Impairment Verification Monitoring

Dissolved Oxygen

Segment 1908 Upper Cibolo Creek

Volume 1

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Texas Engineering Experiment Station
Conrad Blucher Institute

Impairment Verification Monitoring—Volume 1: Physical, and Chemical Components
Segment 1908 Upper Cibolo Creek

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Texas Commission on Environmental Quality
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EXECUTIVE SUMMARY

This report describes water quality data collected on Upper Cibolo Creek (Segment 1908) during the period from August 2002 through July 2004. It has been prepared for the Texas Commission on Environmental Quality (TCEQ) by the Conrad Blucher Institute for Surveying and Science (CBI) at Texas A&M University-Corpus Christi under an inter-agency contract between the TCEQ and the Texas Engineering Experiment Station. Upper Cibolo Creek is a 66-mile freshwater stream in the San Antonio River Basin that extends from the Missouri-Pacific railroad Bridge west of Bracken in Comal County to a point 0.9 miles (1.5 km) upstream of the confluence of Champee Springs in Kendall County. Upper Cibolo Creek was included on the 2000 State of Texas Clean Water Act 303(d) list as partially supporting due to concentrations of dissolved oxygen below criteria associated with a high aquatic life use.

Volume 1 presents the water quality data, including TCEQ water quality criteria, for 24-hr dissolved oxygen, pH, water temperature, conductivity, and nutrients. Basic statistics are provided for each water quality constituent by station and sampling type. Volume 2, prepared by project partner Ecological Communications Corporation (ECOMM 2004), describes the biological sampling and analyses conducted by ECOMM.

Water quality assessment has evolved since the 1999 305(b) Water Quality Inventory with the introduction of new methodologies. These include the development of hydrologically unique assessment units, use of the binomial approach for analysis, and the use of 24-hour dissolved oxygen measurements. None of the of 24-hour dissolved oxygen values (28 samples) had averages or minimums that exceeded their respective TCEQ criteria associated with a high aquatic life use. Based upon the 24-hour dissolved oxygen data collected for this study, Upper Cibolo Creek is meeting the high aquatic life use and will likely be removed from the 303(d) List during the 2006 305(b) assessment.

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INTRODUCTION

Upper Cibolo Creek (Segment 1908) is a 66-mile freshwater stream in the San Antonio River Basin that extends from the Missouri-Pacific railroad Bridge west of Bracken in Comal County to a point 0.9 miles (1.5 km) upstream of the confluence of Champee Springs in Kendall County (Figure 1). This watershed which has a major land-use classification of agricultural and residential (Figure 2) includes the City of Boerne, a resort and retirement community. .

In the *2000 Water Quality Inventory* (also known as the Clean Water Act Section 305(b) report), the high aquatic life use designated by the Texas Commission on Environmental Quality (TCEQ) for Upper Cibolo Creek was identified as impaired . In this assessment, TCEQ found that some instantaneous dissolved oxygen samples collected in the stream exhibited levels lower than the established criterion that would assure optimum conditions for aquatic life. The TCEQ also determined that there was an insufficient number of 24-hour dissolved oxygen samples collected since 1999 to allow for a reassessment of standards attainment and in response, initiated a project to verify the impairment through the collection of additional physical, chemical, and biological data.

In 2001, TCEQ contracted the services of the South Texas Environmental Institute at Texas A&M University-Kingsville (TAMUK) to lead this effort, together with the Conrad Blucher Institute for Surveying and Science (CBI) at Texas A&M University-Corpus Christi and Ecological Communications Corporations (ECOMM) to design and implement a monitoring plan to verify the impairment and then take the necessary actions to restore primary usage of the water body. The TAMUK team conducted sampling at two stations on Upper Cibolo Creek during August 2002 through August 2003 to provide the TCEQ with 24-hour dissolved oxygen as well as additional physical, chemical and biological parameters. In September of 2003 CBI took over as the project lead under a contract between the TCEQ and the Texas Engineering Experiment Station (TEES).

The information on Upper Cibolo Creek provided in this report is included in two volumes. Volume 1 describes the physical and chemical data and analyses for water quality on Segment 1908. The 24-hour dissolved oxygen results are presented in tabular and graphical formats with statistical summaries. Other measured parameters for which basic statistics are provided based on sampling station and sample type include pH, water temperature, conductivity, and nutrient levels. Volume 2, prepared by ECOMM (2004), describes the biological sampling, and data analyses conducted by ECOMM.

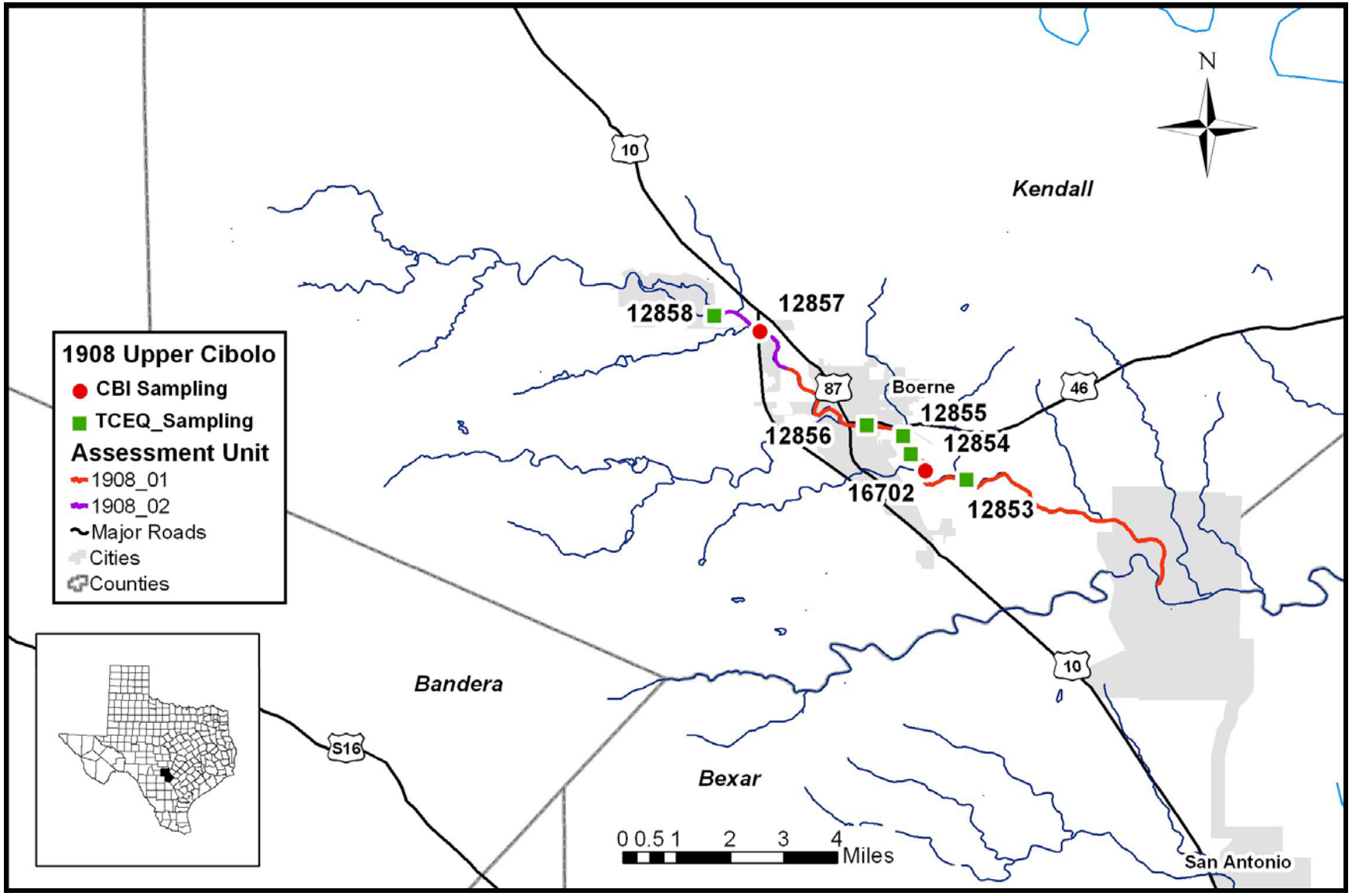

Figure 1. Map showing Station Locations in Upper Cibolo Creek.

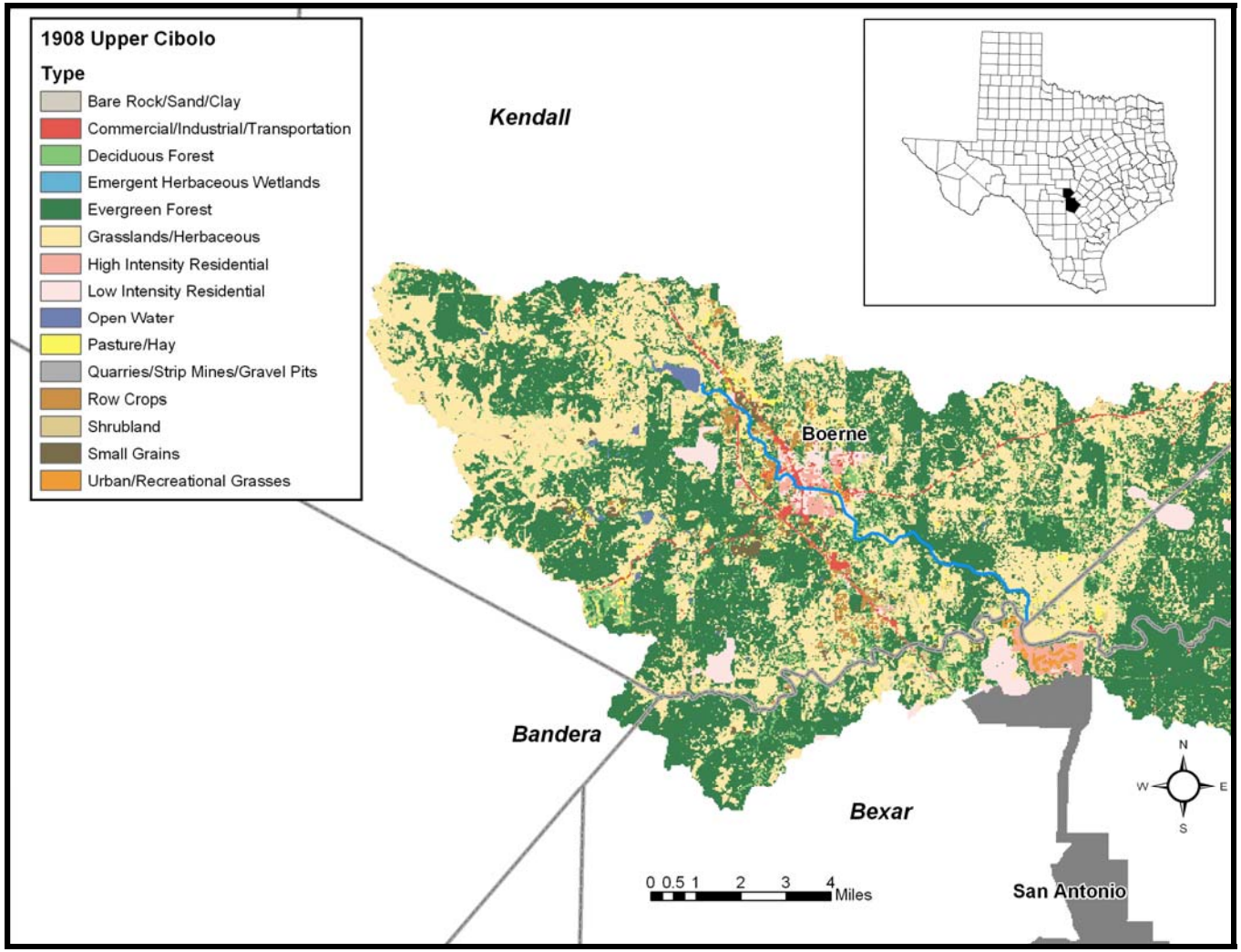

Figure 2. Land Use Map for Segment 1908 of the Cibolo Creek Watershed.

Table 1. Land Use Percentages for Segment 1908 of the Cibolo Creek Watershed.

Percent	Type
47	Evergreen Forest
22	Grasslands/Herbaceous
7	Pasture/Hay
6	Deciduous Forest
6	Shrubland
3	Low Intensity Residential
2	Row Crops
2	Small Grains
2	Commercial/Industrial/Transportation
1	High Intensity Residential
1	Urban/Recreational Grasses
1	Bare Rock/Sand/Clay
<1	Open Water
<1	Quarries/Strip Mines/Gravel Pits
<1	Emergent Herbaceous Wetlands

HISTORICAL REVIEW

Segment specific uses and criteria for Upper Cibolo Creek, as identified in the 2000 Texas Surface Water Quality Standards (TNRCC 2000), are as follows:

- High Aquatic Life Use
- Contact Recreation Use
- General Use
- Fish Consumption Use
- Public Water Supply\Aquifer Protection Use

The 2000 303(d) List included Upper Cibolo Creek as partially supporting the aquatic life use due to depressed dissolved oxygen levels in the stream. While the contact recreation, public water supply\aquifer protection and general uses of the stream were fully supported, fish consumption was not assessed due to insufficient data. The results of the assessment of samples for the 2002 Water Quality Inventory are given in Table 1. Table 2 lists all TCEQ Monitoring Stations on this segment, and Figure 3 and Figure 4 are photographs of the two Monitoring Stations from which samples were collected during this project.

Table 2. Assessment Samples for Segment 1908 Upper Cibolo Creek for the 2002 Inventory (Developed from water quality data collected between March 1, 1996 and February 28, 2001)

Rec	Segment ID	Year	Uses or Criteria	Method	Samples Taken	Exceeded	Mean
1	1908	2002	Aquatic Life Use	Dissolved Oxygen grab average	39	2	
2	1908	2002	Aquatic Life Use	Dissolved Oxygen grab minimum	39	0	
3	1908	2002	Aquatic Life Use	Dissolved Oxygen 24hr average	0		
4	1908	2002	Aquatic Life Use	Dissolved Oxygen 24hr minimum	0		

Table 3. All TCEQ Monitoring Stations on Segment 1908. Green shading indicates Stations used in impairment verification monitoring. Photos for these 2 stations are indicated in the third column.

Station	Station Descriptions	Photograph
12853	CIBOLO CREEK 2.5 MI. SE OF BOERNE	
12854	CIBOLO CREEK AT HERFF ROAD IN BOERNE	
12855	CIBOLO CREEK AT BOERNE CITY PARK	
12856	CIBOLO CREEK AT SPARKLING SPRINGS IN BOERNE	
16702	CIBOLO CREEK SE OF BOERNE AT DOWNSTREAM END OF CITY PARK IN THE NATURE PRESERVE, 0.8K DOWNSTREAM OF SH46	**Figure 3**
12857	CIBOLO CREEK AT IH 10 - US 87 NW OF BOERNE	**Figure 4**
12858	CIBOLO CREEK AT BOERNE CITY LAKE DISCHARGE	

Figure 3. Station 16702, looking downstream.

Figure 4. Station 12857, looking downstream.

PROBLEM DEFINITION

TAMUK and CBI led the effort for TCEQ to assess the water quality in Upper Cibolo Creek (Segment 1908). This segment was included on the 1999 and 2000 State of Texas Clean Water Act 303(d) lists as partially supporting the aquatic life use due to depressed concentrations of dissolved oxygen. The initial phase of the project required that this impairment first be verified through the collection of additional physical, chemical, and biological data to fill in the data and knowledge gaps and determine what course of action, if any, needed to be taken to address the impairment. The additional data would result in one of four outcomes: 1) removal from the 303(d) List, 2) an evaluation of applicable water quality standards (aquatic life use impairments only), 3) establishing Total Maximum Daily Load (TMDL) for the given constituent and the impairment, or 4) collect additional data (Figure 5).

ASSESSMENT METHODOLOGY

The 2002 305(b) Water Quality Inventory implemented several changes to the guidance for assessing surface waters (Sullivan et al. 2004). These changes were incorporated into the assessment methodologies for this project:

- **Dissolved oxygen monitoring.** The 2000 Water Quality Inventory determined that aquatic life uses on Segment 1908 were impaired primarily based on instantaneous grab samples. This type of sample presents only a small snapshot of the existing water quality conditions. The 2002 Assessment Guidance (TNRCC 2002) specified that impairment determinations requiring restorative actions could only be made using 24-hour composite data, which gives a more accurate representation of the aquatic life uses for the stream. Data collection efforts thus focused on the use of data logging equipment to obtain the necessary data set that would make for more reliable use attainment determinations.
- **Development of Assessment Units.** The 2002 Water Quality Inventory also included the use of hydrologically similar portions of entire segments to characterize better the extent of specific use impairment. This approach combines data from several nearby stations to increase the data quantity and, thus, the certainty with respect to the results (Table 3). Previous assessments considered data from the entire water body to be representative of ambient conditions.
- **Binomial Approach.** The 305(b) Water Quality Assessment has incorporated the binomial approach, a statistically-based method for the determination of impairment using varying exceedance percentages based upon the number of samples collected. The binomial approach results in a Type I statistical error that is significantly smaller than that obtained using a single percentage exceedance.

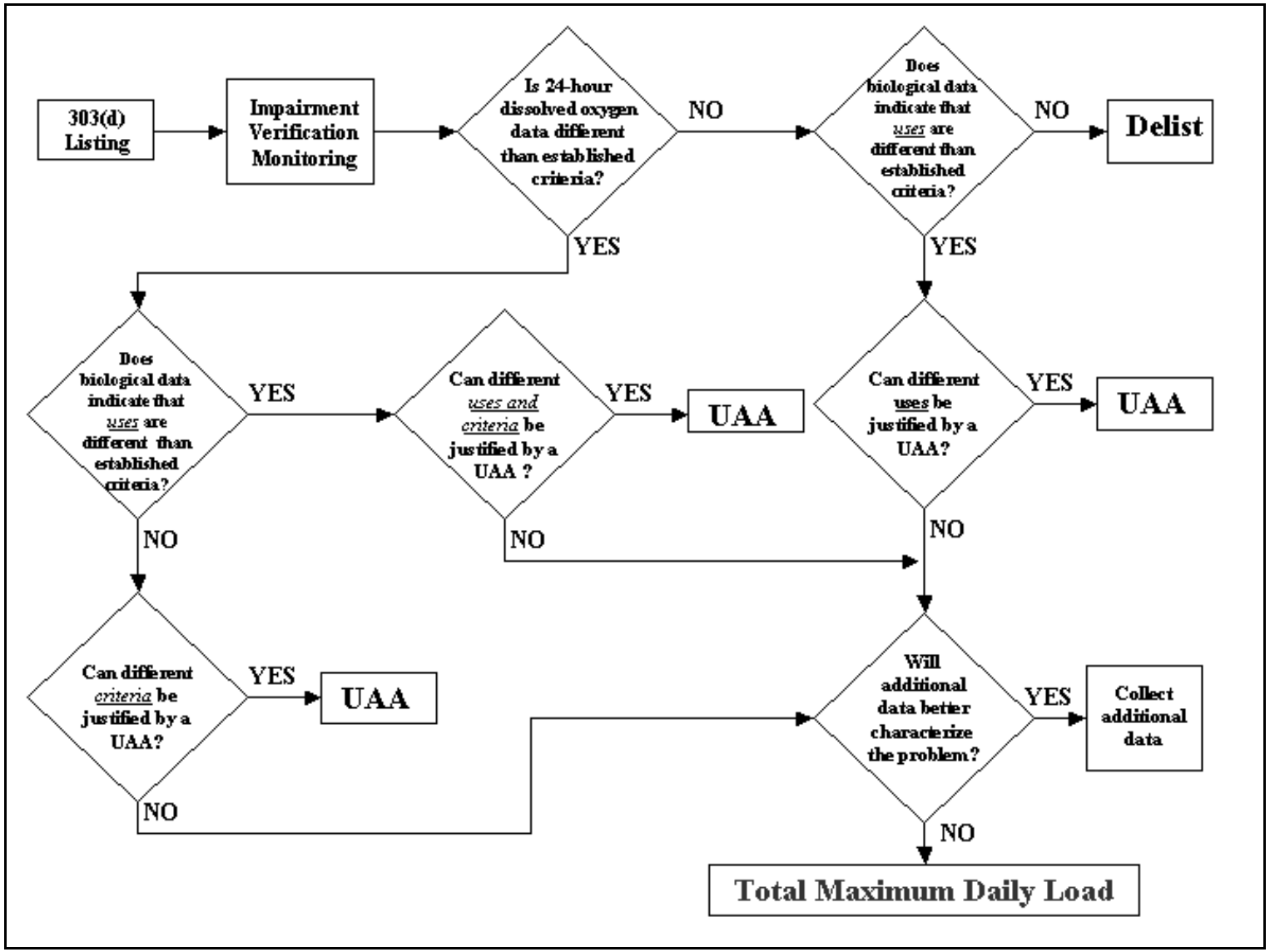

Figure 5 Conceptual Decision Framework

Table 4. Upper Cibolo Creek Aquatic Life Assessment Summary

Segment	Station ID	TMDL Station	TCEQ Station	Assessment Unit Number	Assessment Unit Description	Bacteria Support Status	Aquatic Life Support Status	24hr DO Avg Criteria	24hr DO Min Criteria
1908	12853		X	1908_01	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	FS	PS	5 mg/L	3 mg/L
	12854		X						
	12855		X						
	12856		X						
	16702	X	X						
	12857	X	X	1908_02	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	FS	PS		
	12858		X						

QAPP Development

In order to ensure that data collected under this project were scientifically valid and legally defensible, a Quality Assurance Project Plan (QAPP) was developed by TAMUK. This process ensured that all data submitted to the TCEQ have been collected and analyzed in a way that defines its reliability and, therefore, can be used in TMDL development, stream standards modifications, permit decisions, and water quality assessments.

Monitoring Plan Development

Based on the approved QAPP, guidelines for a monitoring plan were developed by TAMUK to provide the additional water quality data and information identified as necessary in the Historical Data Review in order to meet the project objectives. The data collected and assessed for this project included physical, chemical, biological, and hydrological parameters. The collection of these data was coordinated with the appropriate Clean River Partners and TCEQ Regional Offices. The monitoring plan was prepared in accordance with the guidelines established by TCEQ in the Surface Water Quality Monitoring Procedures Manual (TCEQ 2003). The monitoring plan identified the monitoring locations, the monitoring frequency, and the criteria for monitoring and data collection. The monitoring plan also identified the types of samples to be collected, the methods used to gather all data, and the parameters analyzed. Locations of the monitoring stations were determined using Global Positioning System (GPS) coordinates. The monitoring plan also listed in detail, the equipment and supplies required to carry out the monitoring effort.

Data Requirements

Data collected on Upper Cibolo Creek met requirements for several different outcomes: de-listing of the segment, standards adjustment, or establishing a TMDL. The primary goal in data collection was to ensure that enough data were obtained from the samples collected over the critical sampling period to adequately assess, and, if necessary, re-classify the uses for Upper Cibolo Creek.

Station Selection

Several factors were considered when sampling stations (Table 2) were selected for impairment verification:

- Accessibility
- Data history
- Water availability
- Repetitiveness
- Geographic location.

Physical/Chemical Sample Collection

Parameters measured at each sampling station are listed in Table 4. In-stream, multi-probe, data loggers measured dissolved oxygen, temperature, pH, and conductivity over a 24-hour period. Flow and stream cross-sections were also measured to estimate loading of various chemical constituents. Samples were collected for laboratory analysis during each station visit and analyses of these samples included routine TCEQ water quality monitoring parameters. All sampling procedures were included in the QAPP.

Biological Sample Collection

Biological data were collected on the segment during three separate events. Nekton, benthic, and habitat data were collected during each of these sampling events in accordance with the TCEQ Receiving Waters Assessment Procedures Manual (TNRCC 1999). These data were collected primarily to support a use reclassification, if necessary. Volume 2 presents all biological results and analyses.

Table 5. Parameters Measured.

PARAMETER	UNITS	METHOD TYPE	METHOD	STORET Code	AWRL	PRECISION of laboratory duplicates (RPD)	ACCURACY of matrix spikes % Recovery	AWRL Calibration Standard % Recovery	Laboratory Performing Analysis
pH	*pH. units*	*Multi parameter probe*	*EPA 150.1and TCEQ SOP*	*00400*	*NA*	*10*	*NA*	*NA*	*Field*
DO	*mg/L*	*Multi parameter probe*	*EPA 360.1and TCEQ SOP*	*00300*	*NA*	*10*	*NA*	*NA*	*Field*
DO 24-hr min.	*mg/L*	*Multi parameter probe*	*EPA 360.1and TCEQ SOP*	*89855*	*NA*	*10*	*NA*	*NA*	*Field*
DO 24-hr max.	*mg/L*	*Multi parameter probe*	*EPA 360.1and TCEQ SOP*	*89856*	*NA*	*10*	*NA*	*NA*	*Field*
DO 24-hr avg.	*mg/L*	*Multi parameter probe*	*EPA 360.1and TCEQ SOP*	*89857*	*NA*	*10*	*NA*	*NA*	*Field*
DO number of meas.	*mg/L*	*Multi parameter probe*	*EPA 360.1and TCEQ SOP*	*89858*	*NA*	*10*	*NA*	*NA*	*Field*
Conductivity	*uS/cm*	*Multi parameter probe*	*EPA 120.1and TCEQ SOP*	*00094*	*NA*	*10*	*NA*	*NA*	*Field*
Temperature	*°Celsius*	*Multi parameter probe*	*EPA 170.1and TCEQ SOP*	*00010*	*NA*	*10*	*NA*	*NA*	*Field*
Secchi Depth	*meters*	*Secchi disc*	*TCEQ SOP*	*00078*	*NA*	*20*	*NA*	*NA*	*Field*
Days since last significant rainfall	*days*		*TCEQ SOP*	*72053*	*NA*	*NA*	*NA*	*NA*	*Field*
Flow	*cfs*		*TCEQ SOP and ADCP*	*00061*	*NA*	*NA*	*NA*	*NA*	*Field*
Flow Severity	*1-no flow, 2-low,*		*TCEQ SOP*	*01351*	*NA*	*NA*	*NA*	*NA*	*Field*

PARAMETER	UNITS	METHOD TYPE	METHOD	STORET Code	AWRL	PRECISION of laboratory duplicates (RPD)	ACCURACY of matrix spikes % Recovery	AWRL Calibration Standard % Recovery	Laboratory Performing Analysis
	3-normal, 4-flood, 5-high, 6-dry								
TSS	*mg/L*	*gravimetric*	*EPA 160.2*	*00530*	*4.0*	*20*	*NA*	*NA*	*SATL*
TOC	*mg/L*	*combustion-infrared*	*SM 5310B*	*00680*					*SATL*
Alkalinity	*mg/L*	*titrimetric*	*EPA 310.1*	*00410*	*10*	*10*	*80-120*	*NA*	*SATL*
Sulfate	*mg/L*	*turbidimetric*	*EPA 375.4*	*00945*	*10*	*10*	*80-120*	*75-125*	*SATL*
Chloride	*mg/L*	*titrimetric*	*SM 4500*	*00940*	*10*	*10*	*80-120*	*75-125*	*SATL*
Ammonia-N	*mg/L*	*titrimetric*	*EPA 350.2*	*00610*	*0.06*	*10*	*80-120*	*75-125*	*SATL*
O-phosphate-P	*mg/L*	*colorimetric*	*EPA 365.2*	*00671*	*0.04*	*10*	*80-120*	*75-125*	*SATL*
Nitrate/nitrite-N	*mg/L*	*spectro-photometer*	*EPA 353.3*	*00631*	*0.04*	*10*	*80-120*	*75-125*	*SATL*
Total Phosphorus	*mg/L*	*colorimetric*	*EPA 365.2*	*00665*	*0.04*	*10*	*80-120*	*75-125*	*SATL*
Total Kjeldahl Nitrogen	*mg/L*	*ion selective electrode*	*EPA 351.3*	*00625*	*0.2*	*10*	*80-120*	*75-125*	*SATL*
Chlorophyll-A	*ug/L*	*colorimetric*	*SM 10200-H*	*32211*	*5.0*	*20*	*NA*	*75-125*	*SATL*
Pheophytin-A	*ug/L*	*colorimetric*	*SM 10200-H*	*32218*	*3.0*	*20*	*NA*	*75-125*	*SATL*
CBOD	*mg/L*	*incubation*	*EPA 405.1*	*00307*	*2.0*	*10*	*N/A*	*N/A*	*SATL*

SATL: San Antonio Testing Laboratory\

AWRL: Ambient Water Reporting Limit

RESULTS

The two Assessment Units used for impairment verification based on the 24-hour, dissolved-oxygen average values are listed in Table 5. The data collected during this project were plotted against time with the TCEQ standard of 5 mg/L for high aquatic life use (Figure 6 and Figure 7). All 28 samples had average dissolved oxygen values above 5 mg/L. Similarly, the 24-hour minimum values for the 28 samples (Table 6) were well above the TCEQ standard of 3 mg/L (Figure 8 and Figure 9). Statistics for the non-critical field and laboratory parameters are presented in Tables 7 and 8, respectively.

Table 6. Statistics for 24-hour DO average values.

Assessment Unit	Station Identification	Number of Samples	Mean Value	Standard Deviation	Maximum Value	Minimum Value
1908_01	16702	14	7.30	1.31	9.44	5.51
1908_02	12857	14	8.11	1.04	9.79	6.67

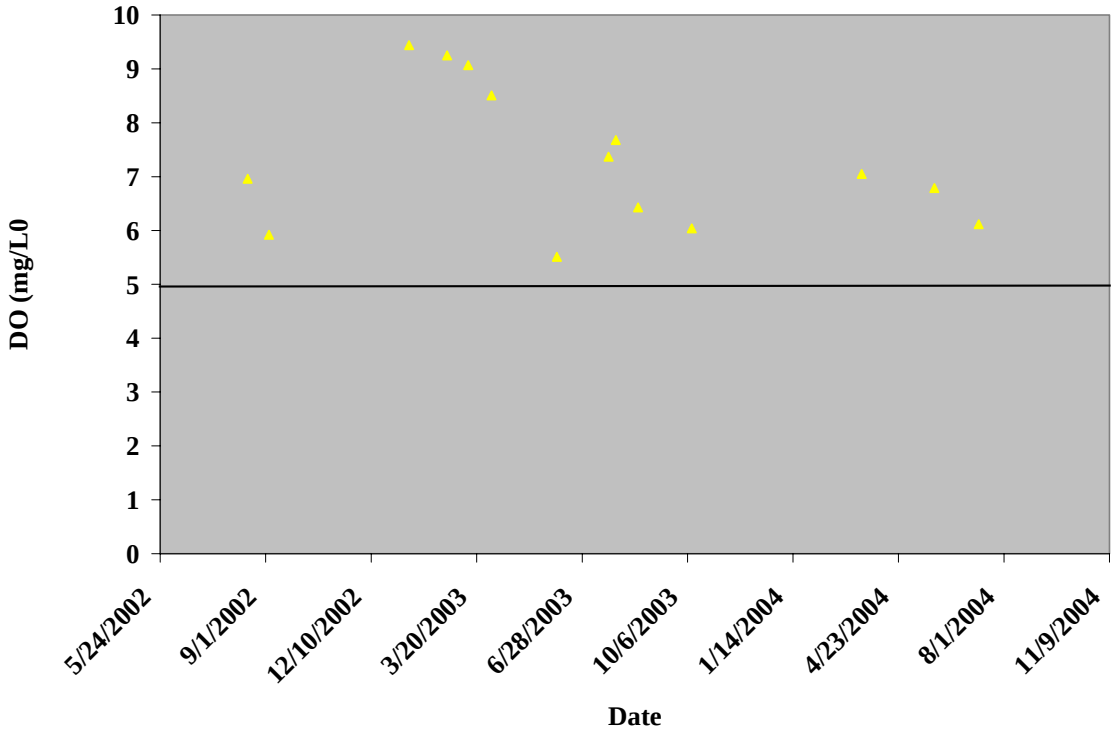

Figure 6. Plot of average 24-hour DO measurements at Station 16702 (Assessment Unit 1)

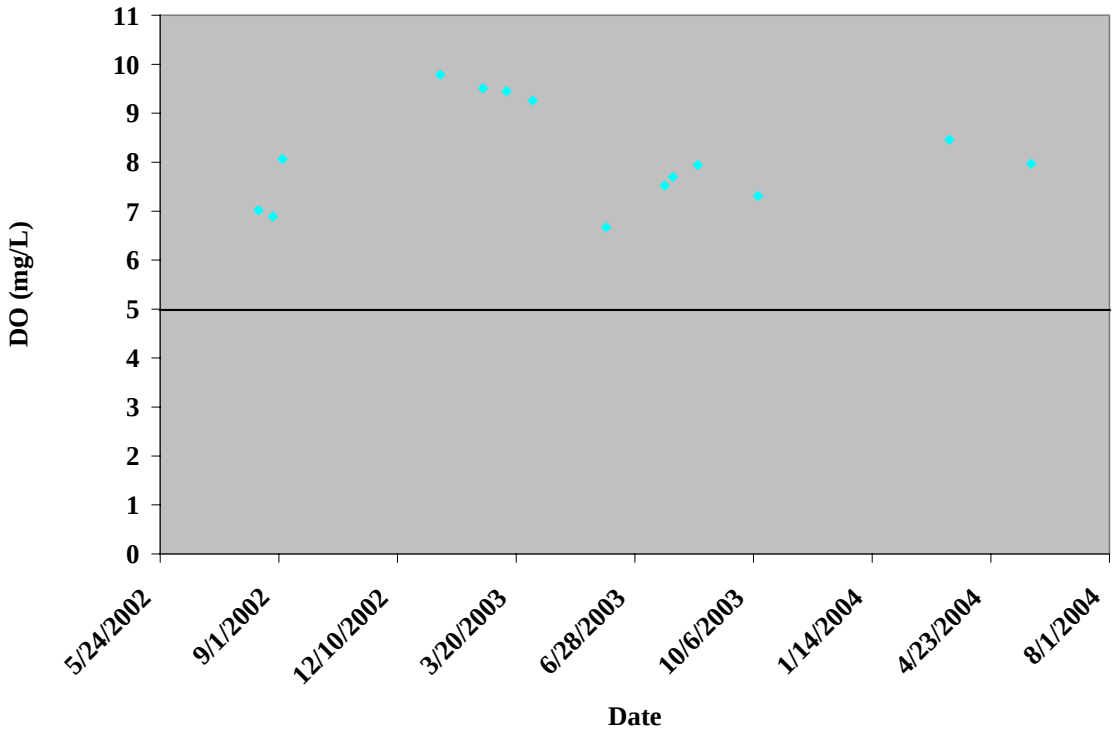

Figure 7. Plot of average 24-hour DO measurements at Station 12857 (Assessment Unit 2)

Table 7. Statistics for 24-hour DO Minimum Values

Assessment Unit	Station Identification	Number of Samples	Mean Value	Standard Deviation	Maximum Value	Minimum Value
1908_01	16702	14	5.81	1.70	8.76	3.86
1908_02	12857	14	6.82	1.63	9.48	4.04

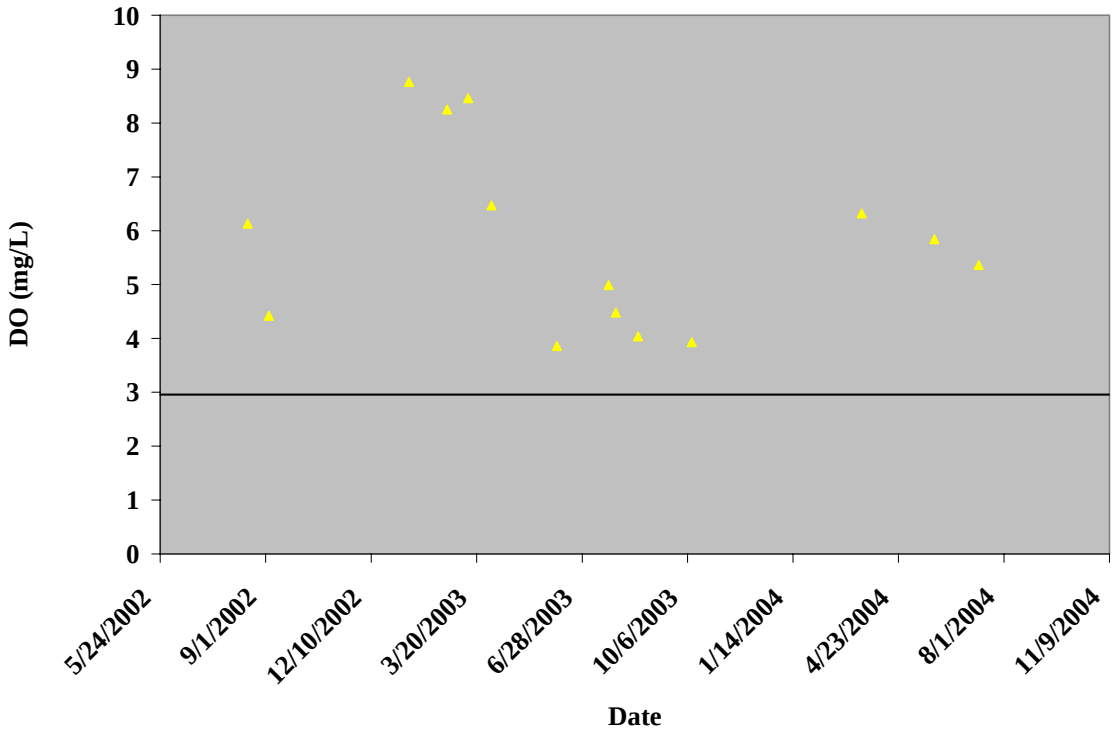

Figure 8. Plot of Minimum 24-hour DO values at Station 16702 (Assessment Unit 1)

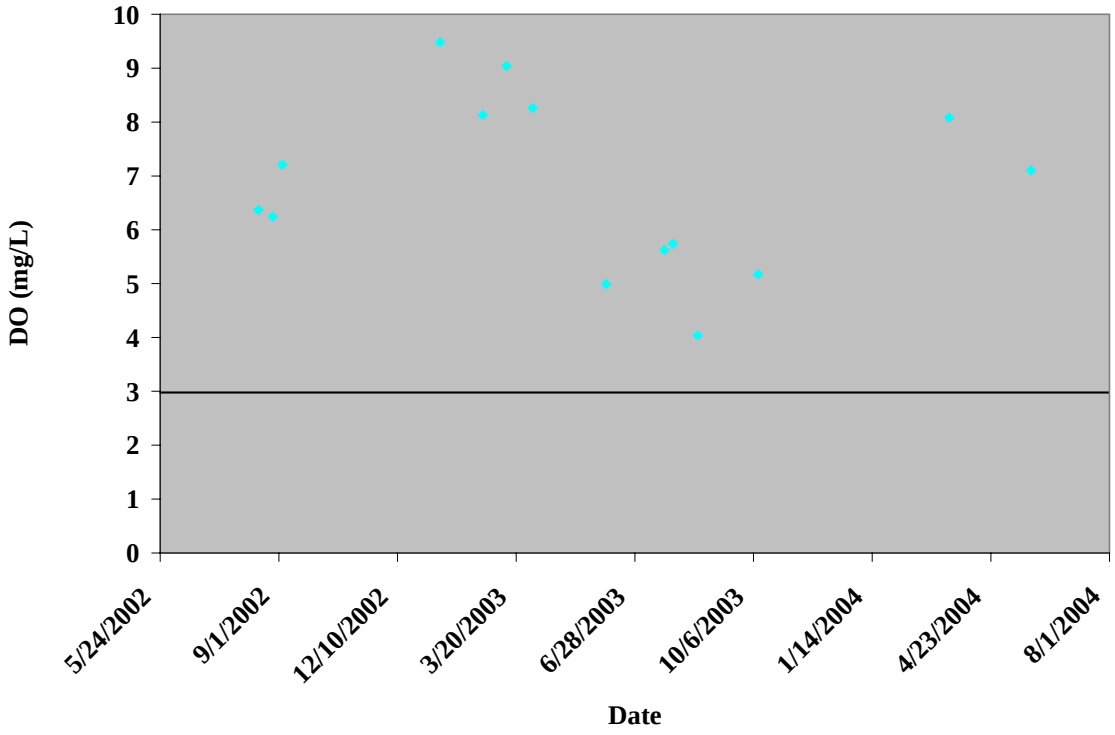

Figure 9. Plot of Minimum 24-hour DO values at Station 12857 (Assessment Unit 2)

Table 8. Statistics for non-critical field parameters

Station Identification	Parameters	Number of Samples	Mean Value	Standard Deviation	Maximum Value	Minimum Value
16702	Temp (Celsius)	16	22.76	4.59	26.74	11.65
12857	Temp (Celsius)	16	21.75	5.10	27.12	10.01
16702	pH	15	7.65	0.16	7.91	7.41
12857	pH	16	7.85	0.28	8.44	7.43
16702	Spot DO (mg/L)	14	6.52	1.82	9.29	4.04
12857	Spot DO (mg/L)	14	7.50	1.68	9.82	4.76
16702	Specific Conductivity (microsiemens/cm)	15	524.73	102.80	678.00	268.00
12857	Specific Conductivity (microsiemens/cm)	13	455.00	73.34	639.00	368.00
16702	24hr DO Max (mg/L)	14	9.47	1.65	11.89	7.19
12857	24hr DO Max (mg/L)	14	10.20	2.17	17.17	7.94
16702	Flow (cfs)	15	18.37	15.17	50.36	1.91
12857	Flow (cfs)	16	13.28	18.85	77.70	0.63

Table 9. Statistics for laboratory parameters

Station Identification	Parameter	Number of Samples	Mean Value	Standard Deviation	Maximum Value	Minimum Value
16702	Alkalinity (mg/L)	14	197.01	73.13	345.19	20.55
12857	Alkalinity (mg/L)	14	191.77	29.30	248.91	147.97
16702	Chloride (mg/L)	15	27.85	13.88	63.00	14.24
12857	Chloride (mg/L)	15	19.29	9.85	43.00	9.80
16702	Sulfate (mg/L)	14	38.13	53.81	220.54	7.20
12857	Sulfate (mg/L)	15	17.14	11.99	40.71	7.20
16702	TSS (mg/L)	4	3.75	3.20	7.00	1.00
12857	TSS (mg/L)	4	3.50	3.79	9.00	1.00
16702	Ammonia (mg/L)	15	0.67	0.51	1.54	0.03
12857	Ammonia (mg/L)	15	0.57	0.47	1.00	0.03
16702	Phosphate (mg/L)	13	0.22	0.23	0.75	0.01
12857	Phosphate (mg/L)	13	0.11	0.27	1.00	0.01
16702	Orthophosphate (mg/L)	15	0.26	0.27	0.91	0.05
12857	Orthophosphate (mg/L)	15	0.04	0.05	0.18	0.01
16702	TKN (mg/L)	13	0.72	0.41	1.00	0.05
12857	TKN (mg/L)	13	0.63	0.44	1.00	0.02
16702	TOC (mg/L)	16	4.05	1.95	9.43	1.60
12857	TOC (mg/L)	15	4.31	1.86	8.13	1.68
16702	Chlorophyll A (ug/L)	15	0.82	0.87	3.00	0.25
12857	Chlorophyll A (ug/L)	15	0.73	0.68	2.00	0.25
16702	Phenophytin A (ug/L)	15	1.16	1.99	8.00	0.25
12857	Phenophytin A (ug/L)	15	1.48	2.35	8.80	0.25
16702	Nitrate/Nitrite (mg/L)	14	0.42	0.31	1.00	0.05
12857	Nitrate/Nitrite (mg/L)	14	0.28	0.37	1.50	0.05

DISCUSSION

Water quality assessment has improved dramatically with introduction of new analytical techniques and methodologies. These include the development of Assessment Units, the use of the binomial approach for statistical analysis, and the use of 24-hour dissolved oxygen measurements. The most significant improvement directly related to data collected on Segment 1908 is the use of 24-hour dissolved-oxygen averages in place of the historically used instantaneous measurements. The 24-hour average provides a more accurate representation of the true health of the stream in relation to dissolved-oxygen levels. In addition the use of this parameter allows for a more realistic comparison to the 24-hour criterion. Data collected by the TAMUK/CBI team on Upper Cibolo Creek indicated no impairment due to depressed levels of dissolved oxygen in the water. None of the 28 24-hour dissolved oxygen samples had average or minimum values that exceeded their respective high aquatic life use criteria. As a result of these findings, Upper Cibolo Creek (Segment 1908) will likely be removed from the 303(d) List during the 2006 305 (b) Assessment.

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ACKNOWLEDGEMENTS

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Appendix A
Fact Sheets

(based on data from 03/01/1996 to 02/28/2001)

Upper Cibolo Creek

Segment: 1908 San Antonio River Basin

Basin number: 19
Basin group: E
Water body description: From the Missouri-Pacific Railroad Bridge west of Bracken in Comal County to a point 1.5 km (0.9 miles) upstream of the confluence of Champee Springs in Kendall County
Water body classification: Classified
Water body type: Freshwater Stream
Water body length / area: 66 Miles
Water body uses: Aquatic Life Use, Contact Recreation Use, General Use, Fish Consumption Use, Public Water Supply Use

Standards Not Met in Previous Years Assessment Area	Use	Support Status	Parameter	Category
From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	Aquatic Life Use	Partially Supporting	depressed dissolved oxygen	5c

Additional Information: The contact recreation, public water supply, and general uses are fully supported. The fish consumption use was not assessed.

This segment was identified on the 2000 303(d) List as partially supporting the aquatic life use due to depressed dissolved oxygen. Because an insufficient number of 24-hour dissolved oxygen values were available in 2002 to determine if the criterion is supported, this segment will be identified as not meeting the standard for dissolved oxygen until sufficient 24-hour measurements are available to demonstrate support of the criterion.

2002 Concerns: Assessment Area	Use or Concern	Concern Status	Description of Concern
From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	Nutrient Enrichment Concern	Concern	orthophosphorus

Monitoring sites used: Assessment Area	Station ID	Station Description
From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	12857	CIBOLO CREEK AT IH 10 - US 87 NW OF BOERNE
From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	12858	CIBOLO CREEK AT BOERNE CITY LAKE DISCHARGE

(based on data from 03/01/1996 to 02/28/2001)

Monitoring sites used:

Assessment Area	Station ID	Station Description
From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	12853	CIBOLO CREEK 2.5 MI. SE OF BOERNE
From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	12854	CIBOLO CREEK AT HERFF ROAD IN BOERNE
From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	12855	CIBOLO CREEK AT BOERNE CITY PARK
From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	12856	CIBOLO CREEK AT SPARKLING SPRINGS IN BOERNE
From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	16702	CIBOLO CREEK SE OF BOERNE AT DOWNSTREAM END OF CITY PARK IN THE NATURE PRESERVE, 0.8K DOWNSTREAM OF SH46

Published studies:

Publication	Date	Author
IS 37 Cibolo Creek	July 1979	Ezell, C.

Segment ID: 1908 **Water body name:** Upper Cibolo Creek

Freshwater Stream | San Antonio River Basin | Total size: 66 Miles

Assessment Method	Status of Use Support or Concern	Location	Location size	# of samples	# of exceedances	Mean
Aquatic Life Use						
Dissolved Oxygen grab average	Not Assessed	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13	3	0	
Dissolved Oxygen grab average	No Concern	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10	36	2	
Dissolved Oxygen grab minimum	Not Assessed	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13	3	0	
Dissolved Oxygen grab minimum	Fully Supporting	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10	36	0	
Dissolved Oxygen 24hr average	Not Assessed	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13	0		
Dissolved Oxygen 24hr average	Not Assessed	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10	0		
Dissolved Oxygen 24hr minimum	Not Assessed	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13	0		
Dissolved Oxygen 24hr minimum	Not Assessed	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10	0		
Acute Metals in water	Not Assessed	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10	1		
Chronic Metals in water	Not Assessed	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10	1		
Overall Aquatic Life Use	Not Assessed	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13			
Overall Aquatic Life Use	Fully Supporting	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10			
Overall Aquatic Life Use	Not Assessed	Lower 43 miles of segment	43			

Segment ID: 1908 **Water body name:** Upper Cibolo Creek

Freshwater Stream | San Antonio River Basin | Total size: 66 Miles

Assessment Method	Status of Use Support or Concern	Location	Location size	# of samples	# of exceedances	Mean
Contact Recreation Use						
E. coli single sample	Not Assessed	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13	0		
E. coli single sample	Not Assessed	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10	0		
E. coli geometric mean	Not Assessed	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13	0		
E. coli geometric mean	Not Assessed	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10	0		
Fecal coliform single sample	Not Assessed	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13	3	0	
Fecal coliform single sample	Fully Supporting	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10	29	2	
Fecal coliform geometric mean	Not Assessed	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13	3		10.1
Fecal coliform geometric mean	Fully Supporting	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10	29		83.7
Overall Recreation Use	Not Assessed	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13			
Overall Recreation Use	Fully Supporting	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10			
Overall Recreation Use	Not Assessed	Lower 43 miles of segment	43			
General Use						
Water Temperature	Not Assessed	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13	3	0	
Water Temperature	Fully Supporting	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10	36	0	

Segment ID: 1908 **Water body name:** Upper Cibolo Creek

Freshwater Stream | San Antonio River Basin | Total size: 66 Miles

Assessment Method	Status of Use Support or Concern	Location	Location size	# of samples	# of exceedances	Mean
General Use (continued)						
pH	Not Assessed	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13	0		
pH	Fully Supporting	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10	29	0	
Chloride	Fully Supporting	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13	36		30.9
Chloride	Fully Supporting	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10	36		30.9
Chloride	Fully Supporting	Lower 43 miles of segment	43	36		30.9
Sulfate	Fully Supporting	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13	36		135.1
Sulfate	Fully Supporting	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10	36		135.1
Sulfate	Fully Supporting	Lower 43 miles of segment	43	36		135.1
Total Dissolved Solids	Fully Supporting	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13	43		358.4
Total Dissolved Solids	Fully Supporting	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10	43		358.4
Total Dissolved Solids	Fully Supporting	Lower 43 miles of segment	43	43		358.4
Overall General Use	Fully Supporting	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13			
Overall General Use	Fully Supporting	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10			
Overall General Use	Fully Supporting	Lower 43 miles of segment	43			
Fish Consumption Use						
Human Health Criteria Metals	Not Assessed	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10	1		

Segment ID: 1908 **Water body name:** Upper Cibolo Creek

Freshwater Stream | San Antonio River Basin | Total size: 66 Miles

Assessment Method	Status of Use Support or Concern	Location	Location size	# of samples	# of exceedances	Mean
Fish Consumption Use (continued)						
Overall Fish Consumption Use	Not Assessed	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13			
Overall Fish Consumption Use	Not Assessed	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10			
Overall Fish Consumption Use	Not Assessed	Lower 43 miles of segment	43			
Public Water Supply Use						
Finished Water: Running Avg	Fully Supporting	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13			
Finished Water: Running Avg	Fully Supporting	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10			
Surface Water: Long-term average Metals	Fully Supporting	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10	33		0.65
Surface Water: Long-term average Nitrate+Nitrite Nitrogen	Not Assessed	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13	3		
Surface Water: Long-term average Nitrate+Nitrite Nitrogen	Not Assessed	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10	1		
Surface Water: Running average Nitrate+Nitrite Nitrogen	Fully Supporting	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10	33	0	
Overall Public Water Supply Use	Fully Supporting	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13			
Overall Public Water Supply Use	Fully Supporting	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10			
Overall Public Water Supply Use	Fully Supporting	Lower 43 miles of segment	43			
Overall Use Support						
	Fully Supporting	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13			

Segment ID: 1908 **Water body name:** Upper Cibolo Creek

Freshwater Stream | San Antonio River Basin | Total size: 66 Miles

Assessment Method	Status of Use Support or Concern	Location	Location size	# of samples	# of exceedances	Mean
Overall Use Support (continued)						
	Fully Supporting	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10			
	Fully Supporting	Lower 43 miles of segment	43			
Nutrient Enrichment Concern						
Ammonia Nitrogen	Not Assessed	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13	3	0	
Ammonia Nitrogen	No Concern	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10	31	4	
Nitrite + Nitrate Nitrogen	Not Assessed	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13	3	0	
Nitrite + Nitrate Nitrogen	No Concern	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10	33	1	
Orthophosphorus	Not Assessed	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13	0		
Orthophosphorus	Concern	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10	26	7	
Total Phosphorus	Not Assessed	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13	3	0	
Total Phosphorus	No Concern	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10	33	7	
Overall Nutrient Enrichment Concerns	Not Assessed	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13			
Overall Nutrient Enrichment Concerns	Concern	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10			
Overall Nutrient Enrichment Concerns	Not Assessed	Lower 43 miles of segment	43			

Segment ID: 1908 **Water body name:** Upper Cibolo Creek

Freshwater Stream | San Antonio River Basin | Total size: 66 Miles

Assessment Method	Status of Use Support or Concern	Location	Location size	# of samples	# of exceedances	Mean
Algal Growth Concern						
Chlorophyll a	Not Assessed	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13			
Chlorophyll a	No Concern	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10	20	2	
Chlorophyll a	Not Assessed	Lower 43 miles of segment	43			
Sediment Contaminants Concern						
Overall Sediment Contaminant Concerns	Not Assessed	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13			
Overall Sediment Contaminant Concerns	Not Assessed	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10			
Overall Sediment Contaminant Concerns	Not Assessed	Lower 43 miles of segment	43			
Fish Tissue Contaminants Concern						
Overall Fish Tissue Contaminant Concerns	Not Assessed	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13			
Overall Fish Tissue Contaminant Concerns	Not Assessed	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10			
Overall Fish Tissue Contaminant Concerns	Not Assessed	Lower 43 miles of segment	43			
Public Water Supply Concern						
Finished Water: Chloride	No Concern	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13			
Finished Water: Chloride	No Concern	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10			
Finished Water: Chloride	No Concern	Lower 43 miles of segment	43			
Finished Water: Sulfate	No Concern	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13			

Segment ID: 1908 **Water body name:** Upper Cibolo Creek

Freshwater Stream | San Antonio River Basin | Total size: 66 Miles

Assessment Method	Status of Use Support or Concern	Location	Location size	# of samples	# of exceedances	Mean
Public Water Supply Concern (continued)						
Finished Water: Sulfate	No Concern	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10			
Finished Water: Sulfate	No Concern	Lower 43 miles of segment	43			
Finished Water: Total Dissolved Solids	No Concern	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13			
Finished Water: Total Dissolved Solids	No Concern	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10			
Finished Water: Total Dissolved Solids	No Concern	Lower 43 miles of segment	43			
Finished Water: MTBE	No Concern	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13			
Finished Water: MTBE	No Concern	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10			
Finished Water: MTBE	No Concern	Lower 43 miles of segment	43			
Finished Water: Perchlorate	Not Assessed	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13			
Finished Water: Perchlorate	Not Assessed	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10			
Finished Water: Perchlorate	Not Assessed	Lower 43 miles of segment	43			
Finished Water: Overall	No Concern	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13			
Finished Water: Overall	No Concern	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10			
Finished Water: Overall	No Concern	Lower 43 miles of segment	43			
Surface Water: Chloride	No Concern	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13	36		30.9
Surface Water: Chloride	No Concern	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10	36		30.9

Segment ID: 1908 **Water body name:** Upper Cibolo Creek

Freshwater Stream | San Antonio River Basin | Total size: 66 Miles

Assessment Method	Status of Use Support or Concern	Location	Location size	# of samples	# of exceedances	Mean
Public Water Supply Concern (continued)						
Surface Water: Chloride	No Concern	Lower 43 miles of segment	43	36		30.9
Surface Water: Sulfate	No Concern	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13	36		135.1
Surface Water: Sulfate	No Concern	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10	36		135.1
Surface Water: Sulfate	No Concern	Lower 43 miles of segment	43	36		135.1
Surface Water: Total Dissolved Solids	No Concern	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13	43		358.4
Surface Water: Total Dissolved Solids	No Concern	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10	43		358.4
Surface Water: Total Dissolved Solids	No Concern	Lower 43 miles of segment	43	43		358.4
Surface Water: Overall	No Concern	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13			
Surface Water: Overall	No Concern	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10			
Surface Water: Overall	No Concern	Lower 43 miles of segment	43			
Overall Public Water Supply Concerns	No Concern	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13			
Overall Public Water Supply Concerns	No Concern	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10			
Overall Public Water Supply Concerns	No Concern	Lower 43 miles of segment	43			
Narrative Criteria Concern						
Overall Narrative Criteria Concerns	No Concern	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13			
Overall Narrative Criteria Concerns	No Concern	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10			

Segment ID: 1908 **Water body name:** Upper Cibolo Creek

Freshwater Stream | San Antonio River Basin | Total size: 66 Miles

Assessment Method	Status of Use Support or Concern	Location	Location size	# of samples	# of exceedances	Mean
Narrative Criteria Concern (continued)						
Overall Narrative Criteria Concerns	No Concern	Lower 43 miles of segment	43			
Overall Secondary Concern						
	No Concern	From approx. 2 mi. upstream of Hwy 87 in Boerne to upper end of segment	13			
	Concern	From confl. with Balcones Ck. to approx. 2 mi. upstream of Hwy 87 in Boerne	10			
	No Concern	Lower 43 miles of segment	43			

Appendix B
Raw Data

Stationid	Enddate	STORETCODE	DESCRIPTION	GTLT	VALUE
16702	3/18/2004	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		21.55
12857	8/15/2002	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		24.14
16702	9/4/2002	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		25.68
12857	2/20/2003	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		14.33
16702	3/12/2003	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		17.29
16702	8/20/2003	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		25.79
16702	4/3/2003	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		18.68
12857	5/26/2004	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		23.13
16702	7/7/2004	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		26.74
12857	4/3/2003	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		16.95
16702	10/10/2003	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		23.42
12857	7/30/2003	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		25.59
12857	8/20/2003	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		25.05
16702	7/30/2003	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		25.87
16702	8/15/2002	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		26.64
16702	8/13/2003	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		24.05
12857	8/13/2003	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		23.19
12857	7/7/2004	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		25.94
12857	8/27/2002	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		27.12
16702	2/20/2003	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		15.51
12857	10/10/2003	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		22.76
12857	9/4/2002	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		25.82
16702	7/23/2003	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		26.44
12857	7/23/2003	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		26.49
16702	1/15/2003	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		11.65
16702	8/27/2002	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		26.52
12857	3/18/2004	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		18.01
16702	5/26/2004	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		24.23
16702	6/4/2003	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		24.04
12857	3/12/2003	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		15.83
12857	6/4/2003	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		23.64
12857	1/15/2003	00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)		10.01
12857	5/26/2004	00061	SEC)		15.348
12857	8/20/2003	00061	SEC)		0.627
12857	6/4/2003	00061	SEC)		3.652
12857	2/20/2003	00061	SEC)		77.7
12857	3/18/2004	00061	SEC)		14.48
12857	10/10/2003	00061	SEC)		0.92
16702	8/27/2002	00061	SEC)		12.53
16702	9/4/2002	00061	SEC)		1.911
16702	8/15/2002	00061	SEC)		42.88
16702	5/26/2004	00061	SEC)		28.79
12857	9/4/2002	00061	SEC)		8.99
16702	6/4/2003	00061	SEC)		16.3
12857	8/27/2002	00061	SEC)		2.81
16702	10/10/2003	00061	SEC)		7.237
12857	8/15/2002	00061	SEC)		22.14
16702	8/20/2003	00061	SEC)		4.216
12857	8/13/2003	00061	SEC)		1.11
16702	3/12/2003	00061	SEC)		50.36
16702	1/15/2003	00061	SEC)		17.02
12857	7/30/2003	00061	SEC)		2.05
16702	7/30/2003	00061	SEC)		6.84
12857	3/12/2003	00061	SEC)		19.96

16702	7/23/2003	00061	SEC)		10.03
16702	4/3/2003	00061	SEC)		7.57
16702	3/18/2004	00061	SEC)		28.895
12857	7/7/2004	00061	SEC)		18.406
12857	4/3/2003	00061	SEC)		3.42
16702	7/7/2004	00061	SEC)		34.847
12857	7/23/2003	00061	SEC)		3.17
16702	8/13/2003	00061	SEC)		6.07
12857	1/15/2003	00061	SEC)		17.76
16702	6/4/2003	00078	TRANSPARENCY, SECCHI DISC (METERS)		1
16702	7/23/2003	00078	TRANSPARENCY, SECCHI DISC (METERS)	>	1
12857	10/10/2003	00078	TRANSPARENCY, SECCHI DISC (METERS)	>	1
16702	7/7/2004	00078	TRANSPARENCY, SECCHI DISC (METERS)	>	1
16702	8/27/2002	00078	TRANSPARENCY, SECCHI DISC (METERS)		2.5
16702	5/26/2004	00078	TRANSPARENCY, SECCHI DISC (METERS)	>	1
12857	1/15/2003	00078	TRANSPARENCY, SECCHI DISC (METERS)	>	1
16702	3/18/2004	00078	TRANSPARENCY, SECCHI DISC (METERS)	>	1
12857	6/4/2003	00078	TRANSPARENCY, SECCHI DISC (METERS)	>	0.5
12857	7/23/2003	00078	TRANSPARENCY, SECCHI DISC (METERS)	>	1
16702	1/15/2003	00078	TRANSPARENCY, SECCHI DISC (METERS)	>	1
12857	5/26/2004	00078	TRANSPARENCY, SECCHI DISC (METERS)	>	1
12857	7/7/2004	00078	TRANSPARENCY, SECCHI DISC (METERS)	>	1
12857	8/20/2003	00078	TRANSPARENCY, SECCHI DISC (METERS)	>	1
12857	8/13/2003	00078	TRANSPARENCY, SECCHI DISC (METERS)		0.22
16702	7/30/2003	00078	TRANSPARENCY, SECCHI DISC (METERS)	>	1
12857	3/18/2004	00078	TRANSPARENCY, SECCHI DISC (METERS)	>	1
16702	8/20/2003	00078	TRANSPARENCY, SECCHI DISC (METERS)	>	1
16702	8/13/2003	00078	TRANSPARENCY, SECCHI DISC (METERS)		1.8
16702	3/12/2003	00078	TRANSPARENCY, SECCHI DISC (METERS)	>	0.76
12857	7/30/2003	00078	TRANSPARENCY, SECCHI DISC (METERS)	>	1
12857	3/12/2003	00078	TRANSPARENCY, SECCHI DISC (METERS)	>	3
16702	10/10/2003	00078	TRANSPARENCY, SECCHI DISC (METERS)	>	1
16702	9/4/2002	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		636
12857	9/4/2002	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		639
16702	2/20/2003	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		539
12857	4/3/2003	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		407
16702	4/3/2003	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		268
12857	6/4/2003	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		424
12857	5/26/2004	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		422
12857	2/20/2003	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		436
12857	3/18/2004	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		379
16702	3/18/2004	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		459
16702	8/13/2003	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		636
12857	7/23/2003	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		416
16702	1/15/2003	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		527
16702	7/23/2003	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		526
12857	3/12/2003	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		435
12857	7/30/2003	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		450
16702	3/12/2003	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		504
16702	7/30/2003	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		575
12857	8/13/2003	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		497
16702	8/27/2002	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		580
12857	8/20/2003	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		511
16702	8/15/2002	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		471
16702	10/10/2003	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		572

12857	8/15/2002	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		368
16702	5/26/2004	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		509
16702	6/4/2003	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		391
16702	8/20/2003	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		678
12857	10/10/2003	00094	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)		531
12857	7/30/2003	00300	OXYGEN, DISSOLVED (MG/L)		5.94
16702	6/4/2003	00300	OXYGEN, DISSOLVED (MG/L)		5.15
12857	7/23/2003	00300	OXYGEN, DISSOLVED (MG/L)		5.89
12857	6/4/2003	00300	OXYGEN, DISSOLVED (MG/L)		6.41
16702	3/18/2004	00300	OXYGEN, DISSOLVED (MG/L)		8.66
12857	4/3/2003	00300	OXYGEN, DISSOLVED (MG/L)		8.59
16702	7/23/2003	00300	OXYGEN, DISSOLVED (MG/L)		5.3
12857	1/15/2003	00300	OXYGEN, DISSOLVED (MG/L)		9.82
16702	4/3/2003	00300	OXYGEN, DISSOLVED (MG/L)		6.52
12857	3/18/2004	00300	OXYGEN, DISSOLVED (MG/L)		9.59
16702	7/30/2003	00300	OXYGEN, DISSOLVED (MG/L)		4.5
16702	8/20/2003	00300	OXYGEN, DISSOLVED (MG/L)		4.04
16702	10/10/2003	00300	OXYGEN, DISSOLVED (MG/L)		4.26
12857	8/20/2003	00300	OXYGEN, DISSOLVED (MG/L)		4.76
12857	10/10/2003	00300	OXYGEN, DISSOLVED (MG/L)		5.58
12857	9/4/2002	00300	OXYGEN, DISSOLVED (MG/L)		7.38
16702	9/4/2002	00300	OXYGEN, DISSOLVED (MG/L)		5.68
12857	2/20/2003	00300	OXYGEN, DISSOLVED (MG/L)		9.5
12857	8/15/2002	00300	OXYGEN, DISSOLVED (MG/L)		6.57
16702	2/20/2003	00300	OXYGEN, DISSOLVED (MG/L)		9.29
12857	8/27/2002	00300	OXYGEN, DISSOLVED (MG/L)		7.51
16702	1/15/2003	00300	OXYGEN, DISSOLVED (MG/L)		8.95
16702	7/7/2004	00300	OXYGEN, DISSOLVED (MG/L)		6.49
16702	3/12/2003	00300	OXYGEN, DISSOLVED (MG/L)		8.81
16702	5/26/2004	00300	OXYGEN, DISSOLVED (MG/L)		7.09
12857	3/12/2003	00300	OXYGEN, DISSOLVED (MG/L)		9.22
12857	5/26/2004	00300	OXYGEN, DISSOLVED (MG/L)		8.24
16702	8/15/2002	00300	OXYGEN, DISSOLVED (MG/L)		6.51
16702	9/4/2002	00307	CBOD)	<	2
16702	10/10/2003	00307	CBOD)	<	2
12857	9/4/2002	00307	CBOD)	<	2
12857	10/10/2003	00307	CBOD)	<	2
16702	8/27/2002	00307	CBOD)	<	2
12857	8/15/2002	00307	CBOD)	<	2
16702	8/15/2002	00307	CBOD)	<	2
12857	8/27/2002	00307	CBOD)	<	2
12857	8/15/2002	00400	PH (STANDARD UNITS)		8.06
12857	5/26/2004	00400	PH (STANDARD UNITS)		7.96
16702	3/12/2003	00400	PH (STANDARD UNITS)		7.84
16702	8/20/2003	00400	PH (STANDARD UNITS)		7.45
16702	6/4/2003	00400	PH (STANDARD UNITS)		7.51
16702	5/26/2004	00400	PH (STANDARD UNITS)		7.77
12857	8/20/2003	00400	PH (STANDARD UNITS)		7.43
16702	3/18/2004	00400	PH (STANDARD UNITS)		7.58
12857	7/30/2003	00400	PH (STANDARD UNITS)		7.59
12857	10/10/2003	00400	PH (STANDARD UNITS)		7.56
16702	8/13/2003	00400	PH (STANDARD UNITS)		7.5
12857	7/7/2004	00400	PH (STANDARD UNITS)		8.11
16702	8/15/2002	00400	PH (STANDARD UNITS)		7.72
16702	10/10/2003	00400	PH (STANDARD UNITS)		7.6

16702	7/30/2003	00400	PH (STANDARD UNITS)		7.45
12857	8/13/2003	00400	PH (STANDARD UNITS)		7.58
12857	8/27/2002	00400	PH (STANDARD UNITS)		7.61
12857	3/18/2004	00400	PH (STANDARD UNITS)		8.02
12857	2/20/2003	00400	PH (STANDARD UNITS)		8.01
16702	2/20/2003	00400	PH (STANDARD UNITS)		7.81
16702	4/3/2003	00400	PH (STANDARD UNITS)		7.77
16702	8/27/2002	00400	PH (STANDARD UNITS)		7.64
12857	9/4/2002	00400	PH (STANDARD UNITS)		7.85
12857	3/12/2003	00400	PH (STANDARD UNITS)		7.79
16702	7/7/2004	00400	PH (STANDARD UNITS)		7.8
12857	1/15/2003	00400	PH (STANDARD UNITS)		8.44
16702	1/15/2003	00400	PH (STANDARD UNITS)		7.91
16702	7/23/2003	00400	PH (STANDARD UNITS)		7.41
12857	6/4/2003	00400	PH (STANDARD UNITS)		7.8
12857	4/3/2003	00400	PH (STANDARD UNITS)		8.19
12857	7/23/2003	00400	PH (STANDARD UNITS)		7.66
12857	2/20/2003	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		147.97
12857	8/15/2002	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		186
16702	2/20/2003	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		106.89
12857	3/18/2004	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		162
16702	8/15/2002	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		220
16702	3/18/2004	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		168
12857	7/30/2003	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		186
12857	3/12/2003	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		203.15
16702	10/10/2003	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		212
12857	8/13/2003	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		209.58
12857	8/27/2002	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		210
16702	8/13/2003	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		248.29
16702	3/12/2003	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		20.55
16702	7/30/2003	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		218.76
16702	1/15/2003	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		345.19
12857	5/26/2004	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		170
16702	4/3/2003	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		224.43
12857	7/7/2004	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		156
12857	6/4/2003	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		192.3
16702	6/4/2003	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		152.86
12857	1/15/2003	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		248.91
12857	10/10/2003	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		236
12857	7/23/2003	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		172.39
16702	8/27/2002	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		216
16702	7/7/2004	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		198
16702	7/23/2003	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		215.16
12857	4/3/2003	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		204.5
16702	5/26/2004	00410	ALKALINITY, TOTAL (MG/L AS CACO3)		212
16702	7/7/2004	00530	TOTAL SUSPENDED SOLIDS (MG/l)	<	1
12857	10/10/2003	00530	TOTAL SUSPENDED SOLIDS (MG/l)		9
12857	7/7/2004	00530	TOTAL SUSPENDED SOLIDS (MG/l)	<	1
16702	5/26/2004	00530	TOTAL SUSPENDED SOLIDS (MG/l)		7
12857	3/18/2004	00530	TOTAL SUSPENDED SOLIDS (MG/l)		3
12857	5/26/2004	00530	TOTAL SUSPENDED SOLIDS (MG/l)	<	1
16702	10/10/2003	00530	TOTAL SUSPENDED SOLIDS (MG/l)	<	1
16702	3/18/2004	00530	TOTAL SUSPENDED SOLIDS (MG/l)		6
12857	2/20/2003	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)		0.08
12857	8/27/2002	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)		0.12

16702	2/20/2003	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)		1.54
12857	5/26/2004	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)		0.03
16702	7/7/2004	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	<	0.03
16702	1/15/2003	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)		0.28
12857	7/7/2004	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	<	0.03
12857	1/15/2003	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)		0.21
16702	8/15/2002	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	<	0.1
12857	10/10/2003	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	<	1
12857	8/15/2002	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)		0.11
12857	6/4/2003	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	<	1
16702	8/27/2002	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	<	0.1
12857	7/23/2003	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	<	1
16702	4/3/2003	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	<	1
16702	10/10/2003	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	<	1
16702	5/26/2004	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	<	0.03
12857	4/3/2003	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	<	1
16702	6/4/2003	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	<	1
12857	3/18/2004	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	<	0.03
16702	7/30/2003	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	<	1
12857	3/12/2003	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	<	1
12857	8/20/2003	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	<	1
16702	8/20/2003	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	<	1
16702	3/18/2004	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	<	0.03
12857	8/13/2003	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	<	1
12857	7/30/2003	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	<	1
16702	3/12/2003	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	<	1
16702	8/13/2003	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	<	1
16702	7/23/2003	00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	<	1
12857	4/3/2003	00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)		0.02
12857	3/12/2003	00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)	<	1
16702	4/3/2003	00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)	<	1
16702	8/27/2002	00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)	<	0.5
12857	8/15/2002	00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)		0.57
16702	7/23/2003	00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)	<	1
16702	6/4/2003	00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)	<	1
16702	8/13/2003	00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)	<	1
12857	7/23/2003	00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)	<	1
16702	3/12/2003	00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)	<	1
16702	8/15/2002	00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)		0.7
12857	7/30/2003	00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)	<	1
16702	7/30/2003	00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)	<	1
12857	8/20/2003	00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)	<	1
16702	8/20/2003	00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)	<	1
12857	8/13/2003	00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)	<	1
12857	8/27/2002	00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)	<	0.5
12857	6/4/2003	00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)	<	1
12857	5/26/2004	00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)	<	0.05
12857	3/18/2004	00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)	<	0.05
16702	10/10/2003	00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)	<	1
16702	7/7/2004	00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)	<	0.05
16702	5/26/2004	00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)	<	0.05
12857	10/10/2003	00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)	<	1
16702	3/18/2004	00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)	<	0.05
12857	7/7/2004	00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)		0.05
16702	1/15/2003	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)		0.35

12857	8/15/2002	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)		1.5
16702	3/12/2003	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)		0.35
16702	5/26/2004	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)	<	0.05
12857	3/18/2004	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)	<	0.05
12857	8/27/2002	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)	<	0.2
12857	1/15/2003	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)		0.18
12857	5/26/2004	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)	<	0.05
12857	8/13/2003	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)		0.12
12857	7/30/2003	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)		0.18
16702	8/15/2002	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)	<	1
12857	8/20/2003	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)		0.43
16702	8/20/2003	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)		0.8
16702	7/23/2003	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)		0.44
16702	7/7/2004	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)	<	0.05
16702	10/10/2003	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)		0.8
12857	7/23/2003	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)		0.22
16702	6/4/2003	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)		0.27
16702	8/27/2002	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)	<	0.2
12857	4/3/2003	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)	<	0.11
12857	6/4/2003	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)		0.14
16702	7/30/2003	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)		0.49
12857	10/10/2003	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)		0.4
12857	3/12/2003	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)		0.27
16702	3/18/2004	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)	<	0.05
16702	4/3/2003	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)		0.31
16702	8/13/2003	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)		0.72
12857	7/7/2004	00631	NITRITE PLUS NITRATE, DISS 1 DET. (MG/L AS N)	<	0.05
12857	3/12/2003	00665	PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)		0.042
16702	3/18/2004	00665	PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)		0.074
16702	7/30/2003	00665	PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)		0.176
16702	3/12/2003	00665	PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)		0.066
12857	8/13/2003	00665	PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)		0.05
16702	8/20/2003	00665	PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)	<	0.532
16702	8/13/2003	00665	PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)		0.534
16702	7/23/2003	00665	PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)		0.185
12857	7/30/2003	00665	PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)	<	0.01
12857	3/18/2004	00665	PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)		0.019
12857	4/3/2003	00665	PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)	<	1
16702	4/3/2003	00665	PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)		0.125
12857	10/10/2003	00665	PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)		0.05
12857	6/4/2003	00665	PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)	<	0.01
16702	6/4/2003	00665	PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)	<	0.01
16702	10/10/2003	00665	PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)		0.737
12857	7/23/2003	00665	PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)	<	0.01
12857	8/20/2003	00665	PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)	<	0.01
12857	8/27/2002	00665	PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)	<	0.1
12857	7/7/2004	00665	PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)	<	0.01
12857	5/26/2004	00665	PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)	<	0.01
16702	7/7/2004	00665	PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)		0.095
16702	8/15/2002	00665	PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)	<	0.1
16702	5/26/2004	00665	PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)		0.152
12857	8/15/2002	00665	PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)	<	0.1
16702	8/27/2002	00665	PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)	<	0.1
12857	7/7/2004	00671	ORTHOPHOSPHORUS(MG/L AS P)	<	0.01
16702	1/15/2003	00671	ORTHOPHOSPHORUS(MG/L AS P)		0.36

16702	8/27/2002	00671	ORTHOPHOSPHORUS(MG/L AS P)	<	0.1
16702	8/13/2003	00671	ORTHOPHOSPHORUS(MG/L AS P)		0.68
12857	8/27/2002	00671	ORTHOPHOSPHORUS(MG/L AS P)	<	0.1
16702	7/7/2004	00671	ORTHOPHOSPHORUS(MG/L AS P)		0.049
12857	6/4/2003	00671	ORTHOPHOSPHORUS(MG/L AS P)	<	0.01
12857	10/10/2003	00671	ORTHOPHOSPHORUS(MG/L AS P)		0.047
16702	8/20/2003	00671	ORTHOPHOSPHORUS(MG/L AS P)		0.91
12857	5/26/2004	00671	ORTHOPHOSPHORUS(MG/L AS P)	<	0.01
16702	4/3/2003	00671	ORTHOPHOSPHORUS(MG/L AS P)		0.121
12857	1/15/2003	00671	ORTHOPHOSPHORUS(MG/L AS P)		0.18
16702	2/20/2003	00671	ORTHOPHOSPHORUS(MG/L AS P)		0.18
16702	7/30/2003	00671	ORTHOPHOSPHORUS(MG/L AS P)		0.25
12857	4/3/2003	00671	ORTHOPHOSPHORUS(MG/L AS P)		0.012
12857	2/20/2003	00671	ORTHOPHOSPHORUS(MG/L AS P)		0.08
12857	3/18/2004	00671	ORTHOPHOSPHORUS(MG/L AS P)		0.014
16702	7/23/2003	00671	ORTHOPHOSPHORUS(MG/L AS P)		0.22
12857	3/12/2003	00671	ORTHOPHOSPHORUS(MG/L AS P)		0.02
12857	8/13/2003	00671	ORTHOPHOSPHORUS(MG/L AS P)	<	0.01
16702	6/4/2003	00671	ORTHOPHOSPHORUS(MG/L AS P)		0.1
16702	8/15/2002	00671	ORTHOPHOSPHORUS(MG/L AS P)	<	0.1
16702	10/10/2003	00671	ORTHOPHOSPHORUS(MG/L AS P)		0.651
16702	3/18/2004	00671	ORTHOPHOSPHORUS(MG/L AS P)		0.046
16702	3/12/2003	00671	ORTHOPHOSPHORUS(MG/L AS P)		0.05
12857	7/30/2003	00671	ORTHOPHOSPHORUS(MG/L AS P)		0.01
12857	8/20/2003	00671	ORTHOPHOSPHORUS(MG/L AS P)		0.01
12857	7/23/2003	00671	ORTHOPHOSPHORUS(MG/L AS P)		0.01
12857	8/15/2002	00671	ORTHOPHOSPHORUS(MG/L AS P)	<	0.1
16702	5/26/2004	00671	ORTHOPHOSPHORUS(MG/L AS P)		0.12
12857	7/23/2003	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		2.309
12857	1/15/2003	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		4.365
16702	4/3/2003	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		3.57
12857	10/10/2003	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		2.8
16702	10/10/2003	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		4.2
16702	7/7/2004	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		5.5
12857	8/20/2003	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		4.37
16702	8/13/2003	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		3.05
12857	7/7/2004	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		4.8
12857	6/4/2003	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		3.86
16702	6/4/2003	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		5.04
12857	7/30/2003	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		7.12
16702	8/20/2003	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		3.8
16702	5/26/2004	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		4.9
12857	8/27/2002	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		1.68
12857	8/13/2003	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		2.2
16702	3/12/2003	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		6.58
12857	8/15/2002	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		3.4
12857	4/3/2003	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		5.52
12857	3/12/2003	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		8.13
16702	8/15/2002	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		3.5
16702	7/23/2003	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		2.76
12857	5/26/2004	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		4
16702	3/18/2004	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		2.3
16702	2/20/2003	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		9.43
16702	9/4/2002	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		1.97
16702	7/30/2003	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		3.08

12857	3/18/2004	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		3.6
12857	2/20/2003	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		6.51
16702	1/15/2003	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		3.557
16702	8/27/2002	00680	CARBON, TOTAL ORGANIC (MG/L AS C)		1.6
12857	9/4/2002	00800			1
12857	7/31/2003	00800			2
16702	7/31/2003	00800			2
16702	9/5/2002	00800			2
16702	9/5/2002	00812	Statewide criteria IBI Score	Int	42
12857	7/31/2003	00812	Statewide criteria IBI Score	Int	44
16702	7/31/2003	00812	Statewide criteria IBI Score	IntHg	46
12857	9/4/2002	00812	Statewide criteria IBI Score	Int	42
12857	7/31/2003	00813	Number of native cyprinid species		5
12857	9/4/2002	00813	Number of native cyprinid species		4
16702	7/31/2003	00813	Number of native cyprinid species		4
16702	9/5/2002	00813	Number of native cyprinid species		3
16702	9/5/2002	00814	Number of benthic invertivore species		2
16702	7/31/2003	00814	Number of benthic invertivore species		2
12857	9/4/2002	00814	Number of benthic invertivore species		1
12857	7/31/2003	00814	Number of benthic invertivore species		2
16702	9/5/2002	00816	Percentage of individuals as tolerants ex.G.affinis		9.8
16702	7/31/2003	00816	Percentage of individuals as tolerants ex.G.affinis		2.77
12857	7/31/2003	00816	Percentage of individuals as tolerants ex.G.affinis		6.95
12857	9/4/2002	00816	Percentage of individuals as tolerants ex.G.affinis		24.8
12857	7/31/2003	00817	Number of individuals/seine haul		37.3
12857	9/4/2002	00817	Number of individuals/seine haul		16
16702	9/5/2002	00817	Number of individuals/seine haul		9.3
16702	7/31/2003	00817	Number of individuals/seine haul		25.5
16702	7/31/2003	00818	Number of individuals/min electrofishing		6.67
12857	7/31/2003	00818	Number of individuals/min electrofishing		7.1
12857	9/4/2002	00818	Number of individuals/min electrofishing		9.4
16702	9/5/2002	00818	Number of individuals/min electrofishing		4.4
12857	9/4/2002	00819	Percentage of ind. as non-native species		5.9
16702	7/31/2003	00819	Percentage of ind. as non-native species		0.79
16702	9/5/2002	00819	Percentage of ind. as non-native species		4.1
12857	7/31/2003	00819	Percentage of ind. as non-native species		0.6
12857	9/4/2002	00820	Regional Criteria IBI Score	Hgh	49
12857	7/31/2003	00820	Regional Criteria IBI Score	Exc	57
16702	9/5/2002	00820	Regional Criteria IBI Score	Excp	53
16702	7/31/2003	00820	Regional Criteria IBI Score	Exc	57
12857	9/4/2002	00832	Total RBP Score	Int	28
16702	9/5/2002	00832	Total RBP Score	Hgh	34
16702	7/31/2003	00832	Total RBP Score	Hgh	34
12857	7/31/2003	00832	Total RBP Score	Hgh	35
16702	7/31/2003	00833	Habitat Quality Index	Hgh	23
12857	7/31/2003	00833	Habitat Quality Index	Int	16
12857	9/4/2002	00833	Habitat Quality Index	Int	16
16702	9/5/2002	00833	Habitat Quality Index	Hgh	23
16702	3/12/2003	00940	CHLORIDE (MG/L AS CL)		20.55
16702	8/13/2003	00940	CHLORIDE (MG/L AS CL)		44.18
16702	3/18/2004	00940	CHLORIDE (MG/L AS CL)		26
12857	3/18/2004	00940	CHLORIDE (MG/L AS CL)		26
12857	4/3/2003	00940	CHLORIDE (MG/L AS CL)		12.72
16702	4/3/2003	00940	CHLORIDE (MG/L AS CL)		21.3
12857	8/20/2003	00940	CHLORIDE (MG/L AS CL)		37.32

12857	10/10/2003	00940	CHLORIDE (MG/L AS CL)		43
12857	6/4/2003	00940	CHLORIDE (MG/L AS CL)		14.28
16702	6/4/2003	00940	CHLORIDE (MG/L AS CL)		19.26
12857	7/23/2003	00940	CHLORIDE (MG/L AS CL)		17.44
16702	10/10/2003	00940	CHLORIDE (MG/L AS CL)		63
16702	7/23/2003	00940	CHLORIDE (MG/L AS CL)		26.82
12857	8/13/2003	00940	CHLORIDE (MG/L AS CL)		17.34
12857	7/30/2003	00940	CHLORIDE (MG/L AS CL)		17.82
16702	7/30/2003	00940	CHLORIDE (MG/L AS CL)		30.66
16702	8/20/2003	00940	CHLORIDE (MG/L AS CL)		49.87
16702	2/20/2003	00940	CHLORIDE (MG/L AS CL)		14.24
16702	7/7/2004	00940	CHLORIDE (MG/L AS CL)		23
12857	1/15/2003	00940	CHLORIDE (MG/L AS CL)		11.81
16702	1/15/2003	00940	CHLORIDE (MG/L AS CL)		18.58
12857	7/7/2004	00940	CHLORIDE (MG/L AS CL)		22
12857	2/20/2003	00940	CHLORIDE (MG/L AS CL)		10.33
12857	3/12/2003	00940	CHLORIDE (MG/L AS CL)		14.53
12857	8/27/2002	00940	CHLORIDE (MG/L AS CL)		10.9
12857	5/26/2004	00940	CHLORIDE (MG/L AS CL)		24
16702	8/15/2002	00940	CHLORIDE (MG/L AS CL)		18.1
16702	5/26/2004	00940	CHLORIDE (MG/L AS CL)		26
12857	8/15/2002	00940	CHLORIDE (MG/L AS CL)		9.8
16702	8/27/2002	00940	CHLORIDE (MG/L AS CL)		16.2
16702	6/4/2003	00945	SULFATE (MG/L AS SO4)		9.27
16702	7/7/2004	00945	SULFATE (MG/L AS SO4)		33.5
16702	7/30/2003	00945	SULFATE (MG/L AS SO4)		220.54
16702	8/27/2002	00945	SULFATE (MG/L AS SO4)		23.8
12857	7/7/2004	00945	SULFATE (MG/L AS SO4)		23.6
12857	7/30/2003	00945	SULFATE (MG/L AS SO4)	<	7.2
12857	1/15/2003	00945	SULFATE (MG/L AS SO4)	<	7.2
16702	7/23/2003	00945	SULFATE (MG/L AS SO4)		20.34
16702	1/15/2003	00945	SULFATE (MG/L AS SO4)		15.11
16702	3/12/2003	00945	SULFATE (MG/L AS SO4)		9.99
12857	7/23/2003	00945	SULFATE (MG/L AS SO4)	<	7.2
16702	2/20/2003	00945	SULFATE (MG/L AS SO4)	<	7.2
16702	10/10/2003	00945	SULFATE (MG/L AS SO4)		47
16702	8/15/2002	00945	SULFATE (MG/L AS SO4)		20
12857	2/20/2003	00945	SULFATE (MG/L AS SO4)	<	7.2
12857	6/4/2003	00945	SULFATE (MG/L AS SO4)	<	7.2
12857	3/12/2003	00945	SULFATE (MG/L AS SO4)	<	7.2
12857	5/26/2004	00945	SULFATE (MG/L AS SO4)		25.8
12857	10/10/2003	00945	SULFATE (MG/L AS SO4)		31
16702	4/3/2003	00945	SULFATE (MG/L AS SO4)		22.86
16702	5/26/2004	00945	SULFATE (MG/L AS SO4)		39.5
12857	8/27/2002	00945	SULFATE (MG/L AS SO4)		38
12857	4/3/2003	00945	SULFATE (MG/L AS SO4)		40.71
12857	3/18/2004	00945	SULFATE (MG/L AS SO4)		19
12857	8/15/2002	00945	SULFATE (MG/L AS SO4)		15.4
12857	8/20/2003	00945	SULFATE (MG/L AS SO4)		13.16
16702	8/20/2003	00945	SULFATE (MG/L AS SO4)		32.88
16702	8/13/2003	00945	SULFATE (MG/L AS SO4)		31.76
12857	8/13/2003	00945	SULFATE (MG/L AS SO4)	<	7.2
12857	7/7/2004	01351	FLOW:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=D		3
16702	5/26/2004	01351	FLOW:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=D		3
16702	10/10/2003	01351	FLOW:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=D		3

12857	4/3/2003	01351	FLOW:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=D		3
12857	8/20/2003	01351	FLOW:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=D		2
16702	8/20/2003	01351	FLOW:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=D		2
16702	3/12/2003	01351	FLOW:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=D		3
16702	8/13/2003	01351	FLOW:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=D		2
12857	7/23/2003	01351	FLOW:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=D		2
12857	2/20/2003	01351	FLOW:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=D		4
12857	7/30/2003	01351	FLOW:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=D		2
12857	10/10/2003	01351	FLOW:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=D		3
16702	7/7/2004	01351	FLOW:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=D		3
16702	4/3/2003	01351	FLOW:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=D		3
16702	3/18/2004	01351	FLOW:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=D		3
12857	3/18/2004	01351	FLOW:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=D		3
12857	8/13/2003	01351	FLOW:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=D		2
12857	1/15/2003	01351	FLOW:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=D		5
16702	6/4/2003	01351	FLOW:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=D		3
12857	5/26/2004	01351	FLOW:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=D		3
16702	7/30/2003	01351	FLOW:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=D		2
12857	6/4/2003	01351	FLOW:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=D		3
16702	1/15/2003	01351	FLOW:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=D		5
16702	2/20/2003	01351	FLOW:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=D		4
12857	3/12/2003	01351	FLOW:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=D		3
16702	7/23/2003	01351	FLOW:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=D		2
16702	8/15/2002	31616	#/100ML		920
12857	8/15/2002	31616	#/100ML		2860
12857	9/4/2002	31616	#/100ML		11360
16702	3/12/2003	31616	#/100ML		35.5
16702	8/27/2002	31616	#/100ML		137
12857	8/27/2002	31616	#/100ML		5000
16702	7/30/2003	31616	#/100ML		120
12857	7/30/2003	31616	#/100ML		196
12857	3/12/2003	31616	#/100ML		120
12857	10/10/2003	31648	E. COLI, MTEC, MF, #/100 ML		420
12857	5/26/2004	31648	E. COLI, MTEC, MF, #/100 ML		60
16702	7/7/2004	31648	E. COLI, MTEC, MF, #/100 ML		204
12857	7/7/2004	31648	E. COLI, MTEC, MF, #/100 ML		84
12857	3/18/2004	31648	E. COLI, MTEC, MF, #/100 ML		96
16702	10/10/2003	31648	E. COLI, MTEC, MF, #/100 ML		84
16702	5/26/2004	31648	E. COLI, MTEC, MF, #/100 ML		218
16702	7/30/2003	31699	E. COLI, COLILERT, IDEXX METHOD, MPN/100ML		30.5
16702	9/4/2002	31699	E. COLI, COLILERT, IDEXX METHOD, MPN/100ML		95.9
12857	7/23/2003	31699	E. COLI, COLILERT, IDEXX METHOD, MPN/100ML	>	2419
12857	8/27/2002	31699	E. COLI, COLILERT, IDEXX METHOD, MPN/100ML		96
12857	8/13/2003	31699	E. COLI, COLILERT, IDEXX METHOD, MPN/100ML	>	2419
16702	7/23/2003	31699	E. COLI, COLILERT, IDEXX METHOD, MPN/100ML		54.6
12857	8/20/2003	31699	E. COLI, COLILERT, IDEXX METHOD, MPN/100ML	>	2418
12857	2/20/2003	31699	E. COLI, COLILERT, IDEXX METHOD, MPN/100ML		461.1
16702	8/20/2003	31699	E. COLI, COLILERT, IDEXX METHOD, MPN/100ML		10.8
12857	8/15/2002	31699	E. COLI, COLILERT, IDEXX METHOD, MPN/100ML		249.2
16702	8/15/2002	31699	E. COLI, COLILERT, IDEXX METHOD, MPN/100ML		613.1
12857	7/30/2003	31699	E. COLI, COLILERT, IDEXX METHOD, MPN/100ML	>	2419
16702	2/20/2003	31699	E. COLI, COLILERT, IDEXX METHOD, MPN/100ML		71.7
12857	3/12/2003	31699	E. COLI, COLILERT, IDEXX METHOD, MPN/100ML		69.1
16702	8/27/2002	31699	E. COLI, COLILERT, IDEXX METHOD, MPN/100ML	>	2419.2
16702	6/4/2003	31699	E. COLI, COLILERT, IDEXX METHOD, MPN/100ML		39.3

12857	6/4/2003	31699	E. COLI, COLILERT, IDEXX METHOD, MPN/100ML	>	2419.2
12857	9/4/2002	31699	E. COLI, COLILERT, IDEXX METHOD, MPN/100ML	>	2419.2
16702	3/12/2003	31699	E. COLI, COLILERT, IDEXX METHOD, MPN/100ML		86.5
16702	4/3/2003	32211	METH	<	0.25
16702	3/12/2003	32211	METH	<	0.25
12857	2/20/2003	32211	METH	<	0.25
16702	3/18/2004	32211	METH	<	1
12857	4/3/2003	32211	METH	<	0.25
12857	10/10/2003	32211	METH		1.7
16702	7/23/2003	32211	METH	<	0.25
12857	8/27/2002	32211	METH	<	2
12857	8/20/2003	32211	METH	<	0.25
16702	8/20/2003	32211	METH	<	0.25
16702	7/30/2003	32211	METH	<	0.25
12857	7/7/2004	32211	METH	<	1
16702	8/15/2002	32211	METH	<	2
12857	3/18/2004	32211	METH	<	1
12857	7/30/2003	32211	METH	<	0.25
16702	5/26/2004	32211	METH		1
16702	8/13/2003	32211	METH	<	0.25
12857	5/26/2004	32211	METH	<	1
16702	8/27/2002	32211	METH	<	2
16702	6/4/2003	32211	METH	<	0.25
16702	7/7/2004	32211	METH	<	1
12857	7/23/2003	32211	METH	<	0.25
16702	2/20/2003	32211	METH	<	0.25
12857	8/13/2003	32211	METH	<	0.25
12857	3/12/2003	32211	METH	<	0.25
16702	9/4/2002	32211	METH	<	0.25
12857	6/4/2003	32211	METH	<	0.25
12857	8/15/2002	32211	METH	<	2
12857	9/4/2002	32211	METH	<	0.25
16702	10/10/2003	32211	METH		3
16702	4/3/2003	32218	METH.	<	0.25
12857	10/10/2003	32218	METH.	<	1
16702	8/13/2003	32218	METH.	<	0.25
12857	7/7/2004	32218	METH.	<	1
16702	3/12/2003	32218	METH.	<	0.25
12857	3/12/2003	32218	METH.	<	0.25
12857	3/18/2004	32218	METH.		8.8
12857	9/4/2002	32218	METH.	<	0.25
12857	4/3/2003	32218	METH.	<	0.25
16702	8/15/2002	32218	METH.	<	2
16702	6/4/2003	32218	METH.	<	0.25
12857	5/26/2004	32218	METH.		3.3
12857	7/23/2003	32218	METH.	<	0.25
16702	8/27/2002	32218	METH.	<	2
16702	2/20/2003	32218	METH.	<	0.25
16702	7/23/2003	32218	METH.	<	0.25
16702	9/4/2002	32218	METH.	<	0.25
12857	7/30/2003	32218	METH.	<	0.25
12857	8/13/2003	32218	METH.	<	0.25
16702	7/7/2004	32218	METH.	<	1
16702	5/26/2004	32218	METH.		1.17
16702	8/20/2003	32218	METH.	<	0.25

16702	7/30/2003	32218	METH.	<	0.25
12857	8/20/2003	32218	METH.	<	0.25
12857	8/27/2002	32218	METH.	<	2
12857	8/15/2002	32218	METH.		3.9
16702	10/10/2003	32218	METH.	<	1
16702	3/18/2004	32218	METH.		8
12857	2/20/2003	32218	METH.	<	0.25
12857	6/4/2003	32218	METH.	<	0.25
16702	7/31/2003	72052	STREAMBED SLOPE (FT/FT)		0.0013
12857	9/4/2002	72052	STREAMBED SLOPE (FT/FT)		0.0076
12857	7/31/2003	72052	STREAMBED SLOPE (FT/FT)		0.0076
16702	9/5/2002	72052	STREAMBED SLOPE (FT/FT)		0.0013
16702	7/7/2004	72053	DAYS SINCE PRECIPITATION EVENT (DAYS)	>	7
12857	5/26/2004	72053	DAYS SINCE PRECIPITATION EVENT (DAYS)	>	7
16702	7/30/2003	72053	DAYS SINCE PRECIPITATION EVENT (DAYS)	>	14
12857	1/15/2003	72053	DAYS SINCE PRECIPITATION EVENT (DAYS)		2
16702	6/4/2003	72053	DAYS SINCE PRECIPITATION EVENT (DAYS)		1
16702	1/15/2003	72053	DAYS SINCE PRECIPITATION EVENT (DAYS)		2
16702	3/18/2004	72053	DAYS SINCE PRECIPITATION EVENT (DAYS)	>	7
16702	5/26/2004	72053	DAYS SINCE PRECIPITATION EVENT (DAYS)	>	7
12857	6/4/2003	72053	DAYS SINCE PRECIPITATION EVENT (DAYS)		1
16702	7/23/2003	72053	DAYS SINCE PRECIPITATION EVENT (DAYS)	>	14
12857	7/23/2003	72053	DAYS SINCE PRECIPITATION EVENT (DAYS)	>	14
12857	7/7/2004	72053	DAYS SINCE PRECIPITATION EVENT (DAYS)	>	7
16702	8/20/2003	72053	DAYS SINCE PRECIPITATION EVENT (DAYS)	>	14
12857	7/30/2003	72053	DAYS SINCE PRECIPITATION EVENT (DAYS)	>	14
16702	8/13/2003	72053	DAYS SINCE PRECIPITATION EVENT (DAYS)	>	14
12857	8/20/2003	72053	DAYS SINCE PRECIPITATION EVENT (DAYS)	>	14
12857	3/18/2004	72053	DAYS SINCE PRECIPITATION EVENT (DAYS)	>	7
12857	8/13/2003	72053	DAYS SINCE PRECIPITATION EVENT (DAYS)	>	14
16702	7/31/2003	84159	AVERAGE PERCENTAGE INSTREAM COVER		35
16702	9/5/2002	84159	AVERAGE PERCENTAGE INSTREAM COVER		51
12857	7/31/2003	84159	AVERAGE PERCENTAGE INSTREAM COVER		19
12857	9/4/2002	84159	AVERAGE PERCENTAGE INSTREAM COVER		34
16702	9/5/2002	84161	STREAM ORDER		4
12857	9/4/2002	84161	STREAM ORDER		4
12857	7/31/2003	84161	STREAM ORDER		4
16702	7/31/2003	84161	STREAM ORDER		4
12857	7/31/2003	89832	NUMBER OF LATERAL TRANSECTS MADE		5
12857	9/4/2002	89832	NUMBER OF LATERAL TRANSECTS MADE		5
16702	9/5/2002	89832	NUMBER OF LATERAL TRANSECTS MADE		5
16702	7/31/2003	89832	NUMBER OF LATERAL TRANSECTS MADE		5
12857	7/7/2004	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
12857	8/15/2002	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
16702	8/20/2003	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
16702	8/15/2002	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
12857	10/10/2003	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
12857	2/20/2003	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
16702	4/3/2003	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
12857	4/3/2003	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
16702	6/4/2003	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
12857	3/12/2003	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
12857	8/20/2003	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
16702	3/18/2004	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
16702	7/23/2003	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2

16702	3/12/2003	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
16702	8/13/2003	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
16702	1/15/2003	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
16702	10/10/2003	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
16702	5/26/2004	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
12857	7/23/2003	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
16702	9/4/2002	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
16702	7/7/2004	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
12857	9/4/2002	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
12857	7/30/2003	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
12857	5/26/2004	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
12857	6/4/2003	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
12857	3/18/2004	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
16702	7/30/2003	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
16702	8/27/2002	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
12857	1/15/2003	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
12857	8/13/2003	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
12857	8/27/2002	89835	FLOW MTH 1=Gage Station 2=Elec 3=Mech 4=Weir/Flu		2
12857	7/31/2003	89839	TOTAL NUMBER OF STREAM BENDS		1
12857	9/4/2002	89839	TOTAL NUMBER OF STREAM BENDS		1
16702	9/5/2002	89839	TOTAL NUMBER OF STREAM BENDS		1
16702	7/31/2003	89839	TOTAL NUMBER OF STREAM BENDS		1
16702	9/5/2002	89840	NUMBER OF WELL DEFINED STREAM BENDS		0
12857	7/31/2003	89840	NUMBER OF WELL DEFINED STREAM BENDS		0
12857	9/4/2002	89840	NUMBER OF WELL DEFINED STREAM BENDS		0
16702	7/31/2003	89840	NUMBER OF WELL DEFINED STREAM BENDS		0
12857	9/4/2002	89841	NUMBER OF MODERATELY DEFINED STREAM BENDS		0
16702	9/5/2002	89841	NUMBER OF MODERATELY DEFINED STREAM BENDS		0
16702	7/31/2003	89841	NUMBER OF MODERATELY DEFINED STREAM BENDS		0
12857	7/31/2003	89841	NUMBER OF MODERATELY DEFINED STREAM BENDS		0
12857	7/31/2003	89842	NUMBER OF POORLY DEFINED STREAM BENDS		1
12857	9/4/2002	89842	NUMBER OF POORLY DEFINED STREAM BENDS		1
16702	7/31/2003	89842	NUMBER OF POORLY DEFINED STREAM BENDS		1
16702	9/5/2002	89842	NUMBER OF POORLY DEFINED STREAM BENDS		1
12857	7/31/2003	89843	TOTAL NUMBER OF RIFFLES		2
12857	9/4/2002	89843	TOTAL NUMBER OF RIFFLES		3
16702	7/31/2003	89843	TOTAL NUMBER OF RIFFLES		3
16702	9/5/2002	89843	TOTAL NUMBER OF RIFFLES		3
12857	7/31/2003	89844	DOMINANT SUBSTRATE TYPE		7
12857	9/4/2002	89844	DOMINANT SUBSTRATE TYPE		7
16702	7/31/2003	89844	DOMINANT SUBSTRATE TYPE		5
16702	9/5/2002	89844	DOMINANT SUBSTRATE TYPE		5
16702	9/5/2002	89845	LARG		78
12857	9/4/2002	89845	LARG		31
16702	7/31/2003	89845	LARG		93
12857	7/31/2003	89845	LARG		96
16702	9/5/2002	89846	AVERAGE STREAM BANK EROSION (%)		40
12857	9/4/2002	89846	AVERAGE STREAM BANK EROSION (%)		28
12857	7/31/2003	89846	AVERAGE STREAM BANK EROSION (%)		49
16702	7/31/2003	89846	AVERAGE STREAM BANK EROSION (%)		46
16702	7/31/2003	89847	AVERAGE STREAM BANK SLOPE (DEGREES)		16
16702	9/5/2002	89847	AVERAGE STREAM BANK SLOPE (DEGREES)		17
12857	9/4/2002	89847	AVERAGE STREAM BANK SLOPE (DEGREES)		40
12857	7/31/2003	89847	AVERAGE STREAM BANK SLOPE (DEGREES)		36
16702	9/5/2002	89849	VEGETATION		17

12857	9/4/2002	89849	VEGETATION		2
12857	7/31/2003	89849	VEGETATION		2
16702	7/31/2003	89849	VEGETATION		8
12857	7/31/2003	89850	VEGETATION		0
12857	9/4/2002	89850	VEGETATION		2.3
16702	7/31/2003	89850	VEGETATION		2
16702	9/5/2002	89850	VEGETATION		2
16702	9/5/2002	89851	VEGETATION		62.5
16702	7/31/2003	89851	VEGETATION		72
12857	9/4/2002	89851	VEGETATION		25.4
12857	7/31/2003	89851	VEGETATION		33
16702	9/5/2002	89853	VEGETATION		18.5
12857	9/4/2002	89853	VEGETATION		70.3
12857	7/31/2003	89853	VEGETATION		65
16702	7/31/2003	89853	VEGETATION		18
16702	9/5/2002	89854	COVERAGE		87
12857	7/31/2003	89854	COVERAGE		4
16702	7/31/2003	89854	COVERAGE		92
12857	9/4/2002	89854	COVERAGE		13
16702	3/12/2003	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		8.46
12857	3/12/2003	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		9.04
12857	4/3/2003	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		8.26
16702	5/27/2004	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		5.84
16702	10/10/2003	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		3.93
12857	8/20/2003	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		4.04
12857	1/15/2003	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		9.48
12857	8/27/2002	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		6.24
16702	6/4/2003	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		3.86
16702	8/15/2002	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		6.13
16702	1/15/2003	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		8.76
12857	7/23/2003	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		5.62
12857	3/19/2004	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		8.08
16702	3/19/2004	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		6.32
12857	2/20/2003	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		8.13
12857	10/10/2003	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		5.17
16702	9/4/2002	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		4.42
16702	2/20/2003	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		8.25
16702	7/23/2003	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		4.99
16702	7/30/2003	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		4.48
16702	4/3/2003	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		6.47
16702	8/20/2003	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		4.04
12857	7/30/2003	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		5.74
16702	7/8/2004	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		5.36
12857	6/4/2003	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		4.99
12857	5/27/2004	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		7.1
12857	8/15/2002	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		6.37
12857	9/4/2002	89855	DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA		7.21
12857	7/30/2003	89856	MEA		10.15
16702	5/27/2004	89856	MEA		8.17
12857	8/15/2002	89856	MEA		8.48
12857	8/27/2002	89856	MEA		7.94
16702	4/3/2003	89856	MEA		11.56
16702	7/8/2004	89856	MEA		7.48
16702	9/4/2002	89856	MEA		8.69
16702	7/23/2003	89856	MEA		11.27

16702	1/15/2003	89856	MEA		10.85
12857	3/19/2004	89856	MEA		9.21
12857	9/4/2002	89856	MEA		9.22
12857	1/15/2003	89856	MEA		10.26
16702	7/30/2003	89856	MEA		11.89
12857	4/3/2003	89856	MEA		10.66
16702	3/12/2003	89856	MEA		10.43
16702	10/10/2003	89856	MEA		8.28
16702	8/15/2002	89856	MEA		8.33
16702	6/4/2003	89856	MEA		7.19
12857	10/10/2003	89856	MEA		10.6
16702	3/19/2004	89856	MEA		8.55
16702	8/20/2003	89856	MEA		8.61
12857	5/27/2004	89856	MEA		9.01
12857	2/20/2003	89856	MEA		10.35
12857	8/20/2003	89856	MEA		17.17
12857	6/4/2003	89856	MEA		9.5
16702	2/20/2003	89856	MEA		11.31
12857	7/23/2003	89856	MEA		9.8
12857	3/12/2003	89856	MEA		10.46
12857	8/15/2002	89857	MEA		7.02
16702	4/3/2003	89857	MEA		8.51
16702	3/19/2004	89857	MEA		7.05
12857	5/27/2004	89857	MEA		7.97
12857	4/3/2003	89857	MEA		9.257
12857	3/12/2003	89857	MEA		9.45
16702	7/23/2003	89857	MEA		7.37
16702	7/8/2004	89857	MEA		6.12
16702	10/10/2003	89857	MEA		6.04
12857	2/20/2003	89857	MEA		9.51
12857	6/4/2003	89857	MEA		6.67
16702	9/4/2002	89857	MEA		5.92
12857	7/30/2003	89857	MEA		7.7
16702	5/27/2004	89857	MEA		6.79
12857	7/23/2003	89857	MEA		7.52
16702	3/12/2003	89857	MEA		9.07
16702	1/15/2003	89857	MEA		9.44
16702	7/30/2003	89857	MEA		7.68
12857	9/4/2002	89857	MEA		8.06
16702	8/15/2002	89857	MEA		6.96
12857	1/15/2003	89857	MEA		9.79
12857	8/27/2002	89857	MEA		6.89
16702	8/20/2003	89857	MEA		6.43
12857	8/20/2003	89857	MEA		7.94
16702	6/4/2003	89857	MEA		5.51
12857	3/19/2004	89857	MEA		8.46
12857	10/10/2003	89857	MEA		7.31
16702	2/20/2003	89857	MEA		9.25
16702	7/23/2003	89858	HRS		96
12857	3/19/2004	89858	HRS		89
12857	7/23/2003	89858	HRS		96
16702	10/10/2003	89858	HRS		91
12857	2/20/2003	89858	HRS		96
12857	4/3/2003	89858	HRS		97
16702	2/20/2003	89858	HRS		96

16702	9/4/2002	89858	HRS		96
12857	9/4/2002	89858	HRS		96
16702	6/4/2003	89858	HRS		97
12857	7/30/2003	89858	HRS		96
16702	3/12/2003	89858	HRS		96
12857	8/15/2002	89858	HRS		94
12857	8/20/2003	89858	HRS		96
12857	8/27/2002	89858	HRS		96
16702	8/15/2002	89858	HRS		96
16702	5/27/2004	89858	HRS		96
16702	1/15/2003	89858	HRS		96
16702	7/30/2003	89858	HRS		96
12857	3/12/2003	89858	HRS		96
16702	4/3/2003	89858	HRS		97
16702	7/8/2004	89858	HRS		96
16702	3/19/2004	89858	HRS		90
12857	10/10/2003	89858	HRS		95
12857	6/4/2003	89858	HRS		97
12857	1/15/2003	89858	HRS		96
12857	5/27/2004	89858	HRS		96
16702	8/20/2003	89858	HRS		96
16702	9/5/2002	89859	TRANSECT (KM		163.3
12857	9/4/2002	89859	TRANSECT (KM		72.1
12857	7/31/2003	89859	TRANSECT (KM		72
16702	7/31/2003	89859	TRANSECT (KM		163
16702	9/5/2002	89860	LENGTH OF STREAM EVALUATED (KM)		0.225
16702	7/31/2003	89860	LENGTH OF STREAM EVALUATED (KM)		0.225
12857	7/31/2003	89860	LENGTH OF STREAM EVALUATED (KM)		0.2
12857	9/4/2002	89860	LENGTH OF STREAM EVALUATED (KM)		0.2
16702	7/31/2003	89861	AVERAGE STREAM WIDTH (METERS)		7.92
12857	7/31/2003	89861	AVERAGE STREAM WIDTH (METERS)		9.16
12857	9/4/2002	89861	AVERAGE STREAM WIDTH (METERS)		10.52
16702	9/5/2002	89861	AVERAGE STREAM WIDTH (METERS)		8.16
16702	7/31/2003	89862	AVERAGE STREAM DEPTH (METERS)		0.32
16702	9/5/2002	89862	AVERAGE STREAM DEPTH (METERS)		0.36
12857	7/31/2003	89862	AVERAGE STREAM DEPTH (METERS)		0.18
12857	9/4/2002	89862	AVERAGE STREAM DEPTH (METERS)		0.11
12857	9/4/2002	89864	MAXIMUM POOL WIDTH (METERS)		8
16702	9/5/2002	89864	MAXIMUM POOL WIDTH (METERS)		6
12857	7/31/2003	89864	MAXIMUM POOL WIDTH (METERS)		9
16702	7/31/2003	89864	MAXIMUM POOL WIDTH (METERS)		12
12857	9/4/2002	89865	MAXIMUM POOL DEPTH (METERS)	<	0.5
16702	7/31/2003	89865	MAXIMUM POOL DEPTH (METERS)	>	1
16702	9/5/2002	89865	MAXIMUM POOL DEPTH (METERS)	>	1
12857	7/31/2003	89865	MAXIMUM POOL DEPTH (METERS)	<	0.5
16702	9/5/2002	89866	VEGETATION (M)	>	20
12857	9/4/2002	89866	VEGETATION (M)		1
16702	7/31/2003	89866	VEGETATION (M)	>	20
12857	7/31/2003	89866	VEGETATION (M)		10
16702	7/31/2003	89867	AESTHETICS (1=WILD 2=NAT. 3=COMM. 4=OFF.)		2
12857	9/4/2002	89867	AESTHETICS (1=WILD 2=NAT. 3=COMM. 4=OFF.)		3
16702	9/5/2002	89867	AESTHETICS (1=WILD 2=NAT. 3=COMM. 4=OFF.)		2
12857	7/31/2003	89867	AESTHETICS (1=WILD 2=NAT. 3=COMM. 4=OFF.)		3
12857	7/31/2003	89899	KICKNET		1
12857	9/4/2002	89899	KICKNET		4

16702	9/5/2002	89899	KICKNET		4
16702	7/31/2003	89899	KICKNET		1
16702	7/31/2003	89905	PICKED		0
12857	7/31/2003	89905	PICKED		0
12857	9/4/2002	89905	PICKED		0
16702	9/5/2002	89905	PICKED		0
16702	7/31/2003	89906	(#IND)		116
16702	9/5/2002	89906	(#IND)		104
12857	9/4/2002	89906	(#IND)		101
12857	7/31/2003	89906	(#IND)		110
16702	9/5/2002	89941	NET LENGTH (METERS)		5.49
12857	7/31/2003	89941	NET LENGTH (METERS)		5.49
16702	7/31/2003	89941	NET LENGTH (METERS)		5.49
12857	9/4/2002	89941	NET LENGTH (METERS)		5.49
16702	9/5/2002	89943	1BOAT2BACKPACK3TOTEBARGE		2
12857	9/4/2002	89943	1BOAT2BACKPACK3TOTEBARGE		2
12857	7/31/2003	89943	1BOAT2BACKPACK3TOTEBARGE		2
16702	7/31/2003	89943	1BOAT2BACKPACK3TOTEBARGE		2
12857	7/31/2003	89944	(SEC)	>	899
16702	7/31/2003	89944	(SEC)		900
16702	9/5/2002	89944	(SEC)	>	900
12857	9/4/2002	89944	(SEC)	>	900
12857	9/4/2002	89946	MESH SIZE, ANY NET OR SIEVE, AVERAGE BAR (CM)		0.3175
12857	7/31/2003	89946	MESH SIZE, ANY NET OR SIEVE, AVERAGE BAR (CM)		0.3175
16702	7/31/2003	89946	MESH SIZE, ANY NET OR SIEVE, AVERAGE BAR (CM)		0.3175
16702	9/5/2002	89946	MESH SIZE, ANY NET OR SIEVE, AVERAGE BAR (CM)		0.3175
16702	7/31/2003	89948	COMBINED LENGTH OF SEINE HAULS (METERS)		6
12857	7/31/2003	89948	COMBINED LENGTH OF SEINE HAULS (METERS)		6
12857	9/4/2002	89948	COMBINED LENGTH OF SEINE HAULS (METERS)		60
16702	9/5/2002	89948	COMBINED LENGTH OF SEINE HAULS (METERS)		60
12857	9/4/2002	89950	(1=SURB,2=EKM,3=KICK,4=PET,5=H-D		3
16702	9/5/2002	89950	(1=SURB,2=EKM,3=KICK,4=PET,5=H-D		3
12857	7/31/2003	89950	(1=SURB,2=EKM,3=KICK,4=PET,5=H-D		3
16702	7/31/2003	89950	(1=SURB,2=EKM,3=KICK,4=PET,5=H-D		3
16702	7/31/2003	89961	ECOREGION (TEXAS ECOREGION CODE)		30
12857	9/4/2002	89961	ECOREGION (TEXAS ECOREGION CODE)		30
16702	9/5/2002	89961	ECOREGION (TEXAS ECOREGION CODE)		30
12857	7/31/2003	89961	ECOREGION (TEXAS ECOREGION CODE)		30
16702	9/5/2002	89976	AREA SEINED (SQ METERS)		330
12857	9/4/2002	89976	AREA SEINED (SQ METERS)		330
16702	7/31/2003	89976	AREA SEINED (SQ METERS)		330
12857	7/31/2003	89976	AREA SEINED (SQ METERS)		330
16702	7/31/2003	90007	HILSENHOFF BIOTIC INDEX		3.36
12857	7/31/2003	90007	HILSENHOFF BIOTIC INDEX		4.47
16702	9/5/2002	90007	HILSENHOFF BIOTIC INDEX		3.62
12857	9/4/2002	90007	HILSENHOFF BIOTIC INDEX		4.78
12857	7/31/2003	90008	EPT INDEX		8
12857	9/4/2002	90008	EPT INDEX		7
16702	7/31/2003	90008	EPT INDEX		8
16702	9/5/2002	90008	EPT INDEX		6
16702	7/31/2003	90009	NUMBER OF BENTHIC FUNCTIONAL FEEDING GROUPS		4
12857	7/31/2003	90009	NUMBER OF BENTHIC FUNCTIONAL FEEDING GROUPS		4
16702	9/5/2002	90009	NUMBER OF BENTHIC FUNCTIONAL FEEDING GROUPS		4
12857	9/4/2002	90009	NUMBER OF BENTHIC FUNCTIONAL FEEDING GROUPS		4
16702	7/31/2003	90010	COMMUNIT		36.35

12857	9/4/2002	90010	COMMUNIT		46
12857	7/31/2003	90010	COMMUNIT		37.1
16702	9/5/2002	90010	COMMUNIT		38
16702	7/31/2003	90025	BENTHIC GATHERERS (% OF COMMUNITY)		36.4
12857	7/31/2003	90025	BENTHIC GATHERERS (% OF COMMUNITY)		21.7
12857	9/4/2002	90025	BENTHIC GATHERERS (% OF COMMUNITY)		10
16702	9/5/2002	90025	BENTHIC GATHERERS (% OF COMMUNITY)		19
12857	7/31/2003	90030	BENTHIC FILTERERS (% OF COMMUNITY)		37.1
16702	7/31/2003	90030	BENTHIC FILTERERS (% OF COMMUNITY)		8.3
16702	9/5/2002	90030	BENTHIC FILTERERS (% OF COMMUNITY)		21
12857	9/4/2002	90030	BENTHIC FILTERERS (% OF COMMUNITY)		46
16702	7/31/2003	90035	BENTHIC SHREDDERS (% OF COMMUNITY)		0
12857	9/4/2002	90035	BENTHIC SHREDDERS (% OF COMMUNITY)		0
16702	9/5/2002	90035	BENTHIC SHREDDERS (% OF COMMUNITY)		0
12857	7/31/2003	90035	BENTHIC SHREDDERS (% OF COMMUNITY)		0
12857	7/31/2003	90036	BENTHIC PREDATORS (% OF COMMUNITY)		31.7
12857	9/4/2002	90036	BENTHIC PREDATORS (% OF COMMUNITY)		37
16702	9/5/2002	90036	BENTHIC PREDATORS (% OF COMMUNITY)		38
16702	7/31/2003	90036	BENTHIC PREDATORS (% OF COMMUNITY)		21.3
16702	9/5/2002	90042	PERCENT DOMINANT TAXON, BENTHOS		25
16702	7/31/2003	90042	PERCENT DOMINANT TAXON, BENTHOS		23.3
12857	7/31/2003	90042	PERCENT DOMINANT TAXON, BENTHOS		11.8
12857	9/4/2002	90042	PERCENT DOMINANT TAXON, BENTHOS		22.77
12857	9/4/2002	90050	BENTHOS		0.68
16702	7/31/2003	90050	BENTHOS		3.74
16702	9/5/2002	90050	BENTHOS		2.55
12857	7/31/2003	90050	BENTHOS		1.29
16702	7/31/2003	90052	NUMBER OF NON-INSECT TAXA		2
16702	9/5/2002	90052	NUMBER OF NON-INSECT TAXA		1
12857	9/4/2002	90052	NUMBER OF NON-INSECT TAXA		0
12857	7/31/2003	90052	NUMBER OF NON-INSECT TAXA		2
12857	9/4/2002	90054	PERCENT OF TOTAL NUMBER AS ELMIDAE		2.97
12857	7/31/2003	90054	PERCENT OF TOTAL NUMBER AS ELMIDAE		10
16702	9/5/2002	90054	PERCENT OF TOTAL NUMBER AS ELMIDAE		2.88
16702	7/31/2003	90054	PERCENT OF TOTAL NUMBER AS ELMIDAE		39.66
16702	9/5/2002	92266	TRICHOPTERA		35
16702	7/31/2003	92266	TRICHOPTERA		100
12857	9/4/2002	92266	TRICHOPTERA		48.94
12857	7/31/2003	92266	TRICHOPTERA		56
16702	7/31/2003	92491	CHIRONOMIDAE		1.72
16702	9/5/2002	92491	CHIRONOMIDAE		0.96
12857	7/31/2003	92491	CHIRONOMIDAE		3.67
12857	9/4/2002	92491	CHIRONOMIDAE		0
16702	9/5/2002	98003	NUMBER OF SPECIES, FISH		17
16702	7/31/2003	98003	NUMBER OF SPECIES, FISH		16
12857	7/31/2003	98003	NUMBER OF SPECIES, FISH		18
12857	9/4/2002	98003	NUMBER OF SPECIES, FISH		13
16702	7/31/2003	98004	TOTAL NUMBER OF DARTER SPECIES		2
16702	9/5/2002	98004	TOTAL NUMBER OF DARTER SPECIES		2
12857	7/31/2003	98004	TOTAL NUMBER OF DARTER SPECIES		2
12857	9/4/2002	98004	TOTAL NUMBER OF DARTER SPECIES		1
16702	7/31/2003	98008	TOTAL NUMBER OF SUNFISH SPECIES		5
12857	7/31/2003	98008	TOTAL NUMBER OF SUNFISH SPECIES		6
12857	9/4/2002	98008	TOTAL NUMBER OF SUNFISH SPECIES		6
16702	9/5/2002	98008	TOTAL NUMBER OF SUNFISH SPECIES		8

16702	7/31/2003	98009	TOTAL NUMBER OF SUCKER SPECIES		0
12857	7/31/2003	98009	TOTAL NUMBER OF SUCKER SPECIES		0
12857	9/4/2002	98009	TOTAL NUMBER OF SUCKER SPECIES		0
16702	9/5/2002	98009	TOTAL NUMBER OF SUCKER SPECIES		0
16702	7/31/2003	98010	TOTAL NUMBER OF INTOLERANT SPECIES, FISH		2
12857	7/31/2003	98010	TOTAL NUMBER OF INTOLERANT SPECIES, FISH		2
12857	9/4/2002	98010	TOTAL NUMBER OF INTOLERANT SPECIES, FISH		0
16702	9/5/2002	98010	TOTAL NUMBER OF INTOLERANT SPECIES, FISH		2
16702	9/5/2002	98016	PERCENT OF INDIVIDUALS AS TOLERANTS, FISH		9.8
16702	7/31/2003	98016	PERCENT OF INDIVIDUALS AS TOLERANTS, FISH		10.3
12857	7/31/2003	98016	PERCENT OF INDIVIDUALS AS TOLERANTS, FISH		9.4
12857	9/4/2002	98016	PERCENT OF INDIVIDUALS AS TOLERANTS, FISH		24.8
16702	9/5/2002	98017	PERCENT OF INDIVIDUALS AS OMNIVORES, FISH		5
16702	7/31/2003	98017	PERCENT OF INDIVIDUALS AS OMNIVORES, FISH		1.58
12857	9/4/2002	98017	PERCENT OF INDIVIDUALS AS OMNIVORES, FISH		2
12857	7/31/2003	98017	PERCENT OF INDIVIDUALS AS OMNIVORES, FISH		0.91
16702	7/31/2003	98021	PERCENT OF INDIVIDUALS AS INSECTIVORES, FISH		78.7
12857	7/31/2003	98021	PERCENT OF INDIVIDUALS AS INSECTIVORES, FISH		37.8
12857	9/4/2002	98021	PERCENT OF INDIVIDUALS AS INSECTIVORES, FISH		74
16702	9/5/2002	98021	PERCENT OF INDIVIDUALS AS INSECTIVORES, FISH		76
12857	7/31/2003	98022	PERCENT OF INDIVIDUALS AS PISCIVORES, FISH		2.11
16702	9/5/2002	98022	PERCENT OF INDIVIDUALS AS PISCIVORES, FISH		10
16702	7/31/2003	98022	PERCENT OF INDIVIDUALS AS PISCIVORES, FISH		4.35
12857	9/4/2002	98022	PERCENT OF INDIVIDUALS AS PISCIVORES, FISH		10
12857	7/31/2003	98023	TOTAL NUMBER OF INDIVIDUALS IN SAMPLE, FISH		331
16702	7/31/2003	98023	TOTAL NUMBER OF INDIVIDUALS IN SAMPLE, FISH		253
12857	9/4/2002	98023	TOTAL NUMBER OF INDIVIDUALS IN SAMPLE, FISH		238
16702	9/5/2002	98023	TOTAL NUMBER OF INDIVIDUALS IN SAMPLE, FISH		122
16702	9/5/2002	98024	PERCENT OF INDIVIDUALS AS HYBRIDS		3
16702	9/5/2002	98024	PERCENT OF INDIVIDUALS AS HYBRIDS		3
12857	7/31/2003	98024	PERCENT OF INDIVIDUALS AS HYBRIDS		0
12857	7/31/2003	98024	PERCENT OF INDIVIDUALS AS HYBRIDS		0
16702	7/31/2003	98024	PERCENT OF INDIVIDUALS AS HYBRIDS		0
16702	7/31/2003	98024	PERCENT OF INDIVIDUALS AS HYBRIDS		0
12857	9/4/2002	98024	PERCENT OF INDIVIDUALS AS HYBRIDS		0.5
12857	9/4/2002	98024	PERCENT OF INDIVIDUALS AS HYBRIDS		0.5
16702	7/31/2003	98030	ANOMALY		0.4
12857	7/31/2003	98030	ANOMALY		0
16702	9/5/2002	98030	ANOMALY		0
12857	9/4/2002	98030	ANOMALY		0