish	13	T	P
	98570	*Pylodictis olivaris*	Flathead catfish	5		P
	98953	*Cichlasoma cyanoguttatum*	Rio Grande cichlid	4		IF
	98459	*Notropis amabilis*	Texas shiner	3		IF
	98561	*Ictalurus punctatus*	Channel catfish	1	T	O
	99095	*Lepomis gulosus*	Warmouth	1	T	P
	99097	*Lepomis macrochirus*	Bluegill	1	T	IF
12980	98713	*Gambusia affinis*	Western mosquitofish	34		IF
	98498	*Pimephales vigilax*	Bullhead minnow	33		IF
	98474	*Cyprinella lutrensis*	Red shiner	7	T	IF
	99097	*Lepomis macrochirus*	Bluegill	7	T	IF
	99099	*Lepomis megalotis*	Longear sunfish	6		IF
	98561	*Ictalurus punctatus*	Channel catfish	3	T	O
	98724	*Poecilia latipinna*	Sailfin molly	3	T	O
	98564	*Ameiurus natalis*	Yellow bullhead	1		O
	99094	*Lepomis cyanellus*	Green sunfish	1	T	P
	98570	*Pylodictis olivaris*	Flathead catfish	1		P

11-13 July 2011	T = Tolerant IF = Invertivore; H = Herbivore; O = Omnivore; P = Piscivore					
Station	**Parameter Code**	**Scientific Name**	**Common Name**	**Count**	**Tolerance**	**Trophic Group**
17900	99099	*Lepomis megalotis*	Longear sunfish	18		IF
	99097	*Lepomis macrochirus*	Bluegill	12	T	IF
	98953	*Cichlasoma cyanoguttatum*	Rio Grande cichlid	5		IF
	99094	*Lepomis cyanellus*	Green sunfish	4	T	P
	98561	*Ictalurus punctatus*	Channel catfish	2	T	O
	98340	*Dorosoma cepedianum*	Gizzard shad	1	T	O
	98713	*Gambusia affinis*	Western mosquitofish	1		IF
	99100	*Lepomis microlophus*	Redear sunfish	1		IF
	99090	*Micropterus salmoides*	Largemouth bass	1		P
	98498	*Pimephales vigilax*	Bullhead minnow	1		IF
	99109	*Pomoxis nigromaculatus*	Black crappie	1		P
20762	98713	*Gambusia affinis*	Western mosquitofish	32		IF
	99097	*Lepomis macrochirus*	Bluegill	32	T	IF
	99094	*Lepomis cyanellus*	Green sunfish	30	T	P
	98563	*Ameiurus melas*	Black bullhead	21	T	O
	99090	*Micropterus salmoides*	Largemouth bass	14		P
	99099	*Lepomis megalotis*	Longear sunfish	12		IF
	98564	*Ameiurus natalis*	Yellow bullhead	11		O
	99095	*Lepomis gulosus*	Warmouth	3	T	P
	98724	*Poecilia latipinna*	Sailfin molly	1	T	O

Station 20773 Seg. 2107
Atascosa River @ CR 413
28 July 2010

Ecoregion 31

Metric	Value	Score
Number of fish species	13	1
Number of native cyprinid species	3	3
Number of benthic species	3	5
Number of sunfish species	3	3
% of individuals as tolerant species[a]	19.3	5
% of individuals as omnivores	4.0	5
% of Individuals as invertivores	83.0	5
% of Individuals as piscivores	13.1	5
Number of individuals in sample		1
Number of individuals/seine haul	12.7	1
Number of individuals/min electrofishing	1.2	1
% of individuals as non-native species	1.1	5
% of individuals with disease/anomaly	0.6	3

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**41**
AQUATIC LIFE USE RATING	**High**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Metric	Parameter Code	Value
Nekton--none captured	89859	NA
Minimum seine mesh, avg. bar (cm)	89930	3/16
Maximum seine mesh, avg. bar (cm)	89931	3/16
Net Length (m)	89941	4.9
Gill net effort (hrs)	89942	--
Electrofishing method	89943	2
Electrofishing effort (sec)	89944	1228
Seining effort (no. of hauls)	89947	12
Combined length of seine hauls (m)	89948	120
Seining duration (min)	89949	75
Ecoregion	89961	31
Area seined (m^2)	89976	588
Total # species (richness)	98003	13
Total # sunfish species (except bass)	98008	3
Total # intolerant species	98010	0
% Omnivore individuals	98017	4
% Invertivore individuals	98021	83
% Piscivore individuals	98022	13.1
% Individuals with disease / anomaly	98030	1
Total native cyprinid species	98032	3
% Non-native species	98033	0
Total # of individuals – seining	98039	78
Total # of individuals – electroshocking	98040	303
Total benthic species	98053	0
Individuals per seine haul	98062	11.1
Individuals per minute electrofishing	98069	19.9
% Tolerant individuals (excl. *G. affinis*)	98070	41.7

Station 20773 Seg. 2107
Atascosa River @ CR 413
28 July 2010

Ecoregion 33

Metric	Value	Score
Number of fish species	13	3
Number of native cyprinid species	3	3
Number of benthic invertivore species	3	3
Number of sunfish species	3	3
Number of intolerant Species	0.0	1
% of Individuals as tolerant species[a]	19.3	5
% of individuals as omnivores	4.0	5
% of Individuals as invertivores	83.0	5
% of Individuals as piscivores	13.1	5
Number of individuals in sample		1
Number of individuals/seine haul	12.7	1
Number of individuals/min electrofishing	1.2	1
% of individuals as non-native species	1.1	5
% of individuals with disease/anomaly	0.6	3

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**42**
AQUATIC LIFE USE RATING	**High**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Seg. 2107 **Species List - Nekton** **28 July 2010**
Station 20773 Atascosa River @ CR413

Parameter Code	Scientific Name	Common Name	Number Electrofished	Number Seined	Count
98713	*Gambusia affinis*	Western mosquitofish	2	74	76
98459	*Notropis amabilis*	Texas shiner	--	32	32
98474	*Cyprinella lutrensis*	Red shiner	2	17	19
98570	*Pylodictis olivaris*	Flathead catfish	8	2	10
98435	*Astyanax mexicanus*	Mexican tetra	--	8	8
98498	*Pimephales vigilax*	Bullhead minnow	--	8	8
98562	*Ictalurus furcatus*	Blue catfish	3	3	6
99094	*Lepomis cyanellus*	Green sunfish	6	--	6
98561	*Ictalurus punctatus*	Channel catfish	--	5	5
98437	*Cyprinus carpio*	Common carp	2	--	2
99097	*Lepomis macrochirus*	Bluegill	1	1	2
99099	*Lepomis megalotis*	Longear sunfish	--	1	1
99090	*Micropterus salmoides*	Largemouth bass	--	1	1

Station 12980 Seg. 2107
Atascosa River @ FM 99
29 July 2010

Ecoregion 31

Metric	Value	Score
Number of fish species	11	3
Number of native cyprinid species	2	1
Number of benthic species	2	3
Number of sunfish species	5	5
% of individuals as tolerant species[a]	29.2	3
% of individuals as omnivores	4.5	5
% of Individuals as invertivores	80.9	5
% of Individuals as piscivores	14.6	5
Number of individuals in sample		1
Number of individuals/seine haul	4.4	1
Number of individuals/min electrofishing	1.8	1
% of individuals as non-native species	0.0	5
% of individuals with disease/anomaly	0.0	5

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**41**
AQUATIC LIFE USE RATING	**High**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Metric	Parameter Code	Value
Nekton--none captured	89859	NA
Minimum seine mesh, avg. bar (cm)	89930	3/16
Maximum seine mesh, avg. bar (cm)	89931	3/16
Net Length (m)	89941	4.9
Gill net effort (hrs)	89942	--
Electrofishing method	89943	2
Electrofishing effort (sec)	89944	1070
Seining effort (no. of hauls)	89947	15
Combined length of seine hauls (m)	89948	150
Seining duration (min)	89949	65
Ecoregion	89961	31
Area seined (m^2)	89976	735
Total # species (richness)	98003	11
Total # sunfish species (except bass)	98008	5
Total # intolerant species	98010	0
% Omnivore individuals	98017	4.5
% Invertivore individuals	98021	80.9
% Piscivore individuals	98022	14.6
% Individuals with disease / anomaly	98030	0
Total native cyprinid species	98032	2
% Non-native species	98033	0
Total # of individuals – seining	98039	57
Total # of individuals – electroshocking	98040	32
Total benthic species	98053	2
Individuals per seine haul	98062	4.4
Individuals per minute electrofishing	98069	1.8
% Tolerant individuals (excl. *G. affinis*)	98070	29.2

Station 12980 Seg. 2107
Atascosa River @ FM 99
29 July 2010

Ecoregion 33

Metric	Value	Score
Number of fish species	11	1
Number of native cyprinid species	2	3
Number of benthic invertivore species	2	1
Number of sunfish species	5	5
Number of intolerant Species	0.0	1
% of Individuals as tolerant species[a]	29.2	3
% of individuals as omnivores	4.5	5
% of Individuals as invertivores	80.9	5
% of Individuals as piscivores	14.6	5
Number of individuals in sample		1
Number of individuals/seine haul	4.4	1
Number of individuals/min electrofishing	1.8	1
% of individuals as non-native species	0.0	5
% of individuals with disease/anomaly	0.0	5

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**40**
AQUATIC LIFE USE RATING	**Intermediate**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Seg. 2107 **Species List - Nekton** **29 July 2010**
Station 12980 Atascosa River @ FM 99

Parameter Code	Scientific Name	Common Name	Number Electrofished	Number Seined	Count
98713	*Gambusia affinis*	Western mosquitofish	1	37	38
98498	*Pimephales vigilax*	Bullhead minnow	18	--	18
98474	*Cyprinella lutrensis*	Red shiner	--	11	11
98570	*Pylodictis olivaris*	Flathead catfish	5	--	5
98561	*Ictalurus punctatus*	Channel catfish	1	3	4
99097	*Lepomis macrochirus*	Bluegill	--	4	4
99095	*Lepomis gulosus*	Warmouth	2	1	3
98340	*Lepisosteus oculatus*	Spotted gar	2	--	2
99094	*Lepomis cyanellus*	Green sunfish	2	--	2
99099	*Lepomis megalotis*	Longear sunfish	1	--	1
99108	*Pomoxis annularis*	White crappie	--	1	1

Station 20764 Seg. 2107
Atascosa River @ FM 541
27 July 2010

Ecoregion 31

Metric	Value	Score
Number of fish species	14	5
Number of native cyprinid species	2	1
Number of benthic species	1	1
Number of sunfish species	5	5
% of individuals as tolerant species[a]	44.6	3
% of individuals as omnivores	5.4	5
% of Individuals as invertivores	55.4	3
% of Individuals as piscivores	39.3	5
Number of individuals in sample		1
Number of individuals/seine haul	4.0	1
Number of individuals/min electrofishing	2.1	1
% of individuals as non-native species	1.8	3
% of individuals with disease/anomaly	0.0	5

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**37**
AQUATIC LIFE USE RATING	**High**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Metric	Parameter Code	Value
Nekton--none captured	89859	NA
Minimum seine mesh, avg. bar (cm)	89930	3/16
Maximum seine mesh, avg. bar (cm)	89931	3/16
Net Length (m)	89941	4.9
Gill net effort (hrs)	89942	--
Electrofishing method	89943	2
Electrofishing effort (sec)	89944	900
Seining effort (no. of hauls)	89947	6
Combined length of seine hauls (m)	89948	60
Seining duration (min)	89949	20
Ecoregion	89961	31
Area seined (m^2)	89976	294
Total # species (richness)	98003	14
Total # sunfish species (except bass)	98008	5
Total # intolerant species	98010	0
% Omnivore individuals	98017	5.4
% Invertivore individuals	98021	55.4
% Piscivore individuals	98022	39.3
% Individuals with disease / anomaly	98030	0
Total native cyprinid species	98032	2
% Non-native species	98033	1.8
Total # of individuals – seining	98039	24
Total # of individuals – electroshocking	98040	32
Total benthic species	98053	1
Individuals per seine haul	98062	4
Individuals per minute electrofishing	98069	2.1
% Tolerant individuals (excl. *G. affinis*)	98070	44.6

Station 20764 Seg. 2107
Atascosa River @ FM 541
27 July 2010

Ecoregion 33

Metric	Value	Score
Number of fish species	14	3
Number of native cyprinid species	2	3
Number of benthic invertivore species	1	1
Number of sunfish species	5	5
Number of intolerant Species	0.0	1
% of Individuals as tolerant species[a]	44.6	3
% of individuals as omnivores	5.4	5
% of Individuals as invertivores	55.4	3
% of Individuals as piscivores	39.3	5
Number of individuals in sample		1
Number of individuals/seine haul	4.0	1
Number of individuals/min electrofishing	2.1	1
% of individuals as non-native species	1.8	3
% of individuals with disease/anomaly	0.0	5

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**38**
AQUATIC LIFE USE RATING	**Intermediate**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Seg. 2107 **Species List - Nekton** **27 July 2010**
Station 20764 Atascosa River @ FM 541

Parameter Code	Scientific Name	Common Name	Number Electrofished	Number Seined	Count
99094	*Lepomis cyanellus*	Green sunfish	9	--	9
99090	*Micropterus salmoides*	Largemouth bass	8	1	9
99097	*Lepomis macrochirus*	Bluegill	7	1	8
98498	*Pimephales vigilax*	Bullhead minnow	--	8	8
98713	*Gambusia affinis*	Western mosquitofish	--	7	7
98435	*Astyanax mexicanus*	Mexican tetra	--	3	3
99095	*Lepomis gulosus*	Warmouth	3	--	3
98474	*Cyprinella lutrensis*	Red shiner	2	--	2
98430	*Dorosoma cepedianum*	Gizzard shad	--	2	2
98953	*Cichlasoma cyanoguttatum*	Rio Grande cichlid	--	1	1
98437	*Cyprinus carpio*	Common carp	1	--	1
98562	*Ictalurus furcatus*	Blue catfish	--	1	1
99099	*Lepomis megalotis*	Longear sunfish	1	--	1
99100	*Lepomis microlophus*	Redear sunfish	1	--	1

Station 17900 Seg. 2107
Atascosa River @ IH 37
27 July 2010

Ecoregion 31

Metric	Value	Score
Number of fish species	7	1
Number of native cyprinid species	1	1
Number of benthic species	0	1
Number of sunfish species	4	3
% of individuals as tolerant species[a]	66.7	1
% of individuals as omnivores	0.0	5
% of Individuals as invertivores	91.1	5
% of Individuals as piscivores	8.9	3
Number of individuals in sample		1
Number of individuals/seine haul	3.5	1
Number of individuals/min electrofishing	1.3	1
% of individuals as non-native species	0.0	5
% of individuals with disease/anomaly	0.0	5

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**31**
AQUATIC LIFE USE RATING	**Intermediate**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Metric	Parameter Code	Value
Nekton--none captured	89859	NA
Minimum seine mesh, avg. bar (cm)	89930	3/16
Maximum seine mesh, avg. bar (cm)	89931	3/16
Net Length (m)	89941	4.9
Gill net effort (hrs)	89942	--
Electrofishing method	89943	2
Electrofishing effort (sec)	89944	1080
Seining effort (no. of hauls)	89947	6
Combined length of seine hauls (m)	89948	60
Seining duration (min)	89949	55
Ecoregion	89961	31
Area seined (m^2)	89976	294
Total # species (richness)	98003	7
Total # sunfish species (except bass)	98008	4
Total # intolerant species	98010	0
% Omnivore individuals	98017	0
% Invertivore individuals	98021	91.1
% Piscivore individuals	98022	8.9
% Individuals with disease / anomaly	98030	0
Total native cyprinid species	98032	1
% Non-native species	98033	0
Total # of individuals – seining	98039	21
Total # of individuals – electroshocking	98040	24
Total benthic species	98053	0
Individuals per seine haul	98062	3.5
Individuals per minute electrofishing	98069	1.3
% Tolerant individuals (excl. *G. affinis*)	98070	66.7

Station 17900 Seg. 2107
Atascosa River @ IH 37
27 July 2010

Ecoregion 33

Metric	Value	Score
Number of fish species	7	1
Number of native cyprinid species	1	1
Number of benthic invertivore species	0	1
Number of sunfish species	4	3
Number of intolerant Species	0.0	1
% of Individuals as tolerant species[a]	66.7	1
% of individuals as omnivores	0.0	5
% of Individuals as invertivores	91.1	5
% of Individuals as piscivores	8.9	3
Number of individuals in sample		1
Number of individuals/seine haul	3.5	1
Number of individuals/min electrofishing	1.3	1
% of individuals as non-native species	0.0	5
% of individuals with disease/anomaly	0.0	5

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**32**
AQUATIC LIFE USE RATING	**Limited**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Seg. 2107 **Species List - Nekton** **27 July 2010**
Station 17900 Atascosa River @ IH 37

Parameter Code	Scientific Name	Common Name	Number Electrofished	Number Seined	Count
99097	*Lepomis macrochirus*	Bluegill	19	--	19
98713	*Gambusia affinis*	Western mosquitofish	--	9	9
98474	*Cyprinella lutrensis*	Red shiner	--	7	7
99099	*Lepomis megalotis*	Longear sunfish	1	2	3
98340	*Lepisosteus oculatus*	Spotted gar	2	--	2
99094	*Lepomis cyanellus*	Green sunfish	2	--	2
99100	*Lepomis microlophus*	Redear sunfish	--	2	2
--	*Lepomis sp.(unknown)*	Sunfish species	--	1	1

Station 20762 Seg. 2107
Atascosa River @ Granato Road
26 July 2010

Ecoregion 31

Metric	Value	Score
Number of fish species	17	5
Number of native cyprinid species	2	1
Number of benthic species	3	5
Number of sunfish species	7	5
% of individuals as tolerant species[a]	64.2	1
% of individuals as omnivores	37.2	1
% of Individuals as invertivores	49.9	3
% of Individuals as piscivores	12.9	5
Number of individuals in sample		3
Number of individuals/seine haul	11.0	1
Number of individuals/min electrofishing	19.8	5
% of individuals as non-native species	6.6	1
% of individuals with disease/anomaly	0.0	5

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**35**
AQUATIC LIFE USE RATING	**Intermediate**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Metric	Parameter Code	Value
Nekton--none captured	89859	NA
Minimum seine mesh, avg. bar (cm)	89930	3/16
Maximum seine mesh, avg. bar (cm)	89931	3/16
Net Length (m)	89941	4.9
Gill net effort (hrs)	89942	--
Electrofishing method	89943	2
Electrofishing effort (sec)	89944	900
Seining effort (no. of hauls)	89947	6
Combined length of seine hauls (m)	89948	60
Seining duration (min)	89949	22
Ecoregion	89961	31
Area seined (m^2)	89976	294
Total # species (richness)	98003	17
Total # sunfish species (except bass)	98008	7
Total # intolerant species	98010	0
% Omnivore individuals	98017	37.2
% Invertivore individuals	98021	49.9
% Piscivore individuals	98022	12.9
% Individuals with disease / anomaly	98030	0
Total native cyprinid species	98032	2
% Non-native species	98033	6.6
Total # of individuals – seining	98039	66
Total # of individuals – electroshocking	98040	297
Total benthic species	98053	3
Individuals per seine haul	98062	11
Individuals per minute electrofishing	98069	19.8
% Tolerant individuals (excl. *G. affinis*)	98070	64.2

Station 20762 Seg. 2107
Atascosa River @ Granato Road
26 July 2010

Ecoregion 33

Metric	Value	Score
Number of fish species	17	3
Number of native cyprinid species	2	3
Number of benthic invertivore species	3	3
Number of sunfish species	7	5
Number of intolerant Species	0.0	1
% of Individuals as tolerant species[a]	64.2	1
% of individuals as omnivores	37.2	1
% of Individuals as invertivores	49.9	3
% of Individuals as piscivores	12.9	5
Number of individuals in sample		3
Number of individuals/seine haul	11.0	1
Number of individuals/min electrofishing	19.8	5
% of individuals as non-native species	6.6	1
% of individuals with disease/anomaly	0.0	5

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**34**
AQUATIC LIFE USE RATING	**Limited**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Seg. 2107 **Species List - Nekton** **26 July 2010**
Station 20762 Atascosa River @ Granato Road

Parameter Code	Scientific Name	Common Name	Number Electrofished	Number Seined	Count
98563	*Ameiurus melas*	Black bullhead	101	--	101
99097	*Lepomis macrochirus*	Bluegill	69	8	77
98713	*Gambusia affinis*	Western mosquitofish	3	51	54
99094	*Lepomis cyanellus*	Green sunfish	31	--	31
98564	*Ameiurus natalis*	Yellow bullhead	20	--	20
99093	*Lepomis auritus*	Redbreast sunfish	17	--	17
99099	*Lepomis megalotis*	Longear sunfish	13	1	14
99095	*Lepomis gulosus*	Warmouth	7	1	8
99090	*Micropterus salmoides*	Largemouth bass	7	1	8
98437	*Cyprinus carpio*	Common carp	6	1	7
99096	*Lepomis humilis*	Orangespotted sunfish	7	--	7
98561	*Ictalurus punctatus*	Channel catfish	4	2	6
99100	*Lepomis microlophus*	Redear sunfish	5	--	5
98435	*Astyanax mexicanus*	Mexican tetra	3	1	4
98474	*Cyprinella lutrensis*	Red shiner	2	--	2
98430	*Dorosoma cepedianum*	Gizzard shad	1	--	1
98459	*Notropis amabilis*	Texas shiner	1	--	1

Station 20773 Seg. 2107
Atascosa River @ CR 413
19 April 2011

Ecoregion 31

Metric	Value	Score
Number of fish species	10	3
Number of native cyprinid species	2	1
Number of benthic species	2	3
Number of sunfish species	4	3
% of individuals as tolerant species[a]	86.3	1
% of individuals as omnivores	2.4	5
% of Individuals as invertivores	94.3	5
% of Individuals as piscivores	3.3	1
Number of individuals in sample		2
Number of individuals/seine haul	4.8	1
Number of individuals/min electrofishing	8.6	3
% of individuals as non-native species	0.0	5
% of individuals with disease/anomaly	0.0	5

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**34**
AQUATIC LIFE USE RATING	**Intermediate**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Metric	Parameter Code	Value
Nekton--none captured	89859	NA
Minimum seine mesh, avg. bar (cm)	89930	3/16
Maximum seine mesh, avg. bar (cm)	89931	3/16
Net Length (m)	89941	4.9
Gill net effort (hrs)	89942	--
Electrofishing method	89943	2
Electrofishing effort (sec)	89944	1284
Seining effort (no. of hauls)	89947	6
Combined length of seine hauls (m)	89948	not recorded
Seining duration (min)	89949	not recorded
Ecoregion	89961	31
Area seined (m^2)	89976	588
Total # species (richness)	98003	10
Total # sunfish species (except bass)	98008	4
Total # intolerant species	98010	0
% Omnivore individuals	98017	2.4
% Invertivore individuals	98021	94.3
% Piscivore individuals	98022	3.3
% Individuals with disease / anomaly	98030	0
Total native cyprinid species	98032	2
% Non-native species	98033	0
Total # of individuals – seining	98039	29
Total # of individuals – electroshocking	98040	183
Total benthic species	98053	2
Individuals per seine haul	98062	4.8
Individuals per minute electrofishing	98069	8.6
% Tolerant individuals (excl. *G. affinis*)	98070	86.3

Station 20773 Seg. 2107
Atascosa River @ CR 413
19 April 2011

Ecoregion 33

Metric	Value	Score
Number of fish species	10	1
Number of native cyprinid species	2	3
Number of benthic invertivore species	0	1
Number of sunfish species	4	3
Number of intolerant Species	0.0	1
% of Individuals as tolerant species[a]	86.3	1
% of individuals as omnivores	2.4	5
% of Individuals as invertivores	94.3	5
% of Individuals as piscivores	3.3	1
Number of individuals in sample		3
Number of individuals/seine haul	4.8	1
Number of individuals/min electrofishing	8.6	5
% of individuals as non-native species	0.0	5
% of individuals with disease/anomaly	0.0	5

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**34**
AQUATIC LIFE USE RATING	**Limited**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Seg. 2107 **Species List - Nekton** **19 April 2011**
Station 20773 Atascosa River @ CR413

Parameter Code	Scientific Name	Common Name	Number Electrofished	Number Seined	Count
98474	*Cyprinella lutrensis*	Red shiner	146	25	171
98498	*Pimephales vigilax*	Bullhead minnow	11	--	11
98713	*Gambusia affinis*	Western mosquitofish	3	4	7
99099	*Lepomis megalotis*	Longear sunfish	7	--	7
98561	*Ictalurus punctatus*	Channel catfish	5	--	5
99094	*Lepomis cyanellus*	Green sunfish	5	--	5
99096	*Lepomis humilis*	Orangespotted sunfish	3	--	3
98340	*Lepisosteus oculatus*	Spottted gar	1	--	1
99097	*Lepomis macrochirus*	Bluegill	1	--	1
98570	*Pylodictis olivaris*	Flathead catfish	1	--	1

Station 12980 Seg. 2107
Atascosa River @ FM 99
19 April 2011

Ecoregion 31

Metric	Value	Score
Number of fish species	10	3
Number of native cyprinid species	3	3
Number of benthic species	2	3
Number of sunfish species	3	3
% of individuals as tolerant species[a]	71.1	1
% of individuals as omnivores	2.1	5
% of Individuals as invertivores	90.7	5
% of Individuals as piscivores	7.2	3
Number of individuals in sample		1
Number of individuals/seine haul	7.0	1
Number of individuals/min electrofishing	2.7	1
% of individuals as non-native species	0.0	5
% of individuals with disease/anomaly	0.0	5

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**37**
AQUATIC LIFE USE RATING	**High**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Metric	Parameter Code	Value
Nekton--none captured	89859	NA
Minimum seine mesh, avg. bar (cm)	89930	3/16
Maximum seine mesh, avg. bar (cm)	89931	3/16
Net Length (m)	89941	4.9
Gill net effort (hrs)	89942	--
Electrofishing method	89943	2
Electrofishing effort (sec)	89944	1074
Seining effort (no. of hauls)	89947	7
Combined length of seine hauls (m)	89948	not recorded
Seining duration (min)	89949	not recorded
Ecoregion	89961	31
Area seined (m^2)	89976	not recorded
Total # species (richness)	98003	10
Total # sunfish species (except bass)	98008	3
Total # intolerant species	98010	0
% Omnivore individuals	98017	2.1
% Invertivore individuals	98021	90.7
% Piscivore individuals	98022	7.2
% Individuals with disease / anomaly	98030	0
Total native cyprinid species	98032	3
% Non-native species	98033	0
Total # of individuals – seining	98039	49
Total # of individuals – electroshocking	98040	48
Total benthic species	98053	2
Individuals per seine haul	98062	7
Individuals per minute electrofishing	98069	2.7
% Tolerant individuals (excl. *G. affinis*)	98070	71.1

Station 12980 Seg. 2107
Atascosa River @ FM 99
19 April 2011

Ecoregion 33

Metric	Value	Score
Number of fish species	10	1
Number of native cyprinid species	3	3
Number of benthic invertivore species	0	1
Number of sunfish species	3	3
Number of intolerant Species	0.0	1
% of Individuals as tolerant species[a]	71.1	1
% of individuals as omnivores	2.1	5
% of Individuals as invertivores	90.7	5
% of Individuals as piscivores	7.2	3
Number of individuals in sample		1
Number of individuals/seine haul	7.0	1
Number of individuals/min electrofishing	2.7	1
% of individuals as non-native species	0.0	5
% of individuals with disease/anomaly	0.0	5

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**34**
AQUATIC LIFE USE RATING	**Limited**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Seg. 2107 **Species List - Nekton** **19 April 2011**
Station 12980 Atascosa River @ FM 99

Parameter Code	Scientific Name	Common Name	Number Electrofished	Number Seined	Count
98474	*Cyprinella lutrensis*	Red shiner	30	31	61
98498	*Pimephales vigilax*	Bullhead minnow	6	5	11
98713	*Gambusia affinis*	Western mosquitofish	--	9	9
98459	*Notropis amabilis*	Texas shiner	--	4	4
99094	*Lepomis cyanellus*	Green sunfish	3	--	3
98570	*Pylodictis olivaris*	Flathead catfish	3	--	3
98561	*Ictalurus punctatus*	Channel catfish	2	--	2
99097	*Lepomis macrochirus*	Bluegill	2	--	2
98340	*Lepisosteus oculatus*	Spotted gar	1	--	1
99099	*Lepomis megalotis*	Longear sunfish	1	--	1

Station 20764 Seg. 2107
Atascosa River @ FM 541
20 April 2011

Ecoregion 31

Metric	Value	Score
Number of fish species	12	3
Number of native cyprinid species	3	3
Number of benthic species	1	1
Number of sunfish species	4	3
% of individuals as tolerant species[a]	79.6	1
% of individuals as omnivores	3.7	5
% of Individuals as invertivores	50.0	3
% of Individuals as piscivores	46.3	5
Number of individuals in sample		1
Number of individuals/seine haul	2.5	1
Number of individuals/min electrofishing	2.4	1
% of individuals as non-native species	0.0	5
% of individuals with disease/anomaly	0.0	5

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**35**
AQUATIC LIFE USE RATING	**Intermediate**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Metric	Parameter Code	Value
Nekton--none captured	89859	NA
Minimum seine mesh, avg. bar (cm)	89930	3/16
Maximum seine mesh, avg. bar (cm)	89931	3/16
Net Length (m)	89941	4.9
Gill net effort (hrs)	89942	--
Electrofishing method	89943	2
Electrofishing effort (sec)	89944	966
Seining effort (no. of hauls)	89947	6
Combined length of seine hauls (m)	89948	not recorded
Seining duration (min)	89949	not recorded
Ecoregion	89961	31
Area seined (m^2)	89976	not recorded
Total # species (richness)	98003	12
Total # sunfish species (except bass)	98008	4
Total # intolerant species	98010	0
% Omnivore individuals	98017	3.7
% Invertivore individuals	98021	50
% Piscivore individuals	98022	46.3
% Individuals with disease / anomaly	98030	0
Total native cyprinid species	98032	3
% Non-native species	98033	0
Total # of individuals – seining	98039	15
Total # of individuals – electroshocking	98040	39
Total benthic species	98053	1
Individuals per seine haul	98062	2.5
Individuals per minute electrofishing	98069	2.4
% Tolerant individuals (excl. *G. affinis*)	98070	79.6

Station 20764 Seg. 2107
Atascosa River @ FM 541
20 April 2011

Ecoregion 33

Metric	Value	Score
Number of fish species	12	3
Number of native cyprinid species	3	3
Number of benthic invertivore species	0	1
Number of sunfish species	4	3
Number of intolerant Species	0.0	1
% of Individuals as tolerant species[a]	79.6	1
% of individuals as omnivores	3.7	5
% of Individuals as invertivores	50.0	3
% of Individuals as piscivores	46.3	5
Number of individuals in sample		1
Number of individuals/seine haul	2.5	1
Number of individuals/min electrofishing	2.4	1
% of individuals as non-native species	0.0	5
% of individuals with disease/anomaly	0.0	5

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**36**
AQUATIC LIFE USE RATING	**Intermediate**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Seg. 2107 **Species List - Nekton** **20 April 2011**
Station 20764 Atascosa River @ FM 541

Parameter Code	Scientific Name	Common Name	Number Electrofished	Number Seined	Count
99094	*Lepomis cyanellus*	Green sunfish	21	--	21
98474	*Cyprinella lutrensis*	Red shiner	3	12	15
99099	*Lepomis megalotis*	Longear sunfish	4	--	4
98713	*Gambusia affinis*	Western mosquitofish	--	3	3
99097	*Lepomis macrochirus*	Bluegill	3	--	3
98430	*Dorosoma cepedianum*	Gizzard shad	2	--	2
98562	*Ictalurus furcatus*	Blue catfish	1	--	1
98340	*Lepisosteus oculatus*	Spotted gar	1	--	1
99095	*Lepomis gulosus*	Warmouth	1	--	1
99090	*Micropterus salmoides*	Largemouth bass	1	--	1
98459	*Notropis amabilis*	Texas shiner	1	--	1
98452	*Opsopoeodus emiliae*	Pugnose minnow	1	--	1

Station 17900 Seg. 2107
Atascosa River @ IH 37
20 April 2011

Ecoregion 31

Metric	Value	Score
Number of fish species	13	3
Number of native cyprinid species	2	1
Number of benthic species	2	3
Number of sunfish species	5	5
% of individuals as tolerant species[a]	63.9	1
% of individuals as omnivores	6.6	5
% of Individuals as invertivores	60.7	3
% of Individuals as piscivores	32.8	5
Number of individuals in sample		1
Number of individuals/seine haul	2.1	1
Number of individuals/min electrofishing	1.9	1
% of individuals as non-native species	3.3	1
% of individuals with disease/anomaly	0.0	5

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**33**
AQUATIC LIFE USE RATING	**Intermediate**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Metric	Parameter Code	Value
Nekton--none captured	89859	NA
Minimum seine mesh, avg. bar (cm)	89930	3/16
Maximum seine mesh, avg. bar (cm)	89931	3/16
Net Length (m)	89941	4.9
Gill net effort (hrs)	89942	--
Electrofishing method	89943	2
Electrofishing effort (sec)	89944	1470
Seining effort (no. of hauls)	89947	7
Combined length of seine hauls (m)	89948	not recorded
Seining duration (min)	89949	not recorded
Ecoregion	89961	31
Area seined (m^2)	89976	not recorded
Total # species (richness)	98003	13
Total # sunfish species (except bass)	98008	5
Total # intolerant species	98010	0
% Omnivore individuals	98017	6.6
% Invertivore individuals	98021	60.7
% Piscivore individuals	98022	32.8
% Individuals with disease / anomaly	98030	0
Total native cyprinid species	98032	2
% Non-native species	98033	3.3
Total # of individuals – seining	98039	15
Total # of individuals – electroshocking	98040	46
Total benthic species	98053	2
Individuals per seine haul	98062	2.1
Individuals per minute electrofishing	98069	1.9
% Tolerant individuals (excl. *G. affinis*)	98070	63.9

Station 17900 Seg. 2107
Atascosa River @ IH 37
20 April 2011

Ecoregion 33

Metric	Value	Score
Number of fish species	13	3
Number of native cyprinid species	2	3
Number of benthic invertivore species	0	1
Number of sunfish species	5	5
Number of intolerant Species	0.0	1
% of Individuals as tolerant species[a]	63.9	1
% of individuals as omnivores	6.6	5
% of Individuals as invertivores	60.7	3
% of Individuals as piscivores	32.8	5
Number of individuals in sample		1
Number of individuals/seine haul	2.1	1
Number of individuals/min electrofishing	1.9	1
% of individuals as non-native species	3.3	1
% of individuals with disease/anomaly	0.0	5

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**34**
AQUATIC LIFE USE RATING	**Limited**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Seg. 2107 **Species List - Nekton** **20 April 2011**
Station 17900 Atascosa River @ IH 37

Parameter Code	Scientific Name	Common Name	Number Electrofished	Number Seined	Count
99094	*Lepomis cyanellus*	Green sunfish	13	2	15
99099	*Lepomis megalotis*	Longear sunfish	10	2	12
99097	*Lepomis macrochirus*	Bluegill	11		11
98474	*Cyprinella lutrensis*	Red shiner	3	2	5
98459	*Notropis amabilis*	Texas shiner		4	4
98340	*Dorosoma cepedianum*	Gizzard shad	2	1	3
99095	*Lepomis gulosus*	Warmouth	3		3
98958	*Aplodinotus grunniens*	Freshwater drum		2	2
99093	*Lepomis auritus*	Redbreast sunfish	1	1	2
98713	*Gambusia affinis*	Western mosquitofish		1	1
98507	*Ictiobus bubalus*	Smallmouth buffalo	1		1
99090	*Micropterus salmoides*	Largemouth bass	1		1
98570	*Pylodictis olivaris*	Flathead catfish	1		1

Station 20762 Seg. 2107
Atascosa River @ Granato Road
18 April 2011

Ecoregion 31

Metric	Value	Score
Number of fish species	12	3
Number of native cyprinid species	1	1
Number of benthic species	2	3
Number of sunfish species	5	5
% of individuals as tolerant species[a]	63.4	1
% of individuals as omnivores	19.6	1
% of Individuals as invertivores	44.4	3
% of Individuals as piscivores	35.9	5
Number of individuals in sample		2
Number of individuals/seine haul	3.0	1
Number of individuals/min electrofishing	8.8	3
% of individuals as non-native species	3.9	1
% of individuals with disease/anomaly	0.0	5

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**30**
AQUATIC LIFE USE RATING	**Intermediate**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Metric	Parameter Code	Value
Nekton--none captured	89859	NA
Minimum seine mesh, avg. bar (cm)	89930	3/16
Maximum seine mesh, avg. bar (cm)	89931	3/16
Net Length (m)	89941	4.9
Gill net effort (hrs)	89942	--
Electrofishing method	89943	2
Electrofishing effort (sec)	89944	924
Seining effort (no. of hauls)	89947	6
Combined length of seine hauls (m)	89948	not recorded
Seining duration (min)	89949	not recorded
Ecoregion	89961	31
Area seined (m^2)	89976	294
Total # species (richness)	98003	12
Total # sunfish species (except bass)	98008	5
Total # intolerant species	98010	0
% Omnivore individuals	98017	19.6
% Invertivore individuals	98021	44.4
% Piscivore individuals	98022	35.9
% Individuals with disease / anomaly	98030	0
Total native cyprinid species	98032	1
% Non-native species	98033	3.9
Total # of individuals – seining	98039	18
Total # of individuals – electroshocking	98040	135
Total benthic species	98053	2
Individuals per seine haul	98062	3
Individuals per minute electrofishing	98069	8.8
% Tolerant individuals (excl. *G. affinis*)	98070	63.4

Station 20762 Seg. 2107
Atascosa River @ Granato Road
18 April 2011

Ecoregion 33

Metric	Value	Score
Number of fish species	12	3
Number of native cyprinid species	1	1
Number of benthic invertivore species	0	1
Number of sunfish species	5	5
Number of intolerant Species	0.0	1
% of Individuals as tolerant species[a]	63.4	1
% of individuals as omnivores	19.6	1
% of Individuals as invertivores	44.4	3
% of Individuals as piscivores	35.9	5
Number of individuals in sample		3
Number of individuals/seine haul	3.0	1
Number of individuals/min electrofishing	8.8	5
% of individuals as non-native species	3.9	1
% of individuals with disease/anomaly	0.0	5

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**30**
AQUATIC LIFE USE RATING	**Limited**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Seg. 2107 **Species List - Nekton** **18 April 2011**
Station 20762 Atascosa River @ Granato Road

Parameter Code	Scientific Name	Common Name	Number Electrofished	Number Seined	Count
99094	*Lepomis cyanellus*	Green sunfish	51		51
99097	*Lepomis macrochirus*	Bluegill	25	2	27
98713	*Gambusia affinis*	Western mosquitofish	3	16	19
98564	*Ameiurus natalis*	Yellow bullhead	16		16
98563	*Ameiurus melas*	Black bullhead	13		13
99099	*Lepomis megalotis*	Longear sunfish	13		13
99093	*Lepomis auritus*	Redbreast sunfish	6		6
99095	*Lepomis gulosus*	Warmouth	3		3
98474	*Cyprinella lutrensis*	Red shiner	2		2
98953	*Cichlasoma cyanoguttatum*	Rio Grande cichlid	1		1
99090	*Micropterus salmoides*	Largemouth bass	1		1
98724	*Poecilia latipinna*	Sailfin molly	1		1

Station 20773 Seg. 2107
Atascosa River @ CR 413
12 July 2011

Ecoregion 31

Metric	Value	Score
Number of fish species	12	3
Number of native cyprinid species	3	3
Number of benthic species	0	1
Number of sunfish species	4	3
% of individuals as tolerant species[a]	41.7	3
% of individuals as omnivores	7.3	5
% of Individuals as invertivores	87.7	5
% of Individuals as piscivores	5.0	3
Number of individuals in sample		3
Number of individuals/seine haul	11.1	1
Number of individuals/min electrofishing	19.9	5
% of individuals as non-native species	0.0	5
% of individuals with disease/anomaly	0.0	5

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**39**
AQUATIC LIFE USE RATING	**High**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Metric	Parameter Code	Value
Nekton--none captured	89859	NA
Minimum seine mesh, avg. bar (cm)	89930	3/16
Maximum seine mesh, avg. bar (cm)	89931	3/16
Net Length (m)	89941	4.9
Gill net effort (hrs)	89942	--
Electrofishing method	89943	2
Electrofishing effort (sec)	89944	915
Seining effort (no. of hauls)	89947	7
Combined length of seine hauls (m)	89948	70
Seining duration (min)	89949	30
Ecoregion	89961	31
Area seined (m^2)	89976	343
Total # species (richness)	98003	12
Total # sunfish species (except bass)	98008	4
Total # intolerant species	98010	0
% Omnivore individuals	98017	7.3
% Invertivore individuals	98021	87.7
% Piscivore individuals	98022	5
% Individuals with disease / anomaly	98030	0
Total native cyprinid species	98032	3
% Non-native species	98033	0
Total # of individuals – seining	98039	78
Total # of individuals – electroshocking	98040	303
Total benthic species	98053	0
Individuals per seine haul	98062	11.1
Individuals per minute electrofishing	98069	19.9
% Tolerant individuals (excl. *G. affinis*)	98070	41.7

Station 20773 Seg. 2107
Atascosa River @ CR 413
12 July 2011

Ecoregion 33

Metric	Value	Score
Number of fish species	12	1
Number of native cyprinid species	3	3
Number of benthic invertivore species	0	1
Number of sunfish species	4	3
Number of intolerant Species	0.0	1
% of Individuals as tolerant species[a]	42.2	3
% of individuals as omnivores	7.4	5
% of Individuals as invertivores	87.5	5
% of Individuals as piscivores	5.0	3
Number of individuals in sample		3
Number of individuals/seine haul	11.1	1
Number of individuals/min electrofishing	19.9	5
% of individuals as non-native species	0.0	5
% of individuals with disease/anomaly	0.0	5

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**38**
AQUATIC LIFE USE RATING	**Intermediate**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Seg. 2107 **Species List - Nekton** **12 July 2011**
Station 20773 Atascosa River @ CR413

Parameter Code	Scientific Name	Common Name	Number Electrofished	Number Seined	Count
98713	*Gambusia affinis*	Western mosquitofish	151	7	158
98474	*Cyprinella lutrensis*	Red shiner	69	47	116
98498	*Pimephales vigilax*	Bullhead minnow	32	6	38
98724	*Poecilia latipinna*	Sailfin molly	13	14	27
99099	*Lepomis megalotis*	Longear sunfish	14	--	14
99094	*Lepomis cyanellus*	Green sunfish	10	3	13
98570	*Pylodictis olivaris*	Flathead catfish	5	--	5
98953	*Cichlasoma cyanoguttatum*	Rio Grande cichlid	3	1	4
98459	*Notropis amabilis*	Texas shiner	3	--	3
98561	*Ictalurus punctatus*	Channel catfish	1	--	1
99095	*Lepomis gulosus*	Warmouth	1	--	1
99097	*Lepomis macrochirus*	Bluegill	1	--	1

Station 12980 Seg. 2107
Atascosa River @ FM 99
12 July 2011

Ecoregion 31

Metric	Value	Score
Number of fish species	10	3
Number of native cyprinid species	2	1
Number of benthic species	3	5
Number of sunfish species	3	3
% of individuals as tolerant species[a]	21.9	5
% of individuals as omnivores	7.3	5
% of Individuals as invertivores	90.6	5
% of Individuals as piscivores	2.1	1
Number of individuals in sample		1
Number of individuals/seine haul	9.0	1
Number of individuals/min electrofishing	2.4	1
% of individuals as non-native species	0.0	5
% of individuals with disease/anomaly	0.0	5

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**39**
AQUATIC LIFE USE RATING	**High**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Metric	Parameter Code	Value
Nekton--none captured	89859	NA
Minimum seine mesh, avg. bar (cm)	89930	3/16
Maximum seine mesh, avg. bar (cm)	89931	3/16
Net Length (m)	89941	4.9
Gill net effort (hrs)	89942	--
Electrofishing method	89943	2
Electrofishing effort (sec)	89944	1070
Seining effort (no. of hauls)	89947	6
Combined length of seine hauls (m)	89948	74
Seining duration (min)	89949	25
Ecoregion	89961	31
Area seined (m^2)	89976	363
Total # species (richness)	98003	10
Total # sunfish species (except bass)	98008	3
Total # intolerant species	98010	0
% Omnivore individuals	98017	7.3
% Invertivore individuals	98021	90.6
% Piscivore individuals	98022	2.1
% Individuals with disease / anomaly	98030	0
Total native cyprinid species	98032	2
% Non-native species	98033	0
Total # of individuals – seining	98039	54
Total # of individuals – electroshocking	98040	42
Total benthic species	98053	3
Individuals per seine haul	98062	9
Individuals per minute electrofishing	98069	2.4
% Tolerant individuals (excl. *G. affinis*)	98070	21.9

Station 12980 Seg. 2107
Atascosa River @ FM 99
12 July 2011

Ecoregion 33

Metric	Value	Score
Number of fish species	10	1
Number of native cyprinid species	2	3
Number of benthic invertivore species	3	3
Number of sunfish species	3	3
Number of intolerant Species	0.0	1
% of Individuals as tolerant species[a]	21.9	5
% of individuals as omnivores	7.3	5
% of Individuals as invertivores	90.6	5
% of Individuals as piscivores	2.1	1
Number of individuals in sample		1
Number of individuals/seine haul	9.0	1
Number of individuals/min electrofishing	2.4	1
% of individuals as non-native species	0.0	5
% of individuals with disease/anomaly	0.0	5

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**38**
AQUATIC LIFE USE RATING	**Intermediate**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Seg. 2107 **Species List - Nekton** **12 July 2011**
Station 12980 Atascosa River @ FM 99

Parameter Code	Scientific Name	Common Name	Number Electrofished	Number Seined	Count
98713	*Gambusia affinis*	Western mosquitofish	21	13	34
98498	*Pimephales vigilax*	Bullhead minnow	3	30	33
98474	*Cyprinella lutrensis*	Red shiner	2	5	7
99097	*Lepomis macrochirus*	Bluegill	7	--	7
99099	*Lepomis megalotis*	Longear sunfish	4	2	6
98561	*Ictalurus punctatus*	Channel catfish	2	1	3
98724	*Poecilia latipinna*	Sailfin molly	--	3	3
98564	*Ameiurus natalis*	Yellow bullhead	1	--	1
99094	*Lepomis cyanellus*	Green sunfish	1	--	1
98570	*Pylodictis olivaris*	Flathead catfish	1	--	1

Station 17900 Seg. 2107
Atascosa River @ IH 37
13 July 2011

Ecoregion 31

Metric	Value	Score
Number of fish species	11	3
Number of native cyprinid species	1	1
Number of benthic species	1	1
Number of sunfish species	5	5
% of individuals as tolerant species[a]	40.4	3
% of individuals as omnivores	6.4	5
% of Individuals as invertivores	80.9	5
% of Individuals as piscivores	12.8	5
Number of individuals in sample		1
Number of individuals/seine haul	1.8	1
Number of individuals/min electrofishing	1.7	1
% of individuals as non-native species	0.0	5
% of individuals with disease/anomaly	0.0	5

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**39**
AQUATIC LIFE USE RATING	**High**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Metric	Parameter Code	Value
Nekton--none captured	89859	NA
Minimum seine mesh, avg. bar (cm)	89930	3/16
Maximum seine mesh, avg. bar (cm)	89931	3/16
Net Length (m)	89941	4.9
Gill net effort (hrs)	89942	--
Electrofishing method	89943	2
Electrofishing effort (sec)	89944	1306
Seining effort (no. of hauls)	89947	6
Combined length of seine hauls (m)	89948	60
Seining duration (min)	89949	25
Ecoregion	89961	31
Area seined (m^2)	89976	294
Total # species (richness)	98003	11
Total # sunfish species (except bass)	98008	5
Total # intolerant species	98010	0
% Omnivore individuals	98017	6.4
% Invertivore individuals	98021	80.9
% Piscivore individuals	98022	12.8
% Individuals with disease / anomaly	98030	0
Total native cyprinid species	98032	1
% Non-native species	98033	0
Total # of individuals – seining	98039	11
Total # of individuals – electroshocking	98040	36
Total benthic species	98053	1
Individuals per seine haul	98062	1.8
Individuals per minute electrofishing	98069	1.7
% Tolerant individuals (excl. *G. affinis*)	98070	40.4

Station 17900 Seg. 2107
Atascosa River @ IH 37
13 July 2011

Ecoregion 33

Metric	Value	Score
Number of fish species	11	3
Number of native cyprinid species	1	1
Number of benthic invertivore species	1	1
Number of sunfish species	5	5
Number of intolerant Species	0.0	1
% of Individuals as tolerant species[a]	40.4	3
% of individuals as omnivores	6.4	5
% of Individuals as invertivores	80.9	5
% of Individuals as piscivores	12.8	5
Number of individuals in sample		1
Number of individuals/seine haul	1.6	1
Number of individuals/min electrofishing	1.5	1
% of individuals as non-native species	0.0	5
% of individuals with disease/anomaly	0.0	5

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**40**
AQUATIC LIFE USE RATING	**Intermediate**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Seg. 2107 **Species List - Nekton** **13 July 2011**
Station 17900 Atascosa River @ IH 37

Parameter Code	Scientific Name	Common Name	Number Electrofished	Number Seined	Count
99099	*Lepomis megalotis*	Longear sunfish	18	--	18
99097	*Lepomis macrochirus*	Bluegill	9	3	12
98953	*Cichlasoma cyanoguttatum*	Rio Grande cichlid	2	3	5
99094	*Lepomis cyanellus*	Green sunfish	4	--	4
98561	*Ictalurus punctatus*	Channel catfish	--	2	2
98340	*Dorosoma cepedianum*	Gizzard shad	1	--	1
98713	*Gambusia affinis*	Western mosquitofish	--	1	1
99100	*Lepomis microlophus*	Redear sunfish	--	1	1
99090	*Micropterus salmoides*	Largemouth bass	1	--	1
98498	*Pimephales vigilax*	Bullhead minnow	--	1	1
99109	*Pomoxis nigromaculatus*	Black crappie	1	--	1

Station 20762 Seg. 2107
Atascosa River @ Granato Road
12 July 2011

Ecoregion 31

Metric	Value	Score
Number of fish species	9	3
Number of native cyprinid species	0	1
Number of benthic species	2	3
Number of sunfish species	4	3
% of individuals as tolerant species[a]	55.8	1
% of individuals as omnivores	21.2	1
% of Individuals as invertivores	48.7	3
% of Individuals as piscivores	30.1	5
Number of individuals in sample		3
Number of individuals/seine haul	6.3	1
Number of individuals/min electrofishing	9.3	5
% of individuals as non-native species	0.0	5
% of individuals with disease/anomaly	0.0	5

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**33**
AQUATIC LIFE USE RATING	**Intermediate**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Metric	Parameter Code	Value
Nekton--none captured	89859	NA
Minimum seine mesh, avg. bar (cm)	89930	3/16
Maximum seine mesh, avg. bar (cm)	89931	3/16
Net Length (m)	89941	4.9
Gill net effort (hrs)	89942	--
Electrofishing method	89943	2
Electrofishing effort (sec)	89944	756
Seining effort (no. of hauls)	89947	6
Combined length of seine hauls (m)	89948	65
Seining duration (min)	89949	25
Ecoregion	89961	31
Area seined (m^2)	89976	319
Total # species (richness)	98003	9
Total # sunfish species (except bass)	98008	4
Total # intolerant species	98010	0
% Omnivore individuals	98017	21.2
% Invertivore individuals	98021	48.7
% Piscivore individuals	98022	30.1
% Individuals with disease / anomaly	98030	0
Total native cyprinid species	98032	0
% Non-native species	98033	0
Total # of individuals – seining	98039	38
Total # of individuals – electroshocking	98040	118
Total benthic species	98053	2
Individuals per seine haul	98062	6.3
Individuals per minute electrofishing	98069	9.3
% Tolerant individuals (excl. *G. affinis*)	98070	55.8

Station 20762 Seg. 2107
Atascosa River @ Granato Road
12 July 2011

Ecoregion 33

Metric	Value	Score
Number of fish species	9	1
Number of native cyprinid species	0	1
Number of benthic invertivore species	0	1
Number of sunfish species	4	3
Number of intolerant Species	0.0	1
% of Individuals as tolerant species[a]	55.8	1
% of individuals as omnivores	21.2	1
% of Individuals as invertivores	48.7	3
% of Individuals as piscivores	30.1	5
Number of individuals in sample		3
Number of individuals/seine haul	6.3	1
Number of individuals/min electrofishing	9.3	5
% of individuals as non-native species	0.0	5
% of individuals with disease/anomaly	0.0	5

[a] Excluding western mosquitofish (*Gambusia affinis*)

FISH IBI SCORE	**30**
AQUATIC LIFE USE RATING	**Limited**

Fish IBI Scoring Criteria

Exceptional	>42
High	37-41
Intermediate	25-36
Limited	<25

Seg. 2107 **Species List - Nekton** **12 July 2011**
Station 20762 Atascosa River @ Granato Road

Parameter Code	Scientific Name	Common Name	Number Electrofished	Number Seined	Count
98713	*Gambusia affinis*	Western mosquitofish	8	24	32
99097	*Lepomis macrochirus*	Bluegill	28	4	32
99094	*Lepomis cyanellus*	Green sunfish	30	--	30
98563	*Ameiurus melas*	Black bullhead	21	--	21
99090	*Micropterus salmoides*	Largemouth bass	7	7	14
99099	*Lepomis megalotis*	Longear sunfish	10	2	12
98564	*Ameiurus natalis*	Yellow bullhead	10	1	11
99095	*Lepomis gulosus*	Warmouth	3	--	3
98724	*Poecilia latipinna*	Sailfin molly	1	--	1

Appendix F

Table of Macroinvertebrate Tolerance Values and Functional Feeding Groups,

Tables for Calculation Of Benthic Indices of Biotic Integrity and Aquatic Life Use Categories, and

Macroinvertebrate Species Lists

Summary of macroinvertebrate taxa collected at each site with tolerance values (TV) and functional feedings group(s) (FFG).

26-28 July 2010	CG = Collector-Gatherer; FC = Filter-Collector; P = Predator; SCR = Scraper; SHR = Shredder				
Station	**Parameter Code**	**Taxa**	**Count**	**TV**	**FFG**
20773	91590	*Isonychia sp.*	68	3	FC
	91651	*Fallceon sp.*	28	4	SCR/CG
	92292	*Cheumatopsyche sp.*	26	6	FC
	92233	*Heterelmis sp.*	25	4	SCR/CG
	92491	*Chironomidae*	15	6	P/CG/FC
	91619	*Stenacron sp.*	10	4	SCR/CG
	92296	*Hydropsyche sp.*	10	5	FC
	92308	*Smicridea sp.*	6	4	FC
	92253	*Stenelmis sp.*	5	7	SCR/CG
	92076	*Corydalus cornutus*	4	6	P
	91683	*Argia sp.*	3	6	P
	--	*Farrodes sp.*	3	--	CG
	91594	*Tricorythodes sp.*	2	5	CG
	92304	*Nectopsyche sp.*	2	3	SHR/CG/P
	91669	*Hetaerina sp.*	1	6	P
	92243	*Microcylloepus sp.*	1	2	SCR/CG
	92385	*Prosimulium sp.*	1	2	FC
	93037	*Corbicula fluminea*	1	6	FC
	--	*Camelobaetidius sp.*	1	--	CG
12980	92296	*Hydropsyche sp.*	51	5	FC
	92233	*Heterelmis sp.*	45	4	SCR/CG
	92292	*Cheumatopsyche sp.*	33	6	FC
	91590	*Isonychia sp.*	27	3	FC
	92308	*Smicridea sp.*	25	4	FC
	91651	*Fallceon sp.*	14	4	SCR/CG
	92253	*Stenelmis sp.*	12	7	SCR/CG
	91619	*Stenacron sp.*	6	4	SCR/CG
	91683	*Argia sp.*	2	6	P
	91728	*Ophiogomphus sp.*	2	6	P
	91730	*Progomphus sp.*	2	5	P
	92076	*Corydalus cornutus*	2	6	P
	92243	*Microcylloepus sp.*	2	2	SCR/CG
	92491	*Chironomidae*	2	6	P/CG/FC
	91923	*Rhagovelia sp.*	1	--	P
	92230	*Dubiraphia sp.*	1	5	SCR/CG
	92385	*Prosimulium sp.*	1	2	FC
	--	*Farrodes sp.*	1	--	CG

26-28 July 2010	CG = Collector-Gatherer; FC = Filter-Collector; P = Predator; SCR = Scraper; SHR = Shredder				
Station	**Parameter Code**	**Taxa**	**Count**	**TV**	**FFG**
20764	92292	*Cheumatopsyche sp.*	112	6	FC
	92090	*Dineutus sp.*	21	5	P
	91709	*Arigomphus sp.*	16	1	P
	91600	*Caenis sp.*	8	7	SCR/CG
	91683	*Argia sp.*	6	6	P
	--	*Hyallela sp.*	6	--	CG/SHR
	91730	*Progomphus sp.*	5	5	P
	90382	Oligochaeta	3	8	CG
	91651	*Fallceon sp.*	3	4	SCR/CG
	91669	*Hetaerina sp.*	3	6	P
	90913	Hirudinea	2	8	P
	92253	*Stenelmis sp.*	2	7	SCR/CG
	92308	*Smicridea sp.*	2	4	FC
	90291	Nematomorpha sp.	1	--	--
	91397	*Palaemonetes sp.*	1	4	CG
	91769	*Macromia sp.*	1	3	P
	92268	*Chimarra sp.*	1	2	FC
	92478	*Bezzia sp.*	1	7	P
	92491	Chironomidae	1	6	P/CG/FC
	92874	*Physella sp.*	1	9	SCR
	--	*Podocopida*	1	--	SCR/CG
	--	Sphaeriidae	1	--	FC
17900	92292	*Cheumatopsyche sp.*	55	6	FC
	92233	*Heterelmis sp.*	37	4	SCR/CG
	92491	Chironomidae	19	6	P/CG/FC
	93037	*Corbicula fluminea*	17	6	FC
	91683	*Argia sp.*	15	6	P
	--	*Farrodes sp.*	12	--	CG
	91713	*Erpetogomphus sp.*	11	1	P
	91730	*Progomphus sp.*	10	5	P
	91651	*Fallceon sp.*	6	4	SCR/CG
	91669	*Hetaerina sp.*	5	6	P
	91709	*Arigomphus sp.*	4	1	P
	92253	*Stenelmis sp.*	4	7	SCR/CG
	91594	*Tricorythodes sp.*	3	5	CG
	91619	*Stenacron sp.*	2	4	SCR/CG
	91923	*Rhagovelia sp.*	2	--	P
	92243	*Microcylloepus sp.*	2	2	SCR/CG
	92308	*Smicridea sp.*	2	4	FC
	--	*Hyallela sp.*	2	--	CG/SHR
	92385	*Prosimulium sp.*	1	2	FC

26-28 July 2010	CG = Collector-Gatherer; FC = Filter-Collector; P = Predator; SCR = Scraper; SHR = Shredder				
Station	**Parameter Code**	**Taxa**	**Count**	**TV**	**FFG**
20762	92292	*Cheumatopsyche sp.*	95	6	FC
	92491	Chironomidae	40	6	P/CG/FC
	93030	*Pisidium sp.*	24	5	SCR
	91651	*Fallceon sp.*	20	4	SCR/CG
	91600	*Caenis sp.*	13	7	SCR/CG
	92268	*Chimarra sp.*	12	2	FC
	90382	Oligochaeta	11	8	CG
	92253	*Stenelmis sp.*	10	7	SCR/CG
	--	*Hyallela sp.*	8	--	CG/SHR
	90913	Hirudinea	7	8	P
	91683	*Argia sp.*	6	6	P
	--	Planariidae	1	--	P
	92887	*Helisoma sp.*	1	7	SCR
	92385	*Prosimulium sp.*	1	2	FC
	91953	*Mesovelia*	1	--	P
	91728	*Ophiogomphus sp.*	1	6	P
	91713	*Erpetogomphus sp.*	1	1	P
	91619	*Stenacron sp.*	1	4	SCR/CG

18-20 April 2011	CG = Collector-Gatherer; FC = Filter-Collector; P = Predator; SCR = Scraper; SHR = Shredder				
Station	**Parameter Code**	**Taxa**	**Count**	**TV**	**FFG**
20773	92292	*Cheumatopsyche sp.*	59	6	FC
	92246	*Neoelmis sp.*	32	2	SCR/CG
	91590	*Isonychia sp.*	29	3	FC
	92296	*Hydropsyche sp.*	13	5	FC
	92253	*Stenelmis sp.*	10	7	SCR/CG
	92491	Chironomidae	8	6	P/CG/FC
	92217	*Helichus sp.*	8	4	SCR/CG
	93030	*Pisidium sp.*	8	7	SCR
	91713	*Erpetogomphus sp.*	7	1	P
	91923	*Rhagovelia sp.*	7	--	P
	92308	*Smicridea sp.*	6	4	FC
	91600	*Caenis sp.*	2	7	SCR/CG
	91651	*Fallceon sp.*	2	4	SCR/CG
	--	Crambidae	1	--	SHR
	--	*Maccaffertium sp.*	1	--	SCR/CG
	92243	*Microcylloepus sp.*	1	2	SCR/CG
	91919	*Microvelia sp.*	1	--	P
	--	*Neocorixa sp.*	1	--	P/CG
	--	*Paracymus sp.*	1	--	CG
	92100	*Peltodytes sp.*	1	8	SHR/P
	92365	*Setodes sp.*	1	2	CG/P
	91562	*Thraulodes sp.*	1	2	CG/SCR
12980	91590	*Isonychia sp.*	34	3	FC
	92296	*Hydropsyche sp.*	22	5	FC
	92246	*Neoelmis sp.*	17	2	SCR/CG
	93030	*Pisidium sp.*	17	7	SCR
	92253	*Stenelmis sp.*	14	7	SCR/CG
	92044	*Trichocorixa sp.*	13	--	P/CG
	91713	*Erpetogomphus sp.*	11	1	P
	92292	*Cheumatopsyche sp.*	9	6	FC
	92217	*Helichus sp.*	8	4	SCR/CG
	91669	*Hetaerina sp.*	7	6	P
	91923	*Rhagovelia sp.*	5	--	P
	92092	*Gyretes sp.*	3	6	P
	92233	*Heterelmis sp.*	3	4	SCR/CG
	91594	*Tricorythodes sp.*	3	5	CG
	91683	*Argia sp.*	2	6	P
	--	*Maccaffertium sp.*	2	--	SCR/CG
	92874	*Physella sp.*	2	9	SCR
	92304	*Nectopsyche sp.*	1	3	SHR/CG/P
	91428	*Orconectes sp.*	1	5	CG

18-20 April 2011	CG = Collector-Gatherer; FC = Filter-Collector; P = Predator; SCR = Scraper; SHR = Shredder				
Station	**Parameter Code**	**Taxa**	**Count**	**TV**	**FFG**
20764	92292	*Cheumatopsyche sp.*	139	6	FC
	92090	*Dineutus sp.*	10	5	P
	92874	*Physella sp.*	8	9	SCR
	92491	Chironomidae	4	6	P/CG/FC
	92044	*Trichocorixa sp.*	3	--	P/CG
	91409	Cambaridae	2	5	CG
	93037	*Corbicula fluminea*	2	6	FC
	91669	*Hetaerina sp.*	2	6	P
	91651	*Fallceon sp.*	1	4	SCR/CG
	92296	*Hydropsyche sp.*	1	5	FC
	90382	Oligochaeta	1	8	CG
	93030	*Pisidium sp.*	1	7	SCR
	91433	*Procambarus sp.*	1	9	CG
	91730	*Progomphus sp.*	1	5	P
	92002	*Ranatra sp.*	1	7	P
17900	92491	Chironomidae	45	6	P/CG/FC
	92292	*Cheumatopsyche sp.*	16	6	FC
	92233	*Heterelmis sp.*	16	4	SCR/CG
	93037	*Corbicula fluminea*	11	6	FC
	90075	*Dugesia sp.*	11	8	P
	91651	*Fallceon sp.*	10	4	SCR/CG
	92253	*Stenelmis sp.*	10	7	SCR/CG
	91683	*Argia sp.*	8	6	P
	91713	*Erpetogomphus sp.*	7	1	P
	92217	*Helichus sp.*	5	4	SCR/CG
	91669	*Hetaerina sp.*	3	6	P
	92611	*Nemotelus sp.*	3	--	CG
	90382	Oligochaeta	3	8	CG
	91397	*Palaemonetes sp.*	3	4	CG
	92470	*Pericoma sp.*	3	10	CG
	92230	*Dubiraphia sp.*	2	5	SCR/CG
	92478	*Bezzia sp.*	1	7	P
	--	*Bouchardina sp.*	1	--	CG
	--	*Hyallela sp.*	1	8	CG/SHR
	--	Hydroptilidae	1	--	SCR/CG
	91919	*Microvelia sp.*	1	--	P
	92246	*Neoelmis sp.*	1	2	SCR/CG
	92874	*Physella sp.*	1	9	SCR
	91730	*Progomphus sp.*	1	5	P

18-20 April 2011	CG = Collector-Gatherer; FC = Filter-Collector; P = Predator; SCR = Scraper; SHR = Shredder				
Station	**Parameter Code**	**Taxa**	**Count**	**TV**	**FFG**
20762	92292	*Cheumatopsyche sp.*	107	6	FC
	90382	Oligochaeta	15	8	CG
	93030	*Pisidium sp.*	14	7	SCR
	90075	*Dugesia sp.*	11	8	P
	92253	*Stenelmis sp.*	11	7	SCR/CG
	92491	Chironomidae	8	6	P/CG/FC
	--	*Hyallela sp.*	6	8	CG/SHR
	93037	*Corbicula fluminea*	5	6	FC
	91683	*Argia sp.*	3	6	P
	--	*Bouchardina sp.*	3	--	CG
	90913	Hirudinea	3	8	P
	91646	Baetidae	1	--	SCR/CG
	--	*Desmopachria sp.*	1	--	P
	91713	*Erpetogomphus sp.*	1	1	P
	91669	*Hetaerina sp.*	1	6	P
	92385	*Prosimulium sp.*	1	2	FC

11-13 July 2011	CG = Collector-Gatherer; FC = Filter-Collector; P = Predator; SCR = Scraper; SHR = Shredder				
Station	**Parameter Code**	**Taxa**	**Count**	**TV**	**FFG**
20773	92253	*Stenelmis sp.*	77	7	SCR/CG
	92246	*Neoelmis sp.*	15	2	SCR/CG
	92217	*Helichus sp.*	11	4	SCR/CG
	91923	*Rhagovelia sp.*	8	--	P
	91651	*Fallceon sp.*	5	4	SCR/CG
	91683	*Argia sp.*	4	6	P
	92491	Chironomidae	4	6	P/CG/FC
	92233	*Heterelmis sp.*	4	4	SCR/CG
	--	*Hyallela sp.*	3	8	CG/SHR
	90382	Oligochaeta	2	8	CG
	91400	*Palaemonetes kadiakensis*	2	4	CG
	91988	*Belostoma sp.*	1	10	P
	92076	*Corydalus cornutus*	1	6	P
	91713	*Erpetogomphus sp.*	1	1	P
	92165	*Hydrochus sp.*	1	--	SHR
	91590	*Isonychia sp.*	1	3	FC
	92243	*Microcylloepus sp.*	1	2	SCR/CG
	92874	*Physella sp.*	1	9	SCR
	92044	*Trichocorixa sp.*	1	--	P/CG
12980	92246	*Neoelmis sp.*	100	2	SCR/CG
	92253	*Stenelmis sp.*	32	7	SCR/CG
	91683	*Argia sp.*	29	6	P
	91718	*Gomphus sp.*	23	7	P
	92217	*Helichus sp.*	19	4	SCR/CG
	92233	*Heterelmis sp.*	19	4	SCR/CG
	92491	Chironomidae	11	6	P/CG/FC
	92044	*Trichocorixa sp.*	9	--	P/CG
	91730	*Progomphus sp.*	5	5	P
	92308	*Smicridea sp.*	4	4	FC
	91651	*Fallceon sp.*	3	4	SCR/CG
	--	*Monohelea sp.*	3	--	P
	91594	*Tricorythodes sp.*	3	5	CG
	91600	*Caenis sp.*	1	7	SCR/CG
	92292	*Cheumatopsyche sp.*	1	6	FC
	93037	*Corbicula fluminea*	1	6	FC
	92076	*Corydalus cornutus*	1	6	P
	91669	*Hetaerina sp.*	1	6	P
	--	*Hyallela sp.*	1	8	CG/SHR
	--	*Maccaffertium sp.*	1	--	SCR/CG
	92304	*Nectopsyche sp.*	1	3	SHR/CG/P
	91944	*Rheumatobates sp.*	1	--	P

11-13 July 2011	CG = Collector-Gatherer; FC = Filter-Collector; P = Predator; SCR = Scraper; SHR = Shredder				
17900	93037	*Corbicula fluminea*	143	6	FC
	91683	*Argia sp.*	14	6	P
	91661	*Farrodes texanus*	9	2	CG/SCR
	92217	*Helichus sp.*	8	4	SCR/CG
	92246	*Neoelmis sp.*	7	2	SCR/CG
	91923	*Rhagovelia sp.*	7	--	P
	92253	*Stenelmis sp.*	7	7	SCR/CG
	92292	*Cheumatopsyche sp.*	6	6	FC
	92233	*Heterelmis sp.*	6	4	SCR/CG
	90382	Oligochaeta	6	8	CG
	91713	*Erpetogomphus sp.*	5	1	P
	92243	*Microcylloepus sp.*	5	2	SCR/CG
	91730	*Progomphus sp.*	3	5	P
	92491	Chironomidae	2	6	P/CG/FC
	90075	*Dugesia sp.*	2	8	P
	91651	*Fallceon sp.*	2	4	SCR/CG
	--	*Pomatiopsis sp.*	2	--	SCR
	91594	*Tricorythodes sp.*	2	5	CG
	91709	*Arigomphus sp.*	1	1	P
	92100	*Peltodytes sp.*	1	8	SHR/P
	92874	*Physella sp.*	1	9	SCR
	92193	Staphylinidae	1	--	P
	--	*Stratiomys sp.*	1	--	CG/FC
	--	Tipulidae	1	--	SHR/CG
20762	--	*Hyallela sp.*	61	8	CG/SHR
	93037	*Corbicula fluminea*	39	6	FC
	92491	Chironomidae	19	6	P/CG/FC
	91600	*Caenis sp.*	18	7	SCR/CG
	92100	*Peltodytes sp.*	9	8	SHR/P
	--	*Biomphalaria sp.*	5	--	SCR
	90913	Hirudinea	3	8	P
	91683	*Argia sp.*	2	6	P
	92230	*Dubiraphia sp.*	2	5	SCR/CG
	91400	*Palaemonetes kadiakensis*	2	4	CG
	92874	*Physella sp.*	2	9	SCR
	92480	*Culicoides sp.*	1	7	P/CG
	--	*Elophila*	1	--	SHR
	91713	*Erpetogomphus sp.*	1	1	P
	91953	*Mesovelia*	1	--	P
	91827	*Perithemis sp.*	1	4	P
	92253	*Stenelmis sp.*	1	7	SCR/CG

Station 20773 Seg. 2107
Atascosa River @ CR 413
28 July 2010

Ecoregion 31

Metric	Value	Score
Taxa richness	19	3
EPT taxa abundance	10	4
Biotic index (HBI)	4.17	3
% Chironomidae	7.1	3
% Dominant taxa	32.1	2
% Dominant FFG	55.2	1
% Predators	6.4	4
Ratio of intolerant : tolerant taxa	2.9	2
% of Trichoptera as Hydropsychidae	95.5	1
# of non-insect taxa	1	1
% Collector-gatherers	20.6	3
% of total number as Elmidae	14.6	3
AQUATIC LIFE USE SCORE		**30**
AQUATIC LIFE USE RATING		**High**

Qualitative Sampling Scoring Criteria

Exceptional	>36
High	29 - 36
Intermediate	22 - 28
Limited	<22

Metric	Parameter Code	Value
Stream order	84161	6
Biological data reporting units	89899	1
Dip net, area swept (m^2)	89902	0
Kicknet, area kicked (m^2)	89903	3
Kicknet, minutes kicked	89904	5
Snag/Shore, minutes picked	89905	45
No. ind. in RBA subsample (±100)	89906	212
% Undercut bank at sample point	89921	Not Measured
% Overhanging brush at sample point	89922	Not Measured
% Gravel at sample point	89923	Not Measured
% Sand at sample point	89924	Not Measured
% Soft bottom at sample point	89925	Not Measured
% Macrophyte bed at sample point	89926	Not Measured
% Snags/brush at sample point	89927	Not Measured
% Bedrock at sample point	89928	Not Measured
Mesh size, sieve (cm)	89946	0.0425
Benthic sampler	89950	3
Ecoregion	89961	31
Benthos sampled--none present	90005	NA
Biotic index (HBI)	90007	4.17
EPT taxa abundance (# taxa)	90008	10
Dominant func. feed. group (% of total)	90010	55.2
Collector-gatherers (% of total)	90025	20.6
Predators (% of total)	90036	6.4
Dominant taxon (% of total)	90042	32.1
Ratio intolerant : tolerant	90050	2.9
Total # non-insect taxa	90052	1
Elmidae (% of total)	90054	14.6
Total taxa richness (# taxa)	90055	19
Chironomidae (% of total)	90062	7.1
% Trichoptera as Hydropsychidae	90069	95.5

Seg. 2107 **Species List - Benthic Macroinvertebrates - Kicknet** **28 July 2010**

Station 20773 Atascosa River @ CR 412

Parameter Code	Class	Order	Family	Genus / Species	Count
91590	Insecta	Ephemeroptera	Oligoneuriidae	*Isonychia sp.*	68
91651	Insecta	Ephemeroptera	Baetidae	*Fallceon sp.*	28
92292	Insecta	Trichoptera	Hydropsychidae	*Cheumatopsyche sp.*	26
92233	Insecta	Coleoptera	Elmidae	*Heterelmis sp.*	25
92491	Insecta	Diptera	Chironomidae	*Chironomidae*	15
92296	Insecta	Trichoptera	Hydropsychidae	*Hydropsyche sp.*	10
91619	Insecta	Ephemeroptera	Heptageniidae	*Stenacron sp.*	10
92308	Insecta	Trichoptera	Hydropsychidae	*Smicridea sp.*	6
92253	Insecta	Coleoptera	Elmidae	*Stenelmis sp.*	5
92076	Insecta	Megaloptera	Corydalidae	*Corydalus cornutus*	4
91683	Insecta	Odonata	Coenagrionidae	*Argia sp.*	3
--	Insecta	Ephemeroptera	Leptophlebiidae	*Farrodes sp.*	3
92304	Insecta	Trichoptera	Leptoceridae	*Nectopsyche sp.*	2
91594	Insecta	Ephemeroptera	Tricorythidae	*Tricorythodes sp.*	2
--	Insecta	Ephemeroptera	Baetidae	*Camelobaetidius sp.*	1
93037	Bivalvia	Heterodonta	Corbiculidae	*Corbicula fluminea*	1
91669	Insecta	Odonata	Calopterygidae	*Hetaerina sp.*	1
92243	Insecta	Coleoptera	Elmidae	*Microcylloepus sp.*	1
92385	Insecta	Diptera	Simuliidae	*Prosimulium sp.*	1

Station 12980 Seg. 2107
Atascosa River @ FM 99
28 July 2010

Ecoregion 31

Metric	Value	Score
Taxa richness	18	3
EPT taxa abundance	7	3
Biotic index (HBI)	4.57	2
% Chironomidae	0.9	4
% Dominant taxa	22.3	3
% Dominant FFG	60.1	1
% Predators	4.2	1
Ratio of intolerant : tolerant taxa	3.3	3
% of Trichoptera as Hydropsychidae	100.0	1
# of non-insect taxa	0	1
% Collector-gatherers	18.0	4
% of total number as Elmidae	26.2	2
AQUATIC LIFE USE SCORE		**28**
AQUATIC LIFE USE RATING		**Intermediate**

Qualitative Sampling Scoring Criteria

Exceptional	>36
High	29 - 36
Intermediate	22 - 28
Limited	<22

Metric	Parameter Code	Value
Stream order	84161	6
Biological data reporting units	89899	1
Dip net, area swept (m^2)	89902	0
Kicknet, area kicked (m^2)	89903	3
Kicknet, minutes kicked	89904	5
Snag/Shore, minutes picked	89905	40
No. ind. in RBA subsample (±100)	89906	229
% Undercut bank at sample point	89921	Not Measured
% Overhanging brush at sample point	89922	Not Measured
% Gravel at sample point	89923	Not Measured
% Sand at sample point	89924	Not Measured
% Soft bottom at sample point	89925	Not Measured
% Macrophyte bed at sample point	89926	Not Measured
% Snags/brush at sample point	89927	Not Measured
% Bedrock at sample point	89928	Not Measured
Mesh size, sieve (cm)	89946	0.0425
Benthic sampler	89950	3
Ecoregion	89961	31
Benthos sampled--none present	90005	NA
Biotic index (HBI)	90007	4.57
EPT taxa abundance (# taxa)	90008	7
Dominant func. feed. group (% of total)	90010	60.1
Collector-gatherers (% of total)	90025	18.0
Predators (% of total)	90036	4.2
Dominant taxon (% of total)	90042	22.3
Ratio intolerant : tolerant	90050	3.3
Total # non-insect taxa	90052	0
Elmidae (% of total)	90054	26.2
Total taxa richness (# taxa)	90055	18
Chironomidae (% of total)	90062	0.9
% Trichoptera as Hydropsychidae	90069	100.0

Seg. 2107 **Species List - Benthic Macroinvertebrates - Kicknet** **28 July 2010**

Station 12980 Atascosa River @ FM 99

Parameter Code	Class	Order	Family	Genus / Species	Count
92296	Insecta	Trichoptera	Hydropsychidae	*Hydropsyche sp.*	51
92233	Insecta	Coleoptera	Elmidae	*Heterelmis sp.*	45
92292	Insecta	Trichoptera	Hydropsychidae	*Cheumatopsyche sp.*	33
91590	Insecta	Ephemeroptera	Oligoneuriidae	*Isonychia sp.*	27
92308	Insecta	Trichoptera	Hydropsychidae	*Smicridea sp.*	25
91651	Insecta	Ephemeroptera	Baetidae	*Fallceon sp.*	14
92253	Insecta	Coleoptera	Elmidae	*Stenelmis sp.*	12
91619	Insecta	Ephemeroptera	Heptageniidae	*Stenacron sp.*	6
91683	Insecta	Odonata	Coenagrionidae	*Argia sp.*	2
92491	Insecta	Diptera	Chironomidae	Chironomidae	2
92076	Insecta	Megaloptera	Corydalidae	*Corydalus cornutus*	2
92243	Insecta	Coleoptera	Elmidae	*Microcylloepus sp.*	2
91728	Insecta	Odonata	Gomphidae	*Ophiogomphus sp.*	2
91730	Insecta	Odonata	Gomphidae	*Progomphus sp.*	2
92230	Insecta	Coleoptera	Elmidae	*Dubiraphia sp.*	1
--	Insecta	Ephemeroptera	Leptophlebiidae	*Farrodes sp.*	1
92385	Insecta	Diptera	Simuliidae	*Prosimulium sp.*	1
91923	Insecta	Hemiptera	Veliidae	*Rhagovelia sp.*	1

Station 20764 Seg. 2107
Atascosa River @ FM 541
27 July 2010

Ecoregion 31

Metric	Value	Score
Taxa richness	22	4
EPT taxa abundance	5	2
Biotic index (HBI)	5.22	2
% Chironomidae	0.5	1
% Dominant taxa	56.6	1
% Dominant FFG	58.8	1
% Predators	27.9	2
Ratio of intolerant : tolerant taxa	0.3	1
% of Trichoptera as Hydropsychidae	99.1	1
# of non-insect taxa	8	4
% Collector-gatherers	7.5	1
% of total number as Elmidae	1.0	4
AQUATIC LIFE USE SCORE		**24**
AQUATIC LIFE USE RATING		**Intermediate**

Qualitative Sampling Scoring Criteria

Exceptional	>36
High	29 - 36
Intermediate	22 - 28
Limited	<22

Metric	Parameter Code	Value
Stream order	84161	5
Biological data reporting units	89899	1
Dip net, area swept (m^2)	89902	0
Kicknet, area kicked (m^2)	89903	2
Kicknet, minutes kicked	89904	5
Snag/Shore, minutes picked	89905	80
No. ind. in RBA subsample (±100)	89906	198
% Undercut bank at sample point	89921	Not Measured
% Overhanging brush at sample point	89922	Not Measured
% Gravel at sample point	89923	Not Measured
% Sand at sample point	89924	Not Measured
% Soft bottom at sample point	89925	Not Measured
% Macrophyte bed at sample point	89926	Not Measured
% Snags/brush at sample point	89927	Not Measured
% Bedrock at sample point	89928	Not Measured
Mesh size, sieve (cm)	89946	0.0425
Benthic sampler	89950	3
Ecoregion	89961	31
Benthos sampled--none present	90005	NA
Biotic index (HBI)	90007	5.22
EPT taxa abundance (# taxa)	90008	5
Dominant func. feed. group (% of total)	90010	58.8
Collector-gatherers (% of total)	90025	7.5
Predators (% of total)	90036	27.9
Dominant taxon (% of total)	90042	56.6
Ratio intolerant : tolerant	90050	0.3
Total # non-insect taxa	90052	8
Elmidae (% of total)	90054	1.0
Total taxa richness (# taxa)	90055	22
Chironomidae (% of total)	90062	0.5
% Trichoptera as Hydropsychidae	90069	99.1

Seg. 2107 **Species List - Benthic Macroinvertebrates - Kicknet** **27 July 2010**

Station 20764 Atascosa River @ FM 541

Parameter Code	Class	Order	Family	Genus / Species	Count
92292	Insecta	Trichoptera	Hydropsychidae	*Cheumatopsyche sp.*	112
92090	Insecta	Coleoptera	Gyrinidae	*Dineutus sp.*	21
91709	Insecta	Odonata	Gomphidae	*Arigomphus sp.*	16
91600	Insecta	Ephemeroptera	Caenidae	*Caenis sp.*	8
91683	Insecta	Odonata	Coenagrionidae	*Argia sp.*	6
--	Malacostraca	Amphipoda	Hyalellidae	*Hyalella sp.*	6
91730	Insecta	Odonata	Gomphidae	*Progomphus sp.*	5
91651	Insecta	Ephemeroptera	Baetidae	*Fallceon sp.*	3
91669	Insecta	Odonata	Calopterygidae	*Hetaerina sp.*	3
90382	Clitellata	Oligochaeta[1]	--	--	3
90913	Clitellata	Hirudinea[1]	--	--	2
92308	Insecta	Trichoptera	Hydropsychidae	*Smicridea sp.*	2
92253	Insecta	Coleoptera	Elmidae	*Stenelmis sp.*	2
92478	Insecta	Diptera	Ceratopogonidae	*Bezzia sp.*	1
92268	Insecta	Trichoptera	Philopotamidae	*Chimarra sp.*	1
92491	Insecta	Diptera	Chironomidae	Chironomidae	1
91769	Insecta	Odonata	Macromiidae	*Macromia sp.*	1
90291	Nematomorpha[2]	--	--	--	1
91397	Malacostraca	Decapoda	Palaemonidae	*Palaemonetes sp.*	1
92874	Gastropoda	Limnophila	Physidae	*Physella sp.*	1
--	Ostracoda	Podocopida	--	--	1
--	Bivalvia	Veneroida	Sphaeriidae	--	1

[1] Sub-class

[2] Phylum

Station 17900 Seg. 2107
Atascosa River @ IH 37
27 July 2010

Ecoregion 31 or 33

Metric	Value	Score
Taxa richness	19	3
EPT taxa abundance	6	2
Biotic index (HBI)	4.63	2
% Chironomidae	9.1	3
% Dominant taxa	26.3	3
% Dominant FFG	38.9	3
% Predators	25.5	3
Ratio of intolerant : tolerant taxa	0.8	1
% of Trichoptera as Hydropsychidae	100.0	1
# of non-insect taxa	2	2
% Collector-gatherers	20.0	3
% of total number as Elmidae	20.6	2
AQUATIC LIFE USE SCORE		**28**
AQUATIC LIFE USE RATING		**Intermediate**

Qualitative Sampling Scoring Criteria

Exceptional	>36
High	29 - 36
Intermediate	22 - 28
Limited	<22

Metric	Parameter Code	Value
Stream order	84161	5
Biological data reporting units	89899	1
Dip net, area swept (m^2)	89902	0
Kicknet, area kicked (m^2)	89903	2
Kicknet, minutes kicked	89904	5
Snag/Shore, minutes picked	89905	45
No. ind. in RBA subsample (±100)	89906	209
% Undercut bank at sample point	89921	Not Measured
% Overhanging brush at sample point	89922	Not Measured
% Gravel at sample point	89923	Not Measured
% Sand at sample point	89924	Not Measured
% Soft bottom at sample point	89925	Not Measured
% Macrophyte bed at sample point	89926	Not Measured
% Snags/brush at sample point	89927	Not Measured
% Bedrock at sample point	89928	Not Measured
Mesh size, sieve (cm)	89946	0.0425
Benthic sampler	89950	3
Ecoregion	89961	31 or 33
Benthos sampled--none present	90005	NA
Biotic index (HBI)	90007	4.63
EPT taxa abundance (# taxa)	90008	6
Dominant func. feed. group (% of total)	90010	38.9
Collector-gatherers (% of total)	90025	20.0
Predators (% of total)	90036	25.5
Dominant taxon (% of total)	90042	26.3
Ratio intolerant : tolerant	90050	0.8
Total # non-insect taxa	90052	2
Elmidae (% of total)	90054	20.6
Total taxa richness (# taxa)	90055	19
Chironomidae (% of total)	90062	9.1
% Trichoptera as Hydropsychidae	90069	100.0

Seg. 2107 **Species List - Benthic Macroinvertebrates - Kicknet** **27 July 2010**

Station 17900 Atascosa River @ IH 37

Parameter Code	Class	Order	Family	Genus / Species	Count
92292	Insecta	Trichoptera	Hydropsychidae	*Cheumatopsyche sp.*	55
92233	Insecta	Coleoptera	Elmidae	*Heterelmis sp.*	37
92491	Insecta	Diptera	Chironomidae	Chironomidae	19
93037	Bivalvia	Heterodonta	Corbiculidae	*Corbicula fluminea*	17
91683	Insecta	Odonata	Coenagrionidae	*Argia sp.*	15
--	Insecta	Ephemeroptera	Leptophlebiidae	*Farrodes sp.*	12
91713	Insecta	Odonata	Gomphidae	*Erpetogomphus sp.*	11
91730	Insecta	Odonata	Gomphidae	*Progomphus sp.*	10
91651	Insecta	Ephemeroptera	Baetidae	*Fallceon sp.*	6
91669	Insecta	Odonata	Calopterygidae	*Hetaerina sp.*	5
91709	Insecta	Odonata	Gomphidae	*Arigomphus sp.*	4
92253	Insecta	Coleoptera	Elmidae	*Stenelmis sp.*	4
91594	Insecta	Ephemeroptera	Tricorythidae	*Tricorythodes sp.*	3
--	Malacostraca	Amphipoda	Hyalellidae	*Hyallela sp.*	2
92243	Insecta	Coleoptera	Elmidae	*Microcylloepus sp.*	2
91923	Insecta	Hemiptera	Veliidae	*Rhagovelia sp.*	2
92308	Insecta	Trichoptera	Hydropsychidae	*Smicridea sp.*	2
91619	Insecta	Ephemeroptera	Heptageniidae	*Stenacron sp.*	2
92385	Insecta	Diptera	Simuliidae	*Prosimulium sp.*	1

Station 20762 Seg. 2107
Atascosa River @ Granato Road
26 July 2010

Ecoregion 33

Metric	Value	Score
Taxa richness	18	3
EPT taxa abundance	5	2
Biotic index (HBI)	5.51	1
% Chironomidae	15.8	2
% Dominant taxa	37.5	2
% Dominant FFG	47.9	2
% Predators	6.7	4
Ratio of intolerant : tolerant taxa	0.2	1
% of Trichoptera as Hydropsychidae	88.8	1
# of non-insect taxa	6	4
% Collector-gatherers	19.8	3
% of total number as Elmidae	4.0	4
AQUATIC LIFE USE SCORE		**29**
AQUATIC LIFE USE RATING		**High**

Qualitative Sampling Scoring Criteria

Exceptional	>36
High	29 - 36
Intermediate	22 - 28
Limited	<22

Metric	Parameter Code	Value
Stream order	84161	4
Biological data reporting units	89899	1
Dip net, area swept (m^2)	89902	0
Kicknet, area kicked (m^2)	89903	2
Kicknet, minutes kicked	89904	5
Snag/Shore, minutes picked	89905	30
No. ind. in RBA subsample (±100)	89906	253
% Undercut bank at sample point	89921	Not Measured
% Overhanging brush at sample point	89922	Not Measured
% Gravel at sample point	89923	Not Measured
% Sand at sample point	89924	Not Measured
% Soft bottom at sample point	89925	Not Measured
% Macrophyte bed at sample point	89926	Not Measured
% Snags/brush at sample point	89927	Not Measured
% Bedrock at sample point	89928	Not Measured
Mesh size, sieve (cm)	89946	0.0425
Benthic sampler	89950	3
Ecoregion	89961	33
Benthos sampled--none present	90005	NA
Biotic index (HBI)	90007	5.51
EPT taxa abundance (# taxa)	90008	5
Dominant func. feed. group (% of total)	90010	47.9
Collector-gatherers (% of total)	90025	19.8
Predators (% of total)	90036	6.7
Dominant taxon (% of total)	90042	37.5
Ratio intolerant : tolerant	90050	0.2
Total # non-insect taxa	90052	6
Elmidae (% of total)	90054	4.0
Total taxa richness (# taxa)	90055	18
Chironomidae (% of total)	90062	15.8
% Trichoptera as Hydropsychidae	90069	88.8

Seg. 2107 **Species List - Benthic Macroinvertebrates - Kicknet** **26 July 2010**

Station 20762 Atascosa River @ Granato Road

Parameter Code	Class	Order	Family	Genus / Species	Count
92292	Insecta	Trichoptera	Hydropsychidae	*Cheumatopsyche sp.*	95
92491	Insecta	Diptera	Chironomidae	*Chironomidae*	40
93030	Bivalvia	Heterodonta	Sphaeriidae	Pisidium sp.	24
91651	Insecta	Ephemeroptera	Baetidae	*Fallceon sp.*	20
91600	Insecta	Ephemeroptera	Caenidae	*Caenis sp.*	13
92268	Insecta	Trichoptera	Philopotamidae	*Chimarra sp.*	12
90382	Clitellata	Oligochaeta[1]	--	--	11
92253	Insecta	Coleoptera	Elmidae	*Stenelmis sp.*	10
--	Malacostraca	Amphipoda	Hyalellidae	*Hyalella sp.*	8
90913	Clitellata	Hirudinea[1]	--	--	7
91683	Insecta	Odonata	Coenagrionidae	*Argia sp.*	6
91713	Insecta	Odonata	Gomphidae	*Erpetogomphus sp.*	1
92887	Gastropoda	Limnophila	Planorbidae	*Helisoma sp.*	1
91953	Insecta	Hemiptera	Mesoveliidae	*Mesovelia*	1
91728	Insecta	Odonata	Gomphidae	*Ophiogomphus sp.*	1
--	Turbellaria	Tricladida	Planaridae	--	1
92385	Insecta	Diptera	Simuliidae	*Prosimulium sp.*	1
91619	Insecta	Ephemeroptera	Heptageniidae	*Stenacron sp.*	1

Station 20773 Seg. 2107
Atascosa River @ CR 413
19 April 2011

Ecoregion 31

Metric	Value	Score
Taxa richness	22	4
EPT taxa abundance	9	3
Biotic index (HBI)	4.22	3
% Chironomidae	4.0	4
% Dominant taxa	29.5	3
% Dominant FFG	54.8	1
% Predators	9.6	4
Ratio of intolerant : tolerant taxa	1.1	1
% of Trichoptera as Hydropsychidae	98.7	1
# of non-insect taxa	1	1
% Collector-gatherers	16.6	4
% of total number as Elmidae	21.5	2
AQUATIC LIFE USE SCORE		**31**
AQUATIC LIFE USE RATING		**High**

Qualitative Sampling Scoring Criteria

Exceptional	>36
High	29 - 36
Intermediate	22 - 28
Limited	<22

Metric	Parameter Code	Value
Stream order	84161	6
Biological data reporting units	89899	1
Dip net, area swept (m^2)	89902	0
Kicknet, area kicked (m^2)	89903	3
Kicknet, minutes kicked	89904	5
Snag/Shore, minutes picked	89905	35
No. ind. in RBA subsample (±100)	89906	200
% Undercut bank at sample point	89921	Not Measured
% Overhanging brush at sample point	89922	Not Measured
% Gravel at sample point	89923	Not Measured
% Sand at sample point	89924	Not Measured
% Soft bottom at sample point	89925	Not Measured
% Macrophyte bed at sample point	89926	Not Measured
% Snags/brush at sample point	89927	Not Measured
% Bedrock at sample point	89928	Not Measured
Mesh size, sieve (cm)	89946	0.0425
Benthic sampler	89950	3
Ecoregion	89961	31
Benthos sampled--none present	90005	NA
Biotic index (HBI)	90007	4.22
EPT taxa abundance (# taxa)	90008	9
Dominant func. feed. group (% of total)	90010	54.8
Collector-gatherers (% of total)	90025	16.6
Predators (% of total)	90036	9.6
Dominant taxon (% of total)	90042	29.5
Ratio intolerant : tolerant	90050	1.1
Total # non-insect taxa	90052	1
Elmidae (% of total)	90054	21.5
Total taxa richness (# taxa)	90055	22
Chironomidae (% of total)	90062	4.0
% Trichoptera as Hydropsychidae	90069	98.7

Seg. 2107 **Species List - Benthic Macroinvertebrates - Kicknet** **19 April 2011**

Station 20773 Atascosa River @ CR 412

Parameter Code	Class	Order	Family	Genus / Species	Count
92292	Insecta	Trichoptera	Hydropsychidae	*Cheumatopsyche sp.*	59
92246	Insecta	Coleoptera	Elmidae	*Neoelmis sp.*	32
91590	Insecta	Ephemeroptera	Oligoneuriidae	*Isonychia sp.*	29
92296	Insecta	Trichoptera	Hydropsychidae	*Hydropsyche sp.*	13
92253	Insecta	Coleoptera	Elmidae	*Stenelmis sp.*	10
92491	Insecta	Diptera	Chironomidae	Chironomidae	8
92217	Insecta	Coleoptera	Dryopidae	*Helichus sp.*	8
93030	Bivalvia	Heterodonta	Sphaeriidae	*Pisidium sp.*	8
91713	Insecta	Odonata	Gomphidae	*Erpetogomphus sp.*	7
91923	Insecta	Hemiptera	Veliidae	*Rhagovelia sp.*	7
92308	Insecta	Trichoptera	Hydropsychidae	*Smicridea sp.*	6
91600	Insecta	Ephemeroptera	Caenidae	*Caenis sp.*	2
91651	Insecta	Ephemeroptera	Baetidae	*Fallceon sp.*	2
--	Insecta	Lepidoptera	Crambidae	--	1
--	Insecta	Ephemeroptera	Baetidae	*Maccaffertium sp.*	1
92243	Insecta	Coleoptera	Elmidae	*Microcylloepus sp.*	1
91919	Insecta	Hemiptera	Veliidae	*Microvelia sp.*	1
--	Insecta	Hemiptera	Corixidae	*Neocorixa sp.*	1
--	Insecta	Coleoptera	Hydrophilidae	*Paracymus sp.*	1
92100	Insecta	Coleoptera	Haliplidae	*Peltodytes sp.*	1
92365	Insecta	Trichoptera	Leptoceridae	*Setodes sp.*	1
91562	Insecta	Ephemeroptera	Leptophlebiidae	*Thraulodes sp.*	1

Station 12980 Seg. 2107
Atascosa River @ FM 99
19 April 2011

Ecoregion 31

Metric	Value	Score
Taxa richness	19	3
EPT taxa abundance	6	2
Biotic index (HBI)	3.94	3
% Chironomidae	0.0	1
% Dominant taxa	19.5	4
% Dominant FFG	37.4	3
% Predators	20.0	3
Ratio of intolerant : tolerant taxa	1.9	2
% of Trichoptera as Hydropsychidae	96.9	1
# of non-insect taxa	3	2
% Collector-gatherers	18.9	4
% of total number as Elmidae	19.5	3
AQUATIC LIFE USE SCORE		**31**
AQUATIC LIFE USE RATING		**High**

Qualitative Sampling Scoring Criteria

Exceptional	>36
High	29 - 36
Intermediate	22 - 28
Limited	<22

Metric	Parameter Code	Value
Stream order	84161	6
Biological data reporting units	89899	1
Dip net, area swept (m^2)	89902	0
Kicknet, area kicked (m^2)	89903	4
Kicknet, minutes kicked	89904	5
Snag/Shore, minutes picked	89905	40
No. ind. in RBA subsample (±100)	89906	174
% Undercut bank at sample point	89921	Not Measured
% Overhanging brush at sample point	89922	Not Measured
% Gravel at sample point	89923	Not Measured
% Sand at sample point	89924	Not Measured
% Soft bottom at sample point	89925	Not Measured
% Macrophyte bed at sample point	89926	Not Measured
% Snags/brush at sample point	89927	Not Measured
% Bedrock at sample point	89928	Not Measured
Mesh size, sieve (cm)	89946	0.0425
Benthic sampler	89950	3
Ecoregion	89961	31
Benthos sampled--none present	90005	NA
Biotic index (HBI)	90007	3.94
EPT taxa abundance (# taxa)	90008	6
Dominant func. feed. group (% of total)	90010	37.4
Collector-gatherers (% of total)	90025	18.9
Predators (% of total)	90036	20.0
Dominant taxon (% of total)	90042	19.5
Ratio intolerant : tolerant	90050	1.9
Total # non-insect taxa	90052	3
Elmidae (% of total)	90054	19.5
Total taxa richness (# taxa)	90055	19
Chironomidae (% of total)	90062	0.0
% Trichoptera as Hydropsychidae	90069	96.9

Seg. 2107 **Species List - Benthic Macroinvertebrates - Kicknet** **19 April 11**

Station 12980 Atascosa River @ FM 99

Parameter Code	Class	Order	Family	Genus / Species	Count
91590	Insecta	Ephemeroptera	Oligoneuriidae	*Isonychia sp.*	34
92296	Insecta	Trichoptera	Hydropsychidae	*Hydropsyche sp.*	22
92246	Insecta	Coleoptera	Elmidae	*Neoelmis sp.*	17
93030	Bivalvia	Heterodonta	Sphaeriidae	*Pisidium sp.*	17
92253	Insecta	Coleoptera	Elmidae	*Stenelmis sp.*	14
92044	Insecta	Hemiptera	Corixidae	*Trichocorixa sp.*	13
91713	Insecta	Odonata	Gomphidae	*Erpetogomphus sp.*	11
92292	Insecta	Trichoptera	Hydropsychidae	*Cheumatopsyche sp.*	9
92217	Insecta	Coleoptera	Dryopidae	*Helichus sp.*	8
91669	Insecta	Odonata	Calopterygidae	*Hetaerina sp.*	7
91923	Insecta	Hemiptera	Veliidae	*Rhagovelia sp.*	5
92092	Insecta	Coleoptera	Gyrinidae	*Gyretes sp.*	3
92233	Insecta	Coleoptera	Elmidae	*Heterelmis sp.*	3
91594	Insecta	Ephemeroptera	Tricorythidae	*Tricorythodes sp.*	3
91683	Insecta	Odonata	Coenagrionidae	*Argia sp.*	2
--	Insecta	Ephemeroptera	Baetidae	*Maccaffertium sp.*	2
92874	Gastropoda	Limnophila	Physidae	*Physella sp.*	2
92304	Insecta	Trichoptera	Leptoceridae	*Nectopsyche sp.*	1
91428	Malacostraca	Decapoda	Cambaridae	*Orconectes sp.*	1

Station 20764 Seg. 2107
Atascosa River @ FM 541
20 April 2011

Ecoregion 31

Metric	Value	Score
Taxa richness	15	3
EPT taxa abundance	3	1
Biotic index (HBI)	5.98	1
% Chironomidae	2.3	4
% Dominant taxa	78.5	1
% Dominant FFG	81.0	1
% Predators	9.5	4
Ratio of intolerant : tolerant taxa	0.1	1
% of Trichoptera as Hydropsychidae	100.0	1
# of non-insect taxa	6	4
% Collector-gatherers	4.1	1
% of total number as Elmidae	0.0	1
AQUATIC LIFE USE SCORE		**23**
AQUATIC LIFE USE RATING		**Intermediate**

Qualitative Sampling Scoring Criteria

Exceptional	>36
High	29 - 36
Intermediate	22 - 28
Limited	<22

Metric	Parameter Code	Value
Stream order	84161	5
Biological data reporting units	89899	1
Dip net, area swept (m^2)	89902	0
Kicknet, area kicked (m^2)	89903	7
Kicknet, minutes kicked	89904	5
Snag/Shore, minutes picked	89905	45
No. ind. in RBA subsample (±100)	89906	177
% Undercut bank at sample point	89921	Not Measured
% Overhanging brush at sample point	89922	Not Measured
% Gravel at sample point	89923	Not Measured
% Sand at sample point	89924	Not Measured
% Soft bottom at sample point	89925	Not Measured
% Macrophyte bed at sample point	89926	Not Measured
% Snags/brush at sample point	89927	Not Measured
% Bedrock at sample point	89928	Not Measured
Mesh size, sieve (cm)	89946	0.0425
Benthic sampler	89950	3
Ecoregion	89961	31
Benthos sampled--none present	90005	NA
Biotic index (HBI)	90007	5.98
EPT taxa abundance (# taxa)	90008	3
Dominant func. feed. group (% of total)	90010	81.0
Collector-gatherers (% of total)	90025	4.1
Predators (% of total)	90036	9.5
Dominant taxon (% of total)	90042	78.5
Ratio intolerant : tolerant	90050	0.1
Total # non-insect taxa	90052	6
Elmidae (% of total)	90054	0.0
Total taxa richness (# taxa)	90055	15
Chironomidae (% of total)	90062	2.3
% Trichoptera as Hydropsychidae	90069	100.0

Seg. 2107 **Species List - Benthic Macroinvertebrates - Kicknet** **20 April 2011**

Station 20764 Atascosa River @ FM 541

Parameter Code	Class	Order	Family	Genus / Species	Count
92292	Insecta	Trichoptera	Hydropsychidae	*Cheumatopsyche sp.*	139
92090	Insecta	Coleoptera	Gyrinidae	*Dineutus sp.*	10
92874	Gastropoda	Limnophila	Physidae	*Physella sp.*	8
92491	Insecta	Diptera	Chironomidae	Chironomidae	4
92044	Insecta	Hemiptera	Corixidae	*Trichocorixa sp.*	3
91409	Malacostraca	Decapoda	Cambaridae	Cambaridae	2
93037	Bivalvia	Heterodonta	Corbiculidae	*Corbicula fluminea*	2
91669	Insecta	Odonata	Calopterygidae	*Hetaerina sp.*	2
91651	Insecta	Ephemeroptera	Baetidae	*Fallceon sp.*	1
92296	Insecta	Trichoptera	Hydropsychidae	*Hydropsyche sp.*	1
90382	Clitellata	Oligochaeta[1]	--	--	1
93030	Bivalvia	Heterodonta	Sphaeriidae	*Pisidium sp.*	1
91433	Malacostraca	Decapoda	Cambaridae	*Procambarus sp.*	1
91730	Insecta	Odonata	Gomphidae	*Progomphus sp.*	1
92002	Insecta	Hemiptera	Nepidae	*Ranatra sp.*	1

[1] Sub-class

Station 17900 Seg. 2107
Atascosa River @ IH 37
20 April 2011

Ecoregion 31 or 33

Metric	Value	Score
Taxa richness	24	4
EPT taxa abundance	3	1
Biotic index (HBI)	5.42	1
% Chironomidae	27.4	1
% Dominant taxa	27.4	3
% Dominant FFG	31.0	4
% Predators	28.6	2
Ratio of intolerant : tolerant taxa	0.4	1
% of Trichoptera as Hydropsychidae	94.1	1
# of non-insect taxa	7	4
% Collector-gatherers	31.0	2
% of total number as Elmidae	17.7	3
AQUATIC LIFE USE SCORE		**27**
AQUATIC LIFE USE RATING		**Intermediate**

Qualitative Sampling Scoring Criteria

Exceptional	>36
High	29 - 36
Intermediate	22 - 28
Limited	<22

Metric	Parameter Code	Value
Stream order	84161	5
Biological data reporting units	89899	1
Dip net, area swept (m^2)	89902	0
Kicknet, area kicked (m^2)	89903	3
Kicknet, minutes kicked	89904	5
Snag/Shore, minutes picked	89905	50
No. ind. in RBA subsample (±100)	89906	164
% Undercut bank at sample point	89921	Not Measured
% Overhanging brush at sample point	89922	Not Measured
% Gravel at sample point	89923	Not Measured
% Sand at sample point	89924	Not Measured
% Soft bottom at sample point	89925	Not Measured
% Macrophyte bed at sample point	89926	Not Measured
% Snags/brush at sample point	89927	Not Measured
% Bedrock at sample point	89928	Not Measured
Mesh size, sieve (cm)	89946	0.0425
Benthic sampler	89950	3
Ecoregion	89961	31 or 33
Benthos sampled--none present	90005	NA
Biotic index (HBI)	90007	5.42
EPT taxa abundance (# taxa)	90008	3
Dominant func. feed. group (% of total)	90010	31.0
Collector-gatherers (% of total)	90025	31.0
Predators (% of total)	90036	28.6
Dominant taxon (% of total)	90042	27.4
Ratio intolerant : tolerant	90050	0.4
Total # non-insect taxa	90052	7
Elmidae (% of total)	90054	17.7
Total taxa richness (# taxa)	90055	24
Chironomidae (% of total)	90062	27.4
% Trichoptera as Hydropsychidae	90069	94.1

Seg. 2107 **Species List - Benthic Macroinvertebrates - Kicknet** **20 April 2011**

Station 17900 Atascosa River @ IH 37

Parameter Code	Class	Order	Family	Genus / Species	Count
92491	Insecta	Diptera	Chironomidae	Chironomidae	45
92292	Insecta	Trichoptera	Hydropsychidae	*Cheumatopsyche sp.*	16
92233	Insecta	Coleoptera	Elmidae	*Heterelmis sp.*	16
93037	Bivalvia	Heterodonta	Corbiculidae	*Corbicula fluminea*	11
90075	Turbellaria	Tricladida	Planariidae	*Dugesia sp.*	11
91651	Insecta	Ephemeroptera	Baetidae	*Fallceon sp.*	10
92253	Insecta	Coleoptera	Elmidae	*Stenelmis sp.*	10
91683	Insecta	Odonata	Coenagrionidae	*Argia sp.*	8
91713	Insecta	Odonata	Gomphidae	*Erpetogomphus sp.*	7
92217	Insecta	Coleoptera	Dryopidae	*Helichus sp.*	5
91669	Insecta	Odonata	Calopterygidae	*Hetaerina sp.*	3
92611	Insecta	Diptera	Stratiomyidae	*Nemotelus sp.*	3
90382	Clitellata	Oligochaeta[1]	--	--	3
91397	Malacostraca	Decapoda	Palaemonidae	*Palaemonetes sp.*	3
92470	Insecta	Diptera	Psychodidae	*Pericoma sp.*	3
92230	Insecta	Coleoptera	Elmidae	*Dubiraphia sp.*	2
92478	Insecta	Diptera	Ceratopogonidae	*Bezzia sp.*	1
--	Malacostraca	Decapoda	Cambaridae	*Bouchardina sp.*	1
--	Malacostraca	Amphipoda	Hyalellidae	*Hyalella sp.*	1
--	Insecta	Trichoptera	Hydroptilidae	--	1
91919	Insecta	Hemiptera	Veliidae	*Microvelia sp.*	1
92246	Insecta	Coleoptera	Elmidae	*Neoelmis sp.*	1
92874	Gastropoda	Limnophila	Physidae	*Physella sp.*	1
91730	Insecta	Odonata	Gomphidae	*Progomphus sp.*	1

Station 20762 Seg. 2107
Atascosa River @ Granato Road
18 April 2011

Ecoregion 33

Metric	Value	Score
Taxa richness	16	3
EPT taxa abundance	2	1
Biotic index (HBI)	6.26	1
% Chironomidae	4.2	3
% Dominant taxa	56.0	1
% Dominant FFG	60.5	1
% Predators	11.9	4
Ratio of intolerant : tolerant taxa	0.0	1
% of Trichoptera as Hydropsychidae	100.0	1
# of non-insect taxa	7	4
% Collector-gatherers	15.5	4
% of total number as Elmidae	5.8	4
AQUATIC LIFE USE SCORE		**28**
AQUATIC LIFE USE RATING		**Intermediate**

Qualitative Sampling Scoring Criteria

Exceptional	>36
High	29 - 36
Intermediate	22 - 28
Limited	<22

Metric	Parameter Code	Value
Stream order	84161	4
Biological data reporting units	89899	1
Dip net, area swept (m^2)	89902	0
Kicknet, area kicked (m^2)	89903	3
Kicknet, minutes kicked	89904	5
Snag/Shore, minutes picked	89905	30
No. ind. in RBA subsample (±100)	89906	191
% Undercut bank at sample point	89921	Not Measured
% Overhanging brush at sample point	89922	Not Measured
% Gravel at sample point	89923	Not Measured
% Sand at sample point	89924	Not Measured
% Soft bottom at sample point	89925	Not Measured
% Macrophyte bed at sample point	89926	Not Measured
% Snags/brush at sample point	89927	Not Measured
% Bedrock at sample point	89928	Not Measured
Mesh size, sieve (cm)	89946	0.0425
Benthic sampler	89950	3
Ecoregion	89961	33
Benthos sampled--none present	90005	NA
Biotic index (HBI)	90007	6.26
EPT taxa abundance (# taxa)	90008	2
Dominant func. feed. group (% of total)	90010	60.5
Collector-gatherers (% of total)	90025	15.5
Predators (% of total)	90036	11.9
Dominant taxon (% of total)	90042	56.0
Ratio intolerant : tolerant	90050	0.0
Total # non-insect taxa	90052	7
Elmidae (% of total)	90054	5.8
Total taxa richness (# taxa)	90055	16
Chironomidae (% of total)	90062	4.2
% Trichoptera as Hydropsychidae	90069	100.0

Seg. 2107 **Species List - Benthic Macroinvertebrates - Kicknet** **18 April 2011**
Station 20762 Atascosa River @ Granato Road

Parameter Code	Class	Order	Family	Genus / Species	Count
92292	Insecta	Trichoptera	Hydropsychidae	*Cheumatopsyche sp.*	107
90382	Clitellata	Oligochaeta[1]	--	--	15
93030	Bivalvia	Heterodonta	Sphaeriidae	*Pisidium sp.*	14
90075	Turbellaria	Tricladida	Planariidae	*Dugesia sp.*	11
92253	Insecta	Coleoptera	Elmidae	*Stenelmis sp.*	11
92491	Insecta	Diptera	Chironomidae	Chironomidae	8
--	Malacostraca	Amphipoda	Hyalellidae	*Hyalella sp.*	6
93037	Bivalvia	Heterodonta	Corbiculidae	*Corbicula fluminea*	5
91683	Insecta	Odonata	Coenagrionidae	*Argia sp.*	3
--	Malacostraca	Decapoda	Cambaridae	*Bouchardina sp.*	3
90913	Clitellata	Hirudinea[1]	--	--	3
91646	Insecta	Ephemeroptera	Baetidae	Baetidae	1
--	Insecta	Coleoptera	Dytiscidae	*Desmopachria sp.*	1
91713	Insecta	Odonata	Gomphidae	*Erpetogomphus sp.*	1
91669	Insecta	Odonata	Calopterygidae	*Hetaerina sp.*	1
92385	Insecta	Diptera	Simuliidae	*Prosimulium sp.*	1

[1] Sub-class

Station 20773 Seg. 2107
Atascosa River @ CR 413
12 July 2011

Ecoregion 31

Metric	Value	Score
Taxa richness	19	3
EPT taxa abundance	2	1
Biotic index (HBI)	5.43	1
% Chironomidae	2.8	4
% Dominant taxa	53.8	1
% Dominant FFG	44.6	3
% Predators	11.8	4
Ratio of intolerant : tolerant taxa	0.4	1
% of Trichoptera as Hydropsychidae	0.0	1
# of non-insect taxa	4	3
% Collector-gatherers	44.6	1
% of total number as Elmidae	67.8	1
AQUATIC LIFE USE SCORE		**24**
AQUATIC LIFE USE RATING		**Intermediate**

Qualitative Sampling Scoring Criteria

Exceptional	>36
High	29 - 36
Intermediate	22 - 28
Limited	<22

Metric	Parameter Code	Value
Stream order	84161	6
Biological data reporting units	89899	1
Dip net, area swept (m^2)	89902	0
Kicknet, area kicked (m^2)	89903	3
Kicknet, minutes kicked	89904	5
Snag/Shore, minutes picked	89905	25
No. ind. in RBA subsample (±100)	89906	143
% Undercut bank at sample point	89921	0
% Overhanging brush at sample point	89922	0
% Gravel at sample point	89923	50
% Sand at sample point	89924	15
% Soft bottom at sample point	89925	0
% Macrophyte bed at sample point	89926	0
% Snags/brush at sample point	89927	40
% Bedrock at sample point	89928	0
Mesh size, sieve (cm)	89946	0.0425
Benthic sampler	89950	3
Ecoregion	89961	31
Benthos sampled--none present	90005	NA
Biotic index (HBI)	90007	5.43
EPT taxa abundance (# taxa)	90008	2
Dominant func. feed. group (% of total)	90010	44.6
Collector-gatherers (% of total)	90025	44.6
Predators (% of total)	90036	11.8
Dominant taxon (% of total)	90042	53.8
Ratio intolerant : tolerant	90050	0.4
Total # non-insect taxa	90052	4
Elmidae (% of total)	90054	67.8
Total taxa richness (# taxa)	90055	19
Chironomidae (% of total)	90062	2.8
% Trichoptera as Hydropsychidae	90069	0.0

Seg. 2107 **Species List - Benthic Macroinvertebrates - Kicknet** **12 July 2011**

Station 20773 Atascosa River @ CR 412

Parameter Code	Class	Order	Family	Genus / Species	Count
92253	Insecta	Coleoptera	Elmidae	*Stenelmis sp.*	77
92246	Insecta	Coleoptera	Elmidae	*Neoelmis sp.*	15
92217	Insecta	Coleoptera	Dryopidae	*Helichus sp.*	11
91923	Insecta	Hemiptera	Veliidae	*Rhagovelia sp.*	8
91651	Insecta	Ephemeroptera	Baetidae	*Fallceon sp.*	5
91683	Insecta	Odonata	Coenagrionidae	Argia sp.	4
92491	Insecta	Diptera	Chironomidae	*Chironomidae*	4
92233	Insecta	Coleoptera	Elmidae	*Heterelmis sp.*	4
--	Malacostraca	Amphipoda	Hyalellidae	*Hyalella sp.*	3
90382	Clitellata	Oligochaeta[1]	--	--	2
91400	Malacostraca	Decapoda	Palaemonidae	*Palaemonetes kadiakens*	2
91988	Insecta	Hemiptera	Belostomatidae	*Belostoma sp.*	1
92076	Insecta	Megaloptera	Corydalidae	*Corydalus cornutus*	1
91713	Insecta	Odonata	Gomphidae	*Erpetogomphus sp.*	1
92165	Insecta	Coleoptera	Hydrochidae	*Hydrochus sp.*	1
91590	Insecta	Ephemeroptera	Oligoneuriidae	*Isonychia sp.*	1
92243	Insecta	Coleoptera	Elmidae	*Microcylloepus sp.*	1
92874	Gastropoda	Limnophila	Physidae	*Physella sp.*	1
92044	Insecta	Hemiptera	Corixidae	*Trichocorixa sp.*	1

[1] Sub-class

Station 12980 Seg. 2107
Atascosa River @ FM 99
12 July 11

Ecoregion 31

Metric	Value	Score
Taxa richness	22	4
EPT taxa abundance	7	3
Biotic index (HBI)	4.04	3
% Chironomidae	4.1	4
% Dominant taxa	37.2	2
% Dominant FFG	37.0	3
% Predators	26.6	2
Ratio of intolerant : tolerant taxa	1.5	1
% of Trichoptera as Hydropsychidae	83.3	1
# of non-insect taxa	2	2
% Collector-gatherers	37.0	2
% of total number as Elmidae	56.1	1
AQUATIC LIFE USE SCORE		**28**
AQUATIC LIFE USE RATING		**Intermediate**

Qualitative Sampling Scoring Criteria

Exceptional	>36
High	29 - 36
Intermediate	22 - 28
Limited	<22

Metric	Parameter Code	Value
Stream order	84161	6
Biological data reporting units	89899	1
Dip net, area swept (m^2)	89902	0
Kicknet, area kicked (m^2)	89903	8
Kicknet, minutes kicked	89904	5
Snag/Shore, minutes picked	89905	25
No. ind. in RBA subsample (±100)	89906	269
% Undercut bank at sample point	89921	0
% Overhanging brush at sample point	89922	0
% Gravel at sample point	89923	0
% Sand at sample point	89924	100
% Soft bottom at sample point	89925	0
% Macrophyte bed at sample point	89926	0
% Snags/brush at sample point	89927	15
% Bedrock at sample point	89928	0
Mesh size, sieve (cm)	89946	0.0425
Benthic sampler	89950	3
Ecoregion	89961	31
Benthos sampled--none present	90005	NA
Biotic index (HBI)	90007	4.04
EPT taxa abundance (# taxa)	90008	7
Dominant func. feed. group (% of total)	90010	37.0
Collector-gatherers (% of total)	90025	37.0
Predators (% of total)	90036	26.6
Dominant taxon (% of total)	90042	37.2
Ratio intolerant : tolerant	90050	1.5
Total # non-insect taxa	90052	2
Elmidae (% of total)	90054	56.1
Total taxa richness (# taxa)	90055	22
Chironomidae (% of total)	90062	4.1
% Trichoptera as Hydropsychidae	90069	83.3

Seg. 2107 **Species List - Benthic Macroinvertebrates - Kicknet** **12 July 11**

Station 12980 Atascosa River @ FM 99

Parameter Code	Class	Order	Family	Genus / Species	Count
92246	Insecta	Coleoptera	Elmidae	*Neoelmis sp.*	100
92253	Insecta	Coleoptera	Elmidae	*Stenelmis sp.*	32
91683	Insecta	Odonata	Coenagrionidae	*Argia sp.*	29
91718	Insecta	Odonata	Gomphidae	*Gomphus sp.*	23
92217	Insecta	Coleoptera	Dryopidae	*Helichus sp.*	19
92233	Insecta	Coleoptera	Elmidae	*Heterelmis sp.*	19
92491	Insecta	Diptera	Chironomidae	Chironomidae	11
92044	Insecta	Hemiptera	Corixidae	*Trichocorixa sp.*	9
91730	Insecta	Odonata	Gomphidae	*Progomphus sp.*	5
92308	Insecta	Trichoptera	Hydropsychidae	*Smicridea sp.*	4
91651	Insecta	Ephemeroptera	Baetidae	*Fallceon sp.*	3
--	Insecta	Diptera	Ceratopogonidae	*Monohelea sp.*	3
91594	Insecta	Ephemeroptera	Tricorythidae	*Tricorythodes sp.*	3
91600	Insecta	Ephemeroptera	Caenidae	*Caenis sp.*	1
92292	Insecta	Trichoptera	Hydropsychidae	*Cheumatopsyche sp.*	1
93037	Bivalvia	Heterodonta	Corbiculidae	*Corbicula fluminea*	1
92076	Insecta	Megaloptera	Corydalidae	*Corydalus cornutus*	1
91669	Insecta	Odonata	Calopterygidae	*Hetaerina sp.*	1
--	Malacostraca	Amphipoda	Hyalellidae	*Hyalella sp.*	1
--	Insecta	Ephemeroptera	Baetidae	*Maccaffertium sp.*	1
92304	Insecta	Trichoptera	Leptoceridae	*Nectopsyche sp.*	1
91944	Insecta	Hemiptera	Gerridae	*Rheumatobates sp.*	1

Station 17900 Seg. 2107
Atascosa River @ IH 37
13 July 2011

Ecoregion 31 or 33

Metric	Value	Score
Taxa richness	24	4
EPT taxa abundance	4	2
Biotic index (HBI)	5.19	2
% Chironomidae	0.8	4
% Dominant taxa	59.1	1
% Dominant FFG	62.0	1
% Predators	14.1	4
Ratio of intolerant : tolerant taxa	0.3	1
% of Trichoptera as Hydropsychidae	100.0	1
# of non-insect taxa	5	3
% Collector-gatherers	13.1	4
% of total number as Elmidae	10.3	3
AQUATIC LIFE USE SCORE		**30**
AQUATIC LIFE USE RATING		**High**

Qualitative Sampling Scoring Criteria

Exceptional	>36
High	29 - 36
Intermediate	22 - 28
Limited	<22

Metric	Parameter Code	Value
Stream order	84161	5
Biological data reporting units	89899	1
Dip net, area swept (m^2)	89902	0
Kicknet, area kicked (m^2)	89903	2
Kicknet, minutes kicked	89904	5
Snag/Shore, minutes picked	89905	60
No. ind. in RBA subsample (±100)	89906	242
% Undercut bank at sample point	89921	0
% Overhanging brush at sample point	89922	0
% Gravel at sample point	89923	20
% Sand at sample point	89924	80
% Soft bottom at sample point	89925	0
% Macrophyte bed at sample point	89926	0
% Snags/brush at sample point	89927	0
% Bedrock at sample point	89928	0
Mesh size, sieve (cm)	89946	0.0425
Benthic sampler	89950	3
Ecoregion	89961	31 or 33
Benthos sampled--none present	90005	NA
Biotic index (HBI)	90007	5.19
EPT taxa abundance (# taxa)	90008	4
Dominant func. feed. group (% of total)	90010	62.0
Collector-gatherers (% of total)	90025	13.1
Predators (% of total)	90036	14.1
Dominant taxon (% of total)	90042	59.1
Ratio intolerant : tolerant	90050	0.3
Total # non-insect taxa	90052	5
Elmidae (% of total)	90054	10.3
Total taxa richness (# taxa)	90055	24
Chironomidae (% of total)	90062	0.8
% Trichoptera as Hydropsychidae	90069	100.0

Seg. 2107 **Species List - Benthic Macroinvertebrates - Kicknet** **13 July 2011**
Station 17900 Atascosa River @ IH 37

Parameter Code	Class	Order	Family	Genus / Species	Count
93037	Bivalvia	Heterodonta	Corbiculidae	Corbicula fluminea	143
91683	Insecta	Odonata	Coenagrionidae	*Argia sp.*	14
91661	Insecta	Ephemeroptera	Leptophlebiidae	*Farrodes texanus*	9
92217	Insecta	Coleoptera	Dryopidae	*Helichus sp.*	8
92246	Insecta	Coleoptera	Elmidae	*Neoelmis sp.*	7
91923	Insecta	Hemiptera	Veliidae	*Rhagovelia sp.*	7
92253	Insecta	Coleoptera	Elmidae	*Stenelmis sp.*	7
92292	Insecta	Trichoptera	Hydropsychidae	*Cheumatopsyche sp.*	6
92233	Insecta	Coleoptera	Elmidae	*Heterelmis sp.*	6
90382	Clitellata	Oligochaeta[1]	--	--	6
91713	Insecta	Odonata	Gomphidae	*Erpetogomphus sp.*	5
92243	Insecta	Coleoptera	Elmidae	*Microcylloepus sp.*	5
91730	Insecta	Odonata	Gomphidae	Progomphus sp.	3
92491	Insecta	Diptera	Chironomidae	*Chironomidae*	2
90075	Turbellaria	Tricladida	Planariidae	*Dugesia sp.*	2
91651	Insecta	Ephemeroptera	Baetidae	*Fallceon sp.*	2
--	Gastropoda	Mesogastropoda	Pomatiopsidae	*Pomatiopsis sp.*	2
91594	Insecta	Ephemeroptera	Tricorythidae	*Tricorythodes sp.*	2
91709	Insecta	Odonata	Gomphidae	*Arigomphus sp.*	1
92100	Insecta	Coleoptera	Haliplidae	Peltodytes sp.	1
92874	Gastropoda	Limnophila	Physidae	*Physella sp.*	1
92193	Insecta	Coleoptera	Staphylinidae	*Staphylinidae*	1
--	Insecta	Diptera	Stratiomyidae	*Stratiomys sp.*	1
--	Insecta	Diptera	Tipulidae	*Tipulidae*	1

[1] Sub-class

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Ecoregion 33

Metric	Value	Score
Taxa richness	17	3
EPT taxa abundance	1	1
Biotic index (HBI)	6.70	1
% Chironomidae	11.3	2
% Dominant taxa	36.3	2
% Dominant FFG	29.6	4
% Predators	11.5	4
Ratio of intolerant : tolerant taxa	0.0	1
% of Trichoptera as Hydropsychidae	0.0	1
# of non-insect taxa	6	4
% Collector-gatherers	29.6	3
% of total number as Elmidae	1.8	4
AQUATIC LIFE USE SCORE		**30**
AQUATIC LIFE USE RATING		**High**

Qualitative Sampling Scoring Criteria

Exceptional	>36
High	29 - 36
Intermediate	22 - 28
Limited	<22

Metric	Parameter Code	Value
Stream order	84161	4
Biological data reporting units	89899	1
Dip net, area swept (m^2)	89902	0
Kicknet, area kicked (m^2)	89903	3
Kicknet, minutes kicked	89904	10
Snag/Shore, minutes picked	89905	80
No. ind. in RBA subsample (±100)	89906	168
% Undercut bank at sample point	89921	2
% Overhanging brush at sample point	89922	0
% Gravel at sample point	89923	20
% Sand at sample point	89924	5
% Soft bottom at sample point	89925	10
% Macrophyte bed at sample point	89926	2
% Snags/brush at sample point	89927	20
% Bedrock at sample point	89928	0
Mesh size, sieve (cm)	89946	0.0425
Benthic sampler	89950	3
Ecoregion	89961	33
Benthos sampled--none present	90005	NA
Biotic index (HBI)	90007	6.70
EPT taxa abundance (# taxa)	90008	1
Dominant func. feed. group (% of total)	90010	29.6
Collector-gatherers (% of total)	90025	29.6
Predators (% of total)	90036	11.5
Dominant taxon (% of total)	90042	36.3
Ratio intolerant : tolerant	90050	0.0
Total # non-insect taxa	90052	6
Elmidae (% of total)	90054	1.8
Total taxa richness (# taxa)	90055	17
Chironomidae (% of total)	90062	11.3
% Trichoptera as Hydropsychidae	90069	0.0

Seg. 2107 **Species List - Benthic Macroinvertebrates - Kicknet** **11 July 2011**
Station 20762 Atascosa River @ Granato Road

Parameter Code	Class	Order	Family	Genus / Species	Count
--	Malacostraca	Amphipoda	Hyalellidae	*Hyalella sp.*	61
93037	Bivalvia	Heterodonta	Corbiculidae	*Corbicula fluminea*	39
92491	Insecta	Diptera	Chironomidae	Chironomidae	19
91600	Insecta	Ephemeroptera	Caenidae	*Caenis sp.*	18
92100	Insecta	Coleoptera	Haliplidae	*Peltodytes sp.*	9
--	Gastropoda	Basommatophora	Planorbidae	*Biomphalaria sp.*	5
90913	Clitellata	Hirudinea[1]	--	--	3
91683	Insecta	Odonata	Coenagrionidae	*Argia sp.*	2
92230	Insecta	Coleoptera	Elmidae	*Dubiraphia sp.*	2
91400	Malacostraca	Decapoda	Palaemonidae	*Palaemonetes kadiakens*	2
92874	Gastropoda	Limnophila	Physidae	Physella sp.	2
92480	Insecta	Diptera	Ceratopogonidae	Culicoides sp.	1
--	Insecta	Lepidoptera	Crambidae	*Elophila sp.*	1
91713	Insecta	Odonata	Gomphidae	*Erpetogomphus sp.*	1
91953	Insecta	Hemiptera	Mesoveliidae	*Mesovelia sp.*	1
91827	Insecta	Odonata	Libellulidae	*Perithemis sp.*	1
92253	Insecta	Coleoptera	Elmidae	*Stenelmis sp.*	1

[1] Sub-class