Amendment # 1 Update to the Angelina & Neches River Authority Clean Rivers Program FY 2020/2021 QAPP

Prepared by the Angelina & Neches River Authority in Cooperation with the Texas Commission on Environmental Quality (TCEQ)

Effective: Immediately upon approval by all parties

or

Questions concerning this QAPP should be directed to:

Melissa Garcia Quality Manager Angelina & Neches River Authority 2901 N John Redditt Dr. Lufkin, Texas 75904 936-633-7552 mgarcia@anra.org Carla Ethridge CRP Project Manager Angelina & Neches River Authority 2901 N John Redditt Dr. Lufkin, Texas 75904 936-633-7527 <u>cethridge@anra.org</u>

Justification

This document details the changes made to the basin-wide Quality Assurance Project Plan to update Appendix B for fiscal year 2021. This document also updates personnel changes, updates versions of referenced documentation, and addresses any other changes made to the quality program since the last amendment.

Summary of Changes

Section/Figure/Table	Page	Change	Justification
Title Page		Replaced Jeremiah Poling with Carla	Personnel changes at ANRA
		Ethridge as CRP Project Manager	
Section A1		Replaced Sara Eagle with Kyle Girten as "Acting" CRP Work Lead	Personnel changes at TCEQ
		Replaced Peter Bohls with Sarah	
		Kirkland as CRP Data Manager,	
		DM&A Team	
		Replaced Sharon Coleman with Dana	
		Squires as CRP Lead Quality	The Quality Assurance Manager is not
		Assurance Specialist	required by the QMP to sign
			amendments for projects not funded by
		Removed Quality Assurance	EPA.
		Manager Signature block.	
Section A1		Replaced Jeremiah Poling with Carla	Personnel changes at ANRA
		Ethridge as CRP Project Manager	
		Replaced Trey Reeves with Sheri	
		Smith as Laboratory Manager.	
Section A3		Replaced Sharon Coleman with Dana	Personnel changes at TCEQ
		Squires as CRP Lead Quality	
		Assurance Specialist	
Section A3		Replaced Jeremiah Poling with Carla	Personnel changes at ANRA
	_	Ethridge as CRP Project Manager	
Section A4		Replaced Sara Eagle with Kyle Girten as "Acting" CRP Work Lead	Personnel changes at TCEQ
		Replaced Sharon Coleman with Dana	
		Squires as CRP Lead Quality	
		Assurance Specialist	
Section A4		Replaced Jeremiah Poling with Carla	Personnel changes at ANRA
		Ethridge as CRP Project Manager.	
		Replaced Jay Eagle with Allison	
		McElroy as Wildlife Biologist	
		Added Sheri Smith as Lab Manager	In the original QAPP, ANRA Lab Manager Trey Reeves was inadvertently omitted from the description of responsibilities section.
Figure A4.1		Replaced Peter Bohls with Sarah	Personnel changes at TCEQ
		Kirkland as CRP Data Manager, DM&A Team	

	Replaced Sharon Coleman with Dana Squires as CRP Lead Quality Assurance Specialist	
	Replaced Sarah Eagle with Kyle Girten as Acting Work Leader, Clean Rivers Program	
Figure A4.1	Replaced Jeremiah Poling with Carla Ethridge as CRP Project Manager	Personnel changes at ANRA
	Replaced Trey Reeves with Sheri Smith as ANRA Laboratory Manager	
	Replaced Jay Eagle with Allison McElroy as Wildlife Biologist.	
Section A9	Changed referenced version of TNI Standard from 2009 version to 2016 version.	The 2016 TNI ELS Standard was adopted on June 18, 2018. The implementation date was set as January 31, 2020 by vote of the NELAP Accreditation Council on January 7, 2019.
Appendix B	Updated sample design rationale for FY2021	Describes changes to monitoring design for FY2021 based on the FY2020 Coordinated Monitoring Meetings
Table B1.1	Updated Table B1.1	Describes changes to monitoring design for FY2021 based on the FY2020 Coordinated Monitoring Meetings
Appendix C	Updated maps of monitoring stations	Describes changes to monitoring design for FY2021 based on the FY2020 Coordinated Monitoring Meetings

Detail of Changes

A1 Approval Page

Texas Commission on Environmental Quality

Water Quality Planning Division

Electronically Approved	09/02/2020	Electronically Approved	09/01/2020
Kyle Girten, Acting Work Leader Clean Rivers Program	Date	Kelly Rodibaugh Project Quality Assurance Specialist Clean Rivers Program	Date

Electronically Approved	09/03/2020	Electronically Approved	09/01/2020
Rebecca DuPont, Project Manager	Date	Cathy Anderson, Team Leader	Date
Clean Rivers Program		Data Management and Analysis	

Monitoring Division

Electronically Approved

09/01/2020

Date

Dana Squires Lead CRP Quality Assurance Specialist

Angelina & Neches River Authority (ANRA)

Environmental Division – Clean Rivers Program

Electronically Approved	09/01/2020	Electronically Approved	09/01/2020
Carla Ethridge CRP Project Manager	Date	Melissa Garcia Quality Manager	Date
Electronically Approved	09/01/2020		
Jeremiah Poling Information Resources Manager	Date		

Environmental Division – ANRA Environmental Laboratory

Electronically Approved	09/02/2020	Electronically Approved	09/01/2020
Sheri Smith Laboratory Manager	Date	Melissa Garcia Quality Manager	Date

Lower Colorado River Authority (LCRA)

Environmental Laboratory Services (ELS)

Electronically Approved	09/03/2020	Electronically Approved	09/01/2020
Dale Jurecka Laboratory Manager	Date	Angel Mata Quality Manager	Date

Angelina & Neches River Authority Amendment #1 Last revised on September 3, 2020

Ana-Lab Corporation (Kilgore)

Electronically Approved by Bill Peery on behalf of Will Boyd

09/01/2020

Will Boyd Laboratory Manager Date

Electronically Approved

09/01/2020

Tracey Varvel Quality Manager Date

Sub-tier participants (e.g., subcontractors, subparticipants, or other units of government) will sign the QAPP, indicating the organization's awareness of, and commitment to requirements contained in this quality assurance project plan and any amendments or added appendices of this plan. Signatures in section A1 will eliminate the need for adherence letters to be maintained.

A3 Distribution List

Texas Commission on Environmental Quality P.O. Box 13087 Austin, Texas 78711-3087

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

Dana Squires Lead CRP Quality Assurance Specialist MC-165 (512) 239-0011

Cathy Anderson Team Leader, Data Management and Analysis MC-234 (512) 239-1805

Angelina & Neches River Authority 2901 N. John Redditt Dr., Lufkin, Texas 75904

Carla Ethridge, CRP Project Manager (936) 633-7527

Lower Colorado River Authority Environmental Laboratory Services 3505 Montopolis, Austin, Texas 78744

Dale Jurecka, Laboratory Manager (512) 730-6337

Ana-Lab 2600 Dudley Road, Kilgore, TX 75662

Will Boyd, Laboratory Manager (903) 984-0551

Angel Mata, Quality Manager (512)730-6018

Tracey Varvel, Quality Manager (903) 984-0551

ANRA will provide copies of this project plan and any amendments or appendices of this plan to each person on this list and to each sub-tier project participant, e.g., subcontractors, subparticipants, or other units of government. ANRA will document distribution of the plan and any amendments and appendices, maintain this documentation as part of the project's quality assurance records, and ensure the documentation is available for review.

A4 Project Task/Organization

Description of Responsibilities

TCEQ

Kyle Girten

Acting CRP Work Leader

Responsible for Texas Commission on Environmental Quality (TCEQ) activities supporting the development and implementation of the Texas Clean Rivers Program (CRP). Responsible for verifying that the TCEQ Quality Management Plan (QMP) is followed by CRP staff. Supervises TCEQ CRP staff. Reviews and responds to any deficiencies, corrective actions, or findings related to the area of responsibility. Oversees the development of Quality Assurance (QA) guidance for the CRP. Reviews and approves all QA audits, corrective actions, reports, work plans, contracts, QAPPs, and TCEQ Quality Management Plan. Enforces corrective action, as required, where QA protocols are not met. Ensures CRP personnel are fully trained.

Dana Squires

Lead CRP Quality Assurance Specialist

Participates in the development, approval, implementation, and maintenance of written QA standards (e.g., Program Guidance, SOPs, QAPPs, QMP). Assists program and project manager in developing and implementing quality system. Serves on planning team for CRP special projects. Coordinates the approval of CRP QAPPs. Prepares and distributes annual audit plans. Conducts monitoring systems audits of Planning Agencies. Conveys QA problems to appropriate management. Recommends that work be stopped in order to safeguard programmatic objectives, worker safety, public health, or environmental protection. Ensures maintenance of QAPP records and audit records for the CRP.

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 Angelina & Neches River Authority audits. Verifies QAPPs are being followed by contractors and that projects are producing data of known quality. Coordinates project planning with the Angelina & Neches River Authority 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.

Cathy Anderson

Team Leader, Data Management and Analysis (DM&A) Team

Participates in the development, approval, implementation, and maintenance of written QA standards (e.g., Program Guidance, SOPs, QAPPs, QMP). Ensures DM&A staff perform data management-related tasks.

Sarah Kirkland

CRP Data Manager, DM&A Team

Responsible for coordination and tracking of CRP data sets from initial submittal through CRP Project Manager review and approval. Ensures that data are reported following instructions in the Data Management Reference Guide, December 2018 or most current version (DMRG). Runs automated data validation checks in the Surface Water Quality Management Information System (SWQMIS) and coordinates data verification and error correction with CRP Project Managers. Generates SWQMIS summary reports to assist CRP Project Managers' data review. Identifies data anomalies and inconsistencies. Provides training and guidance to CRP and Planning Agencies on technical data issues to ensure that data are submitted according to documented procedures. Reviews QAPPs for valid stream monitoring stations. Checks validity

of parameter codes, submitting entity code(s), collecting entity code(s), and monitoring type code(s). Develops and maintains data management-related SOPs for CRP data management. Coordinates and processes data correction requests. Participates in the development, implementation, and maintenance of written QA standards (e.g., Program Guidance, SOPs, QAPPs, QMP).

Kelly Rodibaugh CRP Project Quality Assurance Specialist

Serves as a liason between CRP management and TCEQ QA management. Participates in the development, approval, implementation, and maintenance of written QA standards (e.g., Program Guidance, SOPs, QAPPs, QMP). Serves on planning team for CRP special projects and reviews QAPPs in coordination with other CRP staff. Coordinates documentation and implementation of corrective action for the CRP

ANRA

Carla Ethridge CRP Project Manager

Responsible for implementing and monitoring CRP requirements in contracts, QAPPs, and QAPP amendments and appendices. Coordinates basin planning activities and work of basin partners. Ensures monitoring systems audits are conducted to ensure QAPPs are followed by ANRA participants and that projects are producing data of known quality. Ensures that subparticipants are qualified to perform contracted work. Ensures CRP project managers and/or QA Specialists are notified of deficiencies and corrective actions, and that issues are resolved. Responsible for validating that data collected are acceptable for reporting to the TCEQ.

Melissa Garcia

Quality Manager

Responsible for coordinating the implementation of the QA program. Responsible for writing and maintaining the QAPP and monitoring its implementation. Responsible for maintaining records of QAPP distribution, including appendices and amendments. Responsible for maintaining written records of sub-tier commitment to requirements specified in this QAPP. Responsible for identifying, receiving, and maintaining project QA records. Responsible for coordinating with the TCEQ QAS to resolve QA-related issues. Notifies ANRA Project Manager of particular circumstances which may adversely affect the quality of data. Coordinates and monitors deficiencies and corrective action. Coordinates and maintains records of data verification and validation. Coordinates the research and review of technical QA material and data related to water quality monitoring system design and analytical techniques. Conducts monitoring systems audits on project participants to determine compliance with project and program specifications, issues written reports, and follows through on findings. Ensures that field staff is properly trained and that training records are maintained.

Sheri Smith

Laboratory Manager

Responsible for overall performance, administration, and reporting of analyses performed by ANRA's Environmental Laboratory Services. Responsible for supervision of laboratory personnel involved in generating analytical data for the project. Ensures that laboratory personnel have adequate training and a thorough knowledge of this QAPP and related SOPs. Responsible for oversight of all laboratory operations ensuring that all QA/QC requirements are met, documentation is complete and adequately maintained, and results are reported accurately.

Allison McElroy

Wildlife Biologist

Coordinate and conduct CRP sample collection in accordance with the basin coordinated monitoring schedule and the QAPP.

Jeremiah Poling

Information Resources Manager

Responsible for ensuring that field data are properly reviewed and verified. Responsible for the transfer of basin qualityassured water quality data to the TCEQ in a format compatible with SWQMIS. Maintains quality-assured data on ANRA internet sites.

LCRA ELS

Dale Jurecka

Laboratory Manager

Responsible for overall performance, administration, and reporting of analyses performed by LCRA's Environmental Laboratory Services. Responsible for supervision of laboratory personnel involved in generating analytical data for the project. Ensures that laboratory personnel have adequate training and a thorough knowledge of this QAPP and related SOPs. Responsible for oversight of all laboratory operations ensuring that all QA/QC requirements are met, documentation is complete and adequately maintained, and results are reported accurately.

Angel Mata

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 this 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

Ana-Lab

Will Boyd

Laboratory Manager

Responsible for overall performance, administration, and reporting of analyses performed by Ana-Lab. Responsible for supervision of laboratory personnel involved in generating analytical data for the project. Ensures that laboratory personnel have adequate training and a thorough knowledge of this QAPP and related SOPs. Responsible for oversight of all laboratory operations ensuring that all QA/QC requirements are met, documentation is complete and adequately maintained, and results are reported accurately.

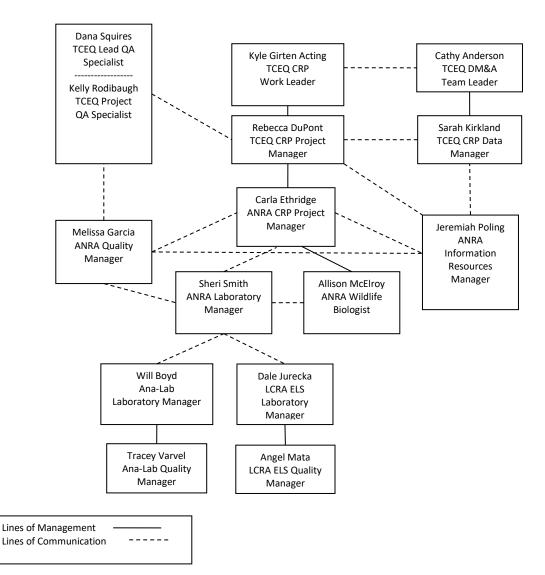
Tracey Varvel

Quality Manager

Responsible for the overall quality control and quality assurance of analyses performed by Ana-Lab. 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 this 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 QA the laboratory.

Project Organization Chart





Document/Record	Location	Retention (yrs.)	Format
QAPPs, amendments and appendices	ANRA	5	Electronic or Paper
Field SOPs	ANRA	5	Electronic or Paper
Laboratory Quality Manuals	ANRA/LCRA/Ana-Lab	5	Electronic or Paper
Laboratory SOPs	ANRA/LCRA/Ana-Lab	5	Electronic or Paper
QAPP distribution documentation	ANRA	5	Electronic or Paper
Field staff training records	ANRA	5	Electronic or Paper
Field equipment calibration/maintenance logs	ANRA	5	Electronic or Paper
Field notebooks or data sheets	ANRA	5	Electronic or Paper
Chain of custody records	ANRA/LCRA/Ana-Lab	5	Electronic or Paper
Laboratory calibration records	ANRA/LCRA/Ana-Lab	5	Electronic or Paper
Laboratory instrument printouts	ANRA/LCRA/Ana-Lab	5	Electronic or Paper
Laboratory data reports/results	ANRA/LCRA/Ana-Lab	5	Electronic or Paper
Laboratory equipment maintenance logs	ANRA/LCRA/Ana-Lab	5	Electronic or Paper
Corrective Action Documentation	ANRA/LCRA/Ana-Lab	5	Electronic or Paper

Laboratory Test Reports

Test/data reports from the laboratory must document the test results clearly and accurately. Routine data reports should be consistent with the TNI Standard (2016), Volume 1, Module 2, Section 5.10 and include the information necessary for the interpretation and validation of data. The requirements for reporting data and the procedures are provided.

Appendix B Sampling Process Design and Monitoring Schedule (plan)

Sampling Process Design and Monitoring Schedule (plan) Sample Design Rationale FY 2021

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 Angelina & Neches River Authority coordinates closely with the TCEQ and other participants to ensure a comprehensive water monitoring strategy within the watershed.

No changes have been made to the Monitoring Schedule from FY 2020 to FY 2021.

Site Selection Criteria

This data collection effort involves monitoring routine water quality using procedures that are consistent with the TCEQ SWQM program. Some general guidelines are followed when selecting sampling sites, as outlined below, and discussed thoroughly in SWQM Procedures, Volumes I and II. Overall consideration is given to accessibility and safety. All monitoring activities have been developed in coordination with the CRP Steering Committee and with the TCEQ. The site selection criteria specified are those the TCEQ would like considered to produce data which is complementary to that collected by the state and which may be used in assessments, etc.

1. Locate stream sites so that samples can be safely collected from the centroid of flow. Centroid is defined as the midpoint of that portion of stream width which contains 50 percent of the total flow. If multiple potential sites on a stream segment are appropriate for monitoring, choose one that would best represent the water body, and not a site

that displays unusual conditions or contaminant source(s). Avoid backwater areas or eddies when selecting a stream site.

- 2. At a minimum for reservoirs, locate sites near the dam (reservoirs) and in the major arms. Larger reservoirs might also include stations in the middle and upper (riverine) areas. Select sites that best represent the water body by avoiding coves and back water areas. A single monitoring site is considered representative of 25 percent of the total reservoir acres, but not more than 5,120 acres.
- 3. Monitoring sites are selected to maximize stream coverage or basin coverage. Very long segments may require more stations. As a rule of thumb, stream segments between 25 and 50 miles long require two stations, and longer than 50 miles require three or more depending on the existence of areas with significantly different sources of contamination or potential water quality concerns. Major hydrological features, such as the confluence of a major tributary or an instream dam, may also limit the spatial extent of an assessment based on one station.
- 4. Because historical water quality data can be very useful in assessing use attainment or impairment, it may be best to use sites that are on current or past monitoring schedules.
- 5. All classified segments (including reservoirs) should have at least one Monitoring site that adequately characterizes the water body, and monitoring should be coordinated with the TCEQ or other qualified monitoring entities reporting routine data to TCEQ.
- 6. Monitoring sites may be selected to bracket sources of pollution, influence of tributaries, changes in land uses, and hydrological modifications.
- 7. Sites should be accessible. When possible, stream sites should have a USGS or IBWC stream flow gauge. If not, it should be possible to conduct flow measurement during routine visits.

Monitoring Sites for FY 2021

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

Table B1.1 Sample Design and Schedule, FY 2021

Monitoring Sites for FY 2021

Table B1.1 Sample Design and Schedule, FY 2021 - Angelina & Neches River Authority

Site Description	Station ID	Waterbody ID	Basin	Region	SE	CE	MT	Field	Conventional	Bacteria	Flow	24 hr DO	AqHab	Benthics	Nekton	Metal Water	Organic Water	Metal Sed	Organic Sed	Fish Tissue	Amb Tox Water	Amb Tox Sed	Comments
NECHES RIVER AT US 69 1.01 KM NORTH OF FM 1014/US 69 INTERSECTION 1.8 KM NORTHWEST OF ROCKLAND IN TYLER COUNTY	10585	0604	6	10	AN	AN	RT	4	4	4	4												
CEDAR CREEK AT ELLIS AVE IN LUFKIN	21434	0604A	6	10	AN	AN	RT	4	4	4	4												
CEDAR CREEK AT FM 1336 1.29 KM WEST-SOUTHWEST OF FM 324/FM 1336 INTERSECTION IN SOUTHWEST LUFKIN	13528	0604A	6	10	AN	AN	RT	4	4	4	4												
CEDAR CREEK AT FM 2497 5.55 KM NORTHWEST OF FM 2497/US 59 INTERSECTION 7.45 KM NORTH NORTHWEST OF CITY OF DIBOLL	10478	0604A	6	10	AN	AN	RT	4	4	4	4												
CEDAR CREEK AT ST LOOP 287 IN LUFKIN	10479	0604A	6	10	AN	AN	RT	4	4	4	4												
HURRICANE CREEK 38 METERS DOWNSTREAM OF KIWANIS PARK DRIVE AND DIRECTLY DOWNSTREAM OF CONFLUENCE WITH UNNAMED TRIBUTARY IN LUFKIN	21433	0604B	6	10	AN	AN	RT	4	4	4	4												
HURRICANE CREEK AT FM 324 6.74 KM SOUTH SOUTHWEST OF LUFKIN	13529	0604B	6	10	AN	AN	RT	4	4	4	4												
HURRICANE CREEK AT ST LOOP 287 IN SOUTH LUFKIN	10487	0604B	6	10	AN	AN	RT	4	4	4	4												
JACK CREEK AT FM 2497 5 KM SOUTHEAST OF SH 94/FM 2497 INTERSECTION 13.3 KM SOUTHWEST OF LUFKIN	10492	0604C	6	10	AN	AN	RT	4	4	4	4												
JACK CREEK AT FM 3150 7 KM WEST OF LUFKIN	10494	0604C	6	10	AN	AN	RT	4	4	4	4												
PINEY CREEK AT FM 358 2.4 KM EAST OF FM 3154/FM 358 INTERSECTION 10 KM EAST OF CITY OF PENNINGTON	16096	0604D	6	10	AN	AN	RT	4	4	4	4												
BILOXI CREEK AT ANGELINA CR216 8 KM SOUTHEAST OF LUFKIN 2.4 KM DOWNSTREAM OF US69	10499	0604M	6	10	AN	AN	RT	4	4	4	4												
BILOXI CREEK AT ANGELINA CR216 8 KM SOUTHEAST OF LUFKIN 2.4 KM DOWNSTREAM OF US69	10499	0604M	6	10	AN	AN	BS					5											

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Site Description	Station ID	Waterbody ID	Basin	Region	SE	CE	MT	Field	Conventional	Bacteria	Flow	24 hr DO	AqHab	Benthics	Nekton	Metal Water	Organic Water	Metal Sed	Organic Sed	Fish Tissue	Amb Tox Water	Amb Tox Sed	Comments
BILOXI CREEK AT FM 1818 2.5 KM EAST OF FM 1818/ FM 58 INTERSECTION 13.8 KM EAST OF DIBOLL	16097	0604M				AN		4	4	4	4												
BUCK CREEK AT FM 1818 4.72 KM WEST OF FM 844/ FM 1818 17.94 KM EAST OF DIBOLL	16098	0604N	6	10	AN	AN	RT	4	4	4	4												
LAKE RATCLIFF WHERE NORTHWEST ARM OF LAKE JOINS MAIN BODY 350 M NORTHWEST OF THE SOUTHWEST CORNER OF DAM1.48 KM WEST OF RATCLIFF	17339	0604T	6	10	AN	AN	RT	4	4	4													
BAYOU CARRIZO AT SH 21 NEAR NACOGDOCHES	21432	0610P	6	10	AN	AN	RT	4	4	4	4												
SAM RAYBURM RESERVOIR NEAR SHIRLEY CREEK IN THE ANGELINA RIVER CHANNEL 5.13 KM NE OF FM 2109/ FM 2801 INTERSECTION	15524	0610	6	10	AN	AN	RT	4	4	4													
SAM RAYBURN RESERVOIR ADJACENT TO ALLIGATOR COVE IN THE ATTOYAC RIVER CHANNEL 3.94 KM NORTHWEST OF FM 3185/ SH 147 INTERSECTION	15523	0610	6	10	AN	AN	RT	4	4	4													
AYISH BAYOU AT SH 103 0.8 KM EAST OF FM 705	15361	0610A	6	10	AN	AN	RT	4	4	4	4												
AYISH BAYOU AT WEST COLUMBIA STREET IN CITY OF SAN AUGUSTINE	21431	0610A	6	10	AN	AN	RT	4	4	4	4												
ANGELINA RIVER 340 METERS UPSTREAM OF SH 204 9.93 KM WEST OF CUSHING	10633	0611	6	5	AN	AN	RT	4	4	4	4												
ANGELINA RIVER AT SH 21 11.17 KM EAST NORTHEAST OF ALTO	10630	0611	6	10	AN	AN	RT	4	4	4	4												
ANGELINA RIVER UPSTREAM SAM RAYBURN RESERVOIR AT FM 1798 5.5 KM WEST OF LANEVILLE	10635	0611	6	5	AN	AN	RT	4	4	4	4												
LA NANA BAYOU AT LOOP 224 NORTH IN THE CITY OF NACOGDOCHES 1.2 KM EAST OF THE INTERSECTION OF US BUS 59F/ST LOOP 224 NORTH	16301	0611B	6	10	AN	AN	RT	4	4	4	4												
LA NANA BAYOU AT NACOGDOCHES CR 526 6.9 MI SOUTH OF NACOGDOCHES BETWEEN FM 2863 AND FM 3228	10474	0611B	6	10	AN	AN	RT	4	4	4	4												
LA NANA BAYOU IMMEDIATELY UPSTREAM OF EAST MAIN STREET/STATE HIGHWAY 7/ STATE HIGHWAY 21 IN NACOGDOCHES	20792	0611B	6	10	AN	AN	RT	4	4	4	4												

Site Description	Station ID	Waterbody ID	Basin	Region	SE	CE	MT	Field	Conventional	Bacteria	Flow	24 hr DO	AqHab	Benthics	Nekton	Metal Water	Organic Water	Metal Sed	Organic Sed	Fish Tissue	Amb Tox Water	Amb Tox Sed	Comments
MUD CREEK AT US 79 9.8 KM EAST OF JACKSONVILLE AND 5.9 KM WEST OF NEW SUMMERFIELD	14477	0611C	6		AN	AN	RT	4	4	4	4												
MUD CREEK AT US 84 0.87 KM SOUTHWEST OF REKLAW	10532	0611C	6	5	AN	AN	RT	4	4	4	4												
LAKE NACOGDOCHES IN MAIN POOL NEAR DAM 375 M EAST OF WESTERN EDGE OF DAM 126 M NORTH OF DAM 10 MI WEST OF NACOGDOCHES	15801	0611Q	6	10	AN	AN	RT	4	4	4													
LAKE NACOGDOCHES NEAR ISLAND IN UPPER LAKE EQUIDISTANT BETWEEN ISLAND AND BOAT RAMP AT THE END OF HARBOR DRIVE AND 3.37 KM SOUTH OF SH 21	21021	0611Q	6	10	AN	AN	RT	4	4	4													
LAKE STRIKER NEAR DAM APPROX 0.8 MILES SOUTHEAST OF POWERPLANT 138 M NORTHWEST OF SPILLWAY AND 7.5 MILES SOUTHEAST OF NEW SUMMERFIELD	17824	0611R	6	5	AN	AN	RT	4	4	4													
LAKE STRIKER UPPER LAKE EQUIDISTANT BETWEEN SHORELINES 2.28KM SOUTHEAST OF INTERSECTION OF FM2274/FM32889.4 KM E. OF NEW SUMMERFIELD	17822	0611R	6	5	AN	AN	RT	4	4	4													
ATTOYAC BAYOU AT SH 21 0.71 KM WEST OF INTERSECTION OF SH 21/ FM 1196 4.77 KM EAST OF CHIRENO	10636	0612	6	10	AN	AN	RT	4	4	4	4												
ATTOYAC BAYOU AT SH 7 1.75 KM NORTHEAST OF MARTINSVILLE	15253	0612	6	10	AN	AN	RT	4	4	4	4												
ATTOYAC BAYOU AT US 59 4.12 KM NORTHEAST OF GARRISON	16076	0612	6	10	AN	AN	RT	4	4	4	4												
NACONICHE LAKE NEAR THE DAM 226 METERS NORTH AND 715 METERS WEST OF INTERSECTION OF FM 2435 AND US 59 NORTHEAST OF CITY OF NACOGDOCHES	21435	0612G	6	10	AN	AN	RT	4	4	4													
WEST CREEK AT FM 2913 2.57 KM N OF INTERSECTION WITH SH 7	20845	0612F	6	10	AN	AN	RT	4	4	4	4												
ANGELINA RIVER/SAM RAYBURN RESERVOIR 0.2 KM DOWNSTREAM FROM PAPER MILL CREEK CONFLUENCE NW CORNER OF SAM RAYBURN RESERVOIR	10622	0615	6	10	AN	AN	BS					5											

Appendix C: Station Location Maps

Station Location Maps

Maps of stations monitored by the Angelina & Neches River Authority are provided below. The maps were generated by the Angelina & Neches River Authority. These maps are for informational purposes and are not intended to be suitable for legal, engineering, or surveying purposes. They do not represent an on-the-ground survey and represent only the approximate relative location of property boundaries. For more information concerning these maps, contact ANRA at 936-632-7795.

