

Amendment #1 Update to Appendix B Sampling Process Design and Monitoring Schedule to the Cypress Creek Basin Clean Rivers Program FY 2018/2019 QAPP

***Prepared by the Northeast Texas
Municipal Water District in Cooperation
with the Texas Commission on
Environmental Quality (TCEQ)***

Effective: Immediately upon approval by all parties

Questions concerning this QAPP should be directed to:

Randy Rushin
Project Manager
PO Box 1132
Sulphur Springs, TX 75483
903-439-4741
randy@water-monitor.com

Justification

This document details the changes made to the basin-wide Quality Assurance Project Plan to update Appendix B for fiscal year 2019. This document also updates required field parameters, updates personnel changes, and adds language about laboratory subcontracting and QA responsibilities and updates maps of sample sites. Field Forms in Appendix D have been revised to remove primary contact observations since this information is no longer required.

Summary of Changes

Section A3: The Distribution List was changed to reflect personnel changes at TCEQ and at LCRA ELS.

Section A4: The Project/Task Organization Approval Page was changed to reflect personnel changes at TCEQ and at LCRA ELS.

Figure A4.1: Organization Chart was changed to reflect personnel changes at TCEQ and LCRA ELS.

Section B5: Addition of TNI language referencing the subcontracting of laboratory tests.

Appendix A, Table A7: Removed parameter codes 89978 PRIMARY CONTACT, OBSERVED ACTIVITY (# OF PEOPLE OBSERVED) and 89979 EVIDENCE OF PRIMARY CONTACT RECREATION (1=OBSERVED, 0=NOT OBSERVED) from the required parameters for CRP monitoring.

Appendix A, Table A7: Add parameter code 08910 WIND DIRECTION (1=N, 2=S, 3=E, 4=W, 5=NE, 6=SE, 7=NW, 8=SW).

The following information in Appendix B is amended to reflect changes to:

- Sample design rationale FY 2019
- Monitoring Sites table with updated legends

The following information in Appendix C is amended to reflect changes to:

- Map of monitoring stations

The following information in Appendix D is amended to reflect changes to:

- Stream and Reservoir Field Forms

Detail of Changes

A3 Distribution List

Section A3: The Distribution List was changed to reflect personnel changes at TCEQ: Kelly Rodibaugh was changed to Rebecca DuPont as the TCEQ CRP PM and the phone number was changed from 512-239-1739 to 512-239-6697. The Distribution List was changed to reflect personnel changes at LCRA ELS; Roland Garcia was changed to Dale Jurecka as the LCRA ELS Laboratory Manager; the ELS QA Coordinator title was changed to the LCRA ELA Quality Manager was changed from Jennifer Blossom to Angel Mata.

A4 Project/Task Organization

Section A4: The Project/Task Organization section was changed to reflect personnel changes at TCEQ; Kelly Rodibaugh was changed to Rebecca DuPont as the TCEQ CRP PM. The Project/Task Organization section was changed to reflect personnel changes at LCRA ELS; the ELS QA Coordinator title was changed to the LCRA ELA Quality Manager and was changed from Jennifer Blossom to Angel Mata with additional content.

Figure A4.1. Organization Chart - Lines of Communication

Figure A4.1: Organization Chart was changed to reflect personnel changes at TCEQ; Kelly Rodibaugh was changed to Rebecca DuPont as the TCEQ CRP PM. Organization Chart was changed to reflect personnel changes at LCRA ELS; Roland Garcia was changed to Dale Jurecka as the LCRA ELS Laboratory Manager, and the ELS QA Coordinator title was changed to the LCRA ELA Quality Manager and was changed from Jennifer Blossom to Angel Mata.

B5 Quality Control

Section B5: Added language to the “Quality Control or Acceptability Requirements Deficiencies and Corrective Actions” section to clarify the QA/QC responsibilities of labs included as signatories to this QAPP who subcontract lab work for this project.

Appendix A: Table A7

Table A7: The parameter codes 89978 PRIMARY CONTACT, OBSERVED ACTIVITY (# OF PEOPLE OBSERVED) and 89979 EVIDENCE OF PRIMARY CONTACT RECREATION (1=OBSERVED, 0=NOT OBSERVED) are no longer requested for the CRP program.

The parameter code 08910 WIND DIRECTION (1=N, 2=S, 3=E, 4=W, 5=NE, 6=SE, 7=NW, 8=SW) was added to Table A7. This information is recorded on the field forms and has been reported for many years.

Appendix B: Sample Design Rationale FY 2019

Monitoring Sites Table

The attached monitoring Table B1.1 in Appendix B was modified to reflect monitoring for FY 2019.

Appendix C: Station Location Map

Station Location Map

The attached map is added to Appendix C to reflect monitoring sites for FY 2019.

These changes will be incorporated into the QAPP document and TCEQ and the Northeast Texas Municipal Water District will acknowledge and accept these changes by signing this document.

A1 Approval Page

Texas Commission on Environmental Quality

Water Quality Planning Division

Sarah Eagle, Work Leader Clean Rivers Program	Date
--	------

Kelly Rodibaugh Project Quality Assurance Specialist Clean Rivers Program	Date
---	------

Rebecca DuPont Project Manager Clean Rivers Program	Date
---	------

Cathy Anderson, Team Leader Data Management and Analysis	Date
---	------

Monitoring Division

Sharon Coleman TCEQ QA Manager and Acting Lead CRP QA Specialist	Date
---	------

Northeast Texas Municipal Water District

Walt Sears, Jr.
General Manager

Date

Robert Speight
Project Manager

Date

Water Monitoring Solutions, Inc.

Randy Rushin Project Manager	Date
---------------------------------	------

Dave Bass Data Manager	Date
---------------------------	------

Scott Mgebroff Quality Assurance Officer	Date
---	------

Dr. Roy Darville Data Collection Supervisor	Date
--	------

***Lower Colorado River Authority Environmental Services Laboratory
(LCRA ELS)***

Dale Jurecka	Date
LCRA ELS Laboratory Manager	

Angel Mata	Date
LCRA ELS Quality Manager	

Jason Woods	Date
LCRA ELS Project Manager	

A3 Distribution List

Rebecca DuPont, Project Manager
Clean Rivers Program
MC-234
(512) 239-6697

Dale Jurecka
LCRA ELS Laboratory Manager
(877) 362-5272

Angel Mata
LCRA ELS Quality Manager
(877) 362-5272

A4 PROJECT/TASK ORGANIZATION

Rebecca DuPont

CRP Project Manager

Responsible for the development, implementation, and maintenance of CRP contracts. Tracks, reviews, and approves deliverables. Participates in the development, approval, implementation, and maintenance of written QA standards (e.g., Program Guidance, SOPs, QAPPs, QMP). Assists CRP Lead QA Specialist in conducting Basin Planning Agency audits. Verifies QAPPs are being followed by contractors and that projects are producing data of known quality. Coordinates project planning with the Basin Planning Agency Project Manager. Reviews and approves data and reports produced by contractors. Notifies QA Specialists of circumstances which may adversely affect the quality of data derived from the collection and analysis of samples. Develops, enforces, and monitors corrective action measures to ensure contractors meet deadlines and scheduled commitments.

Dale Jurecka

LCRA ELS Laboratory Manager

Responsible for the overall performance, administration, and reporting of analyses performed by LCRA ELS. Responsible for ensuring that laboratory personnel involved in generating analytical data have adequate training and a thorough knowledge of the QAPP and all SOPs specific to the analysis or task performed and or supervised. Responsible for oversight of all operations, ensuring that all QA/QC requirements are met, and documentation related to the analysis is completely and accurately reported.

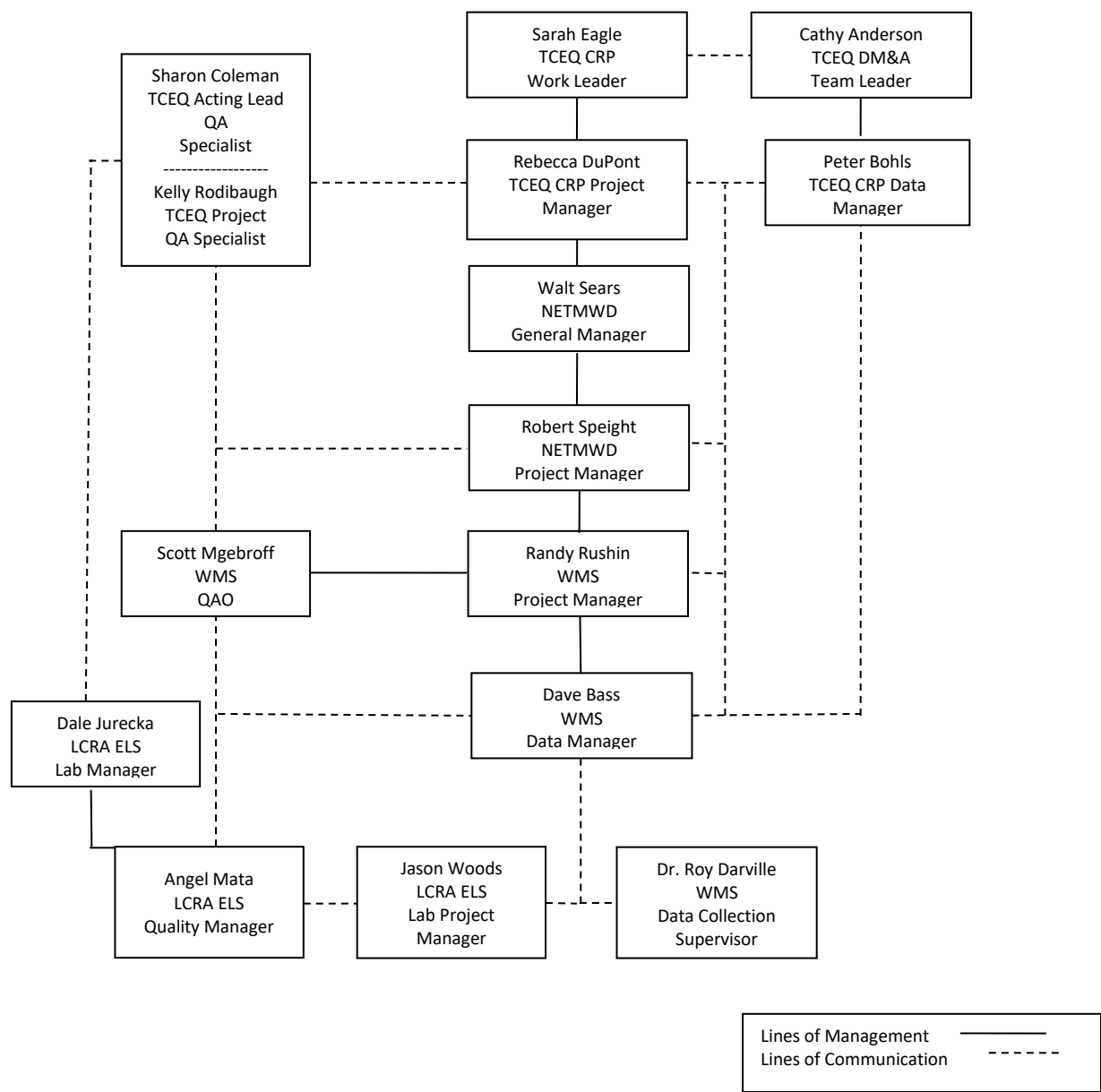
Angel Mata

LCRA ELS Quality Manager

Responsible for the overall quality control and quality assurance of analyses performed by LCRA's ELS. Monitors the implementation of the QM/QAPP within the laboratory to ensure complete compliance with QA data quality objectives, as defined by the contract and in the QAPP. Conducts in-house audits to ensure compliance with written SOPs and to identify potential problems. Responsible for supervising and verifying all aspects of the QA/QC in the laboratory. This role is also referred to as the "Quality Assurance Coordinator" or "Quality Assurance Officer" in this QAPP.

Project Organization Chart

Figure A4.1. Organization Chart - Lines of Communication



B5 Quality Control

Quality Control or Acceptability Requirements Deficiencies and Corrective Actions

Sampling QC excursions are evaluated by the WMS Project Manager, in consultation with the WMS QAO. In that differences in sample results are used to assess the entire sampling process, including environmental variability, the arbitrary rejection of results based on pre-determined limits is not practical. Therefore, the professional judgment of the WMS Project Manager, NETMWD Project Manager, and WMS QAO will be relied upon in evaluating results. Rejecting sample results based on wide variability is a possibility. Field blanks for trace elements and trace organics are scrutinized very closely. Field blank values exceeding the acceptability criteria will automatically invalidate the sample. Notations of blank contamination are noted in the quarterly report and the final QC Report. Equipment blanks for metals analysis are also scrutinized very closely.

Laboratory measurement quality control failures are evaluated by the laboratory staff. The disposition of such failures and the nature and disposition of the problem is reported to the LCRA ELS Laboratory QAC. The LCRA ELS Laboratory QAC will discuss with the WMS Project Manager. If applicable, the WMS Project Manager will include this information in the CAP and submit with the Progress Report which is sent to the TCEQ CRP Project Manager.

Additionally, in accordance with CRP requirements and the TNI Standard (Volume 1, Module 2, Section 4.5, Subcontracting of Environmental Tests) when a laboratory that is a signatory of this QAPP finds it necessary and/or advantageous to subcontract analyses, the laboratory that is the signatory on this QAPP must ensure that the subcontracting laboratory is NELAP-accredited (when required) and understands and follows the QA/QC requirements included in this QAPP, including methodology. The signatory laboratory is also responsible for quality assurance of the data prior to delivering it to the Basin Planning Agency, including review of all applicable QC samples related to CRP data. As stated in section 4.5.5 of the TNI Standard, the laboratory performing the subcontracted work shall be indicated in the final report and the signatory laboratory shall make a copy of the subcontractor's report available to the client (Northeast Texas Municipal Water District) when requested.

The definition of and process for handling deficiencies and corrective action are defined in Section C1.

Appendix A: Measurement Performance Specifications (Table A7.1)

The parameter codes 89978 PRIMARY CONTACT, OBSERVED ACTIVITY (# OF PEOPLE OBSERVED) and 89979 EVIDENCE OF PRIMARY CONTACT RECREATION (1=OBSERVED, 0=NOT OBSERVED) are no longer requested for the CRP program. These parameters have been removed from Table A7.1d.

The parameter code 08910 WIND DIRECTION (1=N, 2=S, 3=E, 4=W, 5=NE, 6=SE, 7=NW, 8=SW) has been added to Table A7.1d.

TABLE A7.1d Measurement Performance Specifications for the Cypress Creek Basin					
Field Parameters					
Parameter	Units	Matrix	Method	Parameter Code	Lab
TEMPERATURE, WATER (DEGREES CENTIGRADE)	DEG C	water	SM 2550 B and TCEQ SOP V1	00010	Field
TRANSPARENCY, SECCHI DISC (METERS)	meters	water	TCEQ SOP V1	00078	Field
SPECIFIC CONDUCTANCE, FIELD (US/CM @ 25C)	us/cm	water	EPA 120.1 and TCEQ SOP, V1	00094	Field
OXYGEN, DISSOLVED (MG/L)	mg/L	water	SM 4500-O G and TCEQ SOP V1	00300	Field
PH (STANDARD UNITS)	s.u	water	EPA 150.1 and TCEQ SOP V1	00400	Field
DAYS SINCE PRECIPITATION EVENT (DAYS)	days	other	TCEQ SOP V1	72053	Field
DEPTH OF BOTTOM OF WATER BODY AT SAMPLE SITE	meters	water	TCEQ SOP V2	82903	Field
RESERVOIR STAGE (FEET ABOVE MEAN SEA LEVEL) [†]	FT ABOVE MSL	water	TWDB	00052	Field
RESERVOIR PERCENT FULL [†]	% RESERVOIR CAPACITY	water	TWDB	00053	Field
RESERVOIR ACCESS NOT POSSIBLE LEVEL TOO LOW ENTER 1 IF REPORTING	NS	other	TCEQ Drought Guidance	00051	Field
WIND DIRECTION (1=N, 2=S, 3=E, 4=W, 5=NE, 6=SE, 7=NW, 8=SW)	NU	other	NA	89010	Field
WIND INTENSITY (1=CALM, 2=SLIGHT, 3=MOD., 4=STRONG)	NU	other	NA	89965	Field
PRESENT WEATHER (1=CLEAR, 2=PTCLDY, 3=CLDY, 4=RAIN, 5=OTHER)	NU	other	NA	89966	Field
WATER SURFACE (1=CALM, 2=RIPPLE, 3=WAVE, 4=WHITECAP)	NU	water	NA	89968	Field

Parameter	Units	Matrix	Method	Parameter Code	Lab
WATER COLOR 1=BRWN 2=RED 3=GRN 4=BLCK 5=CLR 6=OT	NU	water	NA	89969	Field
TEMPERATURE, AIR (DEGREES CENTIGRADE)	DEG C	air	NA	00020	Field

† As published by the Texas Water Development Board on their website
<http://wiid.twdb.state.tx.us/ims/resinfo/BushButton/lakestatus.asp?selcat=3&slbasin=2>

References:

United States Environmental Protection Agency (USEPA) Methods for Chemical Analysis of Water and Wastes, Manual #EPA-600/4-79-020
 American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998. (Note: The 21st edition may be cited if it becomes available.)
 TCEQ SOP, V1 - TCEQ Surface Water Quality Monitoring Procedures, Volume 1: Physical and Chemical Monitoring Methods, 2012 (RG-415).
 TCEQ SOP, V2 - TCEQ Surface Water Quality Monitoring Procedures, Volume 2: Methods for Collecting and Analyzing Biological Assemblage and Habitat Data, 2014 (RG-416).

Appendix B Sampling Process Design and Monitoring Schedule (plan)

Sample Design Rationale FY 2019

The sample design is based on the legislative intent of CRP. Under the legislation, the Basin Planning Agencies have been tasked with providing data to characterize water quality conditions in support of the Texas Water Quality Integrated Report, and to identify significant long-term water quality trends. Based on Steering Committee input, achievable water quality objectives and priorities and the identification of water quality issues are used to develop work plans which are in accord with available resources. As part of the Steering Committee process, the NETMWD coordinates closely with the TCEQ and other participants to ensure a comprehensive water monitoring strategy within the watershed.

During the Coordinated Monitoring Meeting, the committee agreed to remove the following stations from the FY 2019 monitoring schedule:

1. Station 10274 Dry Creek at McMinn Road

If additional data are needed for the assessment, Region 5 agreed to collect bacteria samples during FY 2019 at this station.

2. Station 10276 Sparks Branch at CR 4220

Region 5 will collect bacteria in FY 2019 if additional data are needed for the assessment.

3. Station 15260 Big Cypress Creek at SH 37

Region 5 is already sampling for bacteria at this station on a monthly basis and has agreed to add conventionals samples on a quarterly basis.

4. Station 10321 James Bayou at CR 1775

This station was dropped since Region 5 is already collecting samples at a nearby station within the same AU.

5. Station 10321 James Bayou at CR 1775

24-Hour diel sampling is no longer required since recent data show that the station is meeting criteria for DO and pH.

Monitoring Sites for FY 2019

The sample design for SWQM is shown in Table B1.1 below.

Table B1.1 Sample Design and Schedule, FY 2019

Site Description	Station ID	Waterbody ID	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	Comments
CADDO LAKE 0.25 MI NE OF THE MOUTH OF HARRISON BAYOU AND 0.35 MI EAST OF LONG POINT	10286	0401	5	NT	CL	RT	11					CLI Monthly Sampling Program
CADDO LAKE IN GOOSE PRAIRIE SOUTH OF STAR DITCH 500 M SOUTHEAST OF END OF FM 2198	10288	0401	5	NT	CL	RT	11					CLI Monthly Sampling Program
CADDO LAKE MID LAKE 1.8 KM SOUTH OF END OF FM 727 1.9 KM NORTHWEST OF COLLIERS LAUNCH CAMS707	10283	0401	5	NT	CL	RT	11					CLI Monthly Sampling Program
CADDO LAKE MID LAKE 1.8 KM SOUTH OF END OF FM 727 1.9 KM NORTHWEST OF COLLIERS LAUNCH CAMS707	10283	0401	5	NT	WM	RT	4	4	4			
CLINTON LAKE 165 METERS NORTH AND 1.09 KILOMETERS EAST TO THE INTERSECTION OF CYPRESS VILLAGE ROAD AND CYPRESS VILLAGE SOUTH AT CHANNEL MARKER C111 NEAR CADDO LAKE	14236	0401	5	NT	CL	RT	11					CLI Monthly Sampling Program
CADDO LAKE NEAR SHORE AT END OF FM 2198 AT DWIGHT SHELLMANS PROPERTY SE OF UNCERTAIN	15249	0401	5	NT	CL	RT	11					CLI Monthly Sampling Program

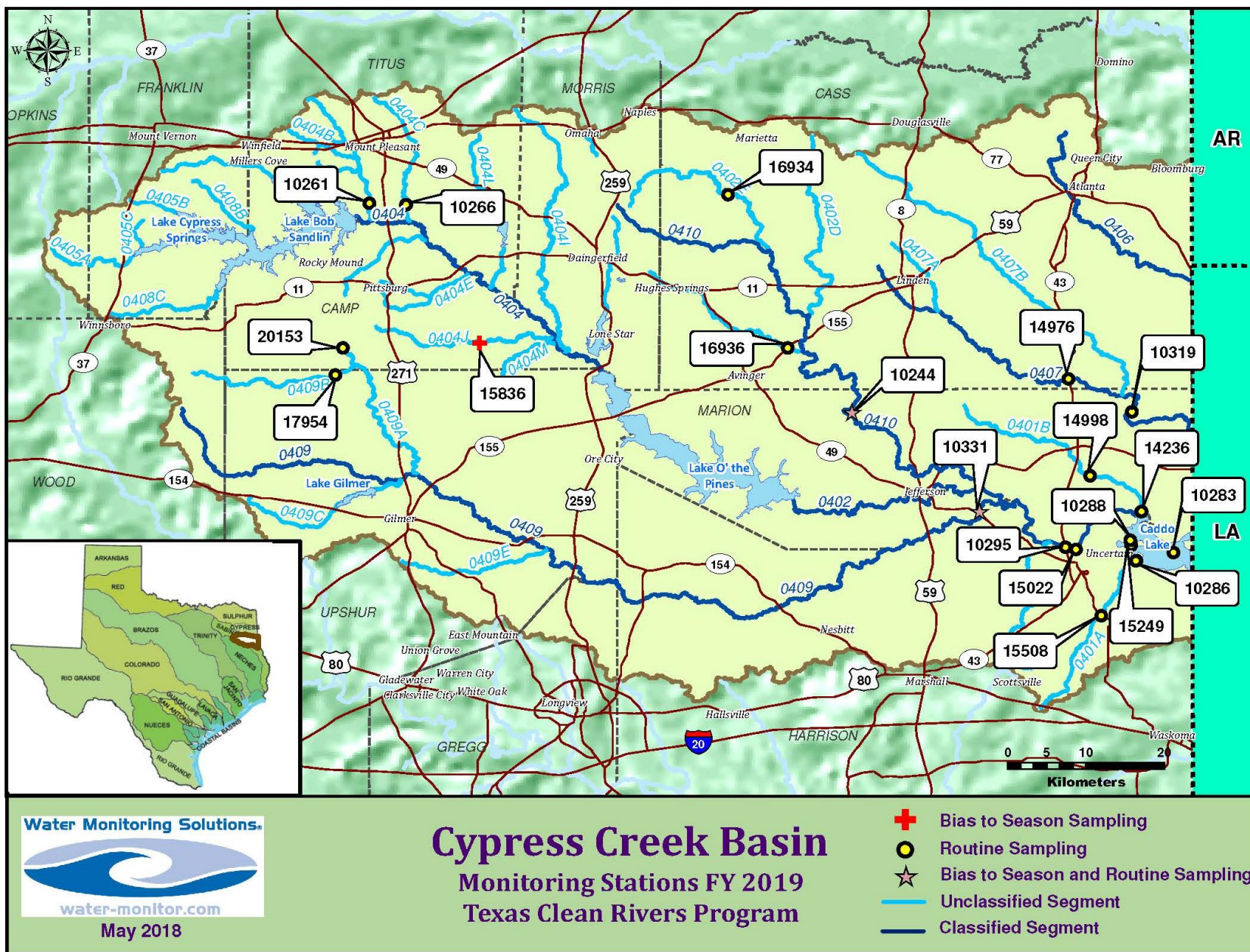
Site Description	Station ID	Waterbody ID	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	Comments
CADDO LAKE NEAR SHORE AT END OF FM 2198 AT DWIGHT SHELLMANS PROPERTY SE OF UNCERTAIN	15249	0401	5	NT	WM	RT	4	4	4			
HARRISON BAYOU AT FM 134 4 MI SOUTH OF KARNACK	15508	0401A	5	NT	WM	RT	4	4	4	4		Flow measured when wadeable
KITCHEN CREEK AT MARION CR3416 APPROXIMATELY 10 MI E. OF JEFFERSON AND 2.5 MI S OF INTERSECTION OF CR3416	14998	0401B	5	NT	WM	RT	4					
BIG CYPRESS CREEK APPROX 1.2KM DOWNSTREAM OF SH43 AT CADDO LAKE STATE PARK BOAT RAMP	15022	0402	5	NT	CL	RT	11			11		CLI Monthly Sampling Program; Flow - USGS gage
BIG CYPRESS CREEK AT SH 43 NORTH OF KARNACK	10295	0402	5	NT	WM	RT	4	4	4	4		
HUGHES CREEK AT SH155 APPROX 6KM NE OF AVINGER	16936	0402B	5	NT	WM	RT	4					too deep to wade for flow
KELLEY CREEK AT FM250 APPROX 15KM NE OF HUGHES SPRINGS	16934	0402E	5	NT	WM	RT	4			4		
TANKERSLEY CREEK AT FM3417 5.7 KM SOUTH OF MOUNT PLEASANT	10261	0404B	5	NT	WM	RT	4	4	4	4		
HART CREEK AT TITUS COUNTY ROAD SE 12 3.8 KM UPSTREAM OF BIG CYPRESS CREEK CONFLUENCE SOUTH OF MOUNT PLEASANT	10266	0404C	5	NT	WM	RT	4	4	4	4		
PRAIRIE CREEK AT FM 557 7.4 MI SW OF PITTSBURG	15836	0404J	5	NT	WM	BS	4			4	4	
JAMES/JIMS BAYOU BRIDGE ON MARION CR 3312 NE OF SMITHLAND	10319	0407	5	NT	WM	RT	4	4	4	4		

Site Description	Station ID	Waterbody ID	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	Comments
JIMS BAYOU AT SH43 APPROXIMATELY 12 MI NE OF JEFFERSON AND 1.0 MI SOUTH OF KILDARE JUNCTION ON SH43	14976	0407	5	NT	WM	RT	4	4	4	4		
LITTLE CYPRESS CREEK AT FM 134 NW OF BALDWIN SE OF JEFFERSON	10331	0409	5	NT	WM	BS	4			4	4	Flow - USGS gage at US 59
LITTLE CYPRESS CREEK AT FM 134 NW OF BALDWIN SE OF JEFFERSON	10331	0409	5	NT	WM	RT	4	4	4	4		
LILLY CREEK AT FM 556 APPROXIMATELY 1.04 KM SOUTHWEST OF HICKORY HILL IN CAMP COUNTY TEXAS	20153	0409A	5	NT	WM	RT	4	4	4			Too deep to wade for flow
SOUTH LILLY CREEK AT FM 2454 1.8 KM SOUTH OF THE INTERSECTION WITH FM 556 AND SOUTHWEST OF PITTSBURG	17954	0409B	5	NT	WM	RT	4	4	4	4		
BLACK CYPRESS BAYOU AT COUNTY ROAD 3.7 MILES NORTHWEST OF BERA	10244	0410	5	NT	WM	BS	4			4	4	Flow measured when wadeable
BLACK CYPRESS BAYOU AT COUNTY ROAD 3.7 MILES NORTHWEST OF BERA	10244	0410	5	NT	WM	RT	4	4	4	4		

Appendix C: Station Location Map

Station Location Map

Map of stations monitored by the NETMWD is provided below. The map was generated by WMS. This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries. For more information concerning this map, contact Randy Rushin, WMS Project Manager at 903-439-4741; randy@water-monitor.com.



Appendix D: Field Data Sheets

The following field data sheets were revised to remove primary contact observations from the form.



Cypress Creek Basin Clean Rivers Program Reservoir Field Form

Station ID:				Date:				Time:			
Station Location:											
Sample(s) Collected By:											
Days Since Last Rain:				Total Rainfall - 7 Days Inclusive Prior to Sampling (Inches):							
Water Level:		Present Weather:		Wind Intensity		Wind Direction		Water Surface			
Below Normal		Clear		Calm		N S		Calm			
Normal		Partly Cloudy		Slight		E W		Ripple			
Above Normal		Cloudy		Moderate		NE SE		Waves			
		Rain		Strong		NW SW		Whitecap			
Reservoir Stage (ft.)	Reservoir % Full	Sediment Odor:		Water Odor:		Water Color:		Water Clarity:			
		None	Sewage	Sewage	Oily/ Chemical	Brown	Red	Poor	Good		
		Musky	Other:	Rotten Eggs	Musky	Green	Black	Fair	Excellent		
		Fishy		Fishy	None Other	Clear	Other				
Sample Depth (m)	Water Temp °C	DO % sat	DO mg/L	pH	Sp. Cond µS/cm	Total Depth (m):	Secchi (m)	Air Temp °C	Photos Taken		
0.3											
1.0											
2.0											
3.0						% Cloud Coverage	% Aquatic Plant Coverage				
4.0											
5.0											
6.0											
Observed Uses:											
Adjacent Land Use:											
Observations: (stream flow [if any], debris in water, canopy coverage, obvious signs of eutrophication, etc.):											
Parameters:		Field		Conventional		E. coli					

P.O. Box 1132

Sulphur Springs, TX 75483

903-439-4741

www.water-monitor.com



Cypress Creek Basin Clean Rivers Program Stream Field Form

Station ID:				Date:				Time:			
Station Location:											
Sample(s) Collected By:											
Days Since Last Rain:				Total Rainfall - 7 Days Inclusive Prior to Sampling (Inches):							
Stream Type:		Present Weather:		Wind Intensity		Wind Direction		Aesthetics:			
perennial		Clear		Calm		N S		Wilderness			
intermittent w/ perennial pools		Partly Cloudy		Slight		E W		Natural			
		Cloudy		Moderate		NE SE		Common			
intermittent		Rain		Strong		NW SW		Offensive			
Flow (cfs):		Flow Severity:		Water Odor:		Water Color:		Water Clarity:			
		No Flow Flood		Sewage Oily/Chemical		Brown Red		Poor Good			
Flow Method:		Low Flow High		Rotten Eggs Musky		Green Black		Fair Excellent			
		Normal Dry		Fishy None Other		Clear Other					
Flow Est. (cfs)	Water Temp °C	DO % sat	DO mg/L	pH	Sp. Cond µS/cm	Secchi (m)	Air Temp °C	Sample Depth (m)	Photos Taken		
Evidence of Flow Fluctuations:											
Observed Stream Uses:											
Adjacent Land Use:											
Channel Obstructions/Modifications:											
Observations: (stream flow [if any], debris in water, canopy coverage, obvious signs of eutrophication, etc.):											
Parameters:		Field		Conventional		E. coli					