

Amendment # 4

To the Nueces River Authority Clean Rivers Program FY 2020/2021 QAPP

***Prepared by the Nueces River Authority
(NRA) 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:

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Justification

This document details the changes made to the basin-wide Quality Assurance Project Plan for FY 2021 activities following the Coordinated Monitoring Meeting. The amendment also includes staff changes at TCEQ.

Summary of Changes

Section/Figure/Table	Page	Change	Justification
Section A1		<p>Replaced Sarah Eagle, TCEQ CRP Work Lead with Rebecca DuPont, TCEQ CRP Work Lead.</p> <p>Replaced Kelly Rodibaugh with Rebecca DuPont as Acting Project Quality Assurance Specialist.</p>	Personnel changes at TCEQ
Section A3		Replaced Corrina Fox, BCRA GD Operations Manager/QAO with Levi Sparks	Personnel changes at BCRA GD
Section A4		<p>Replaced Sarah Eagle, TCEQ CRP Work Lead with Rebecca DuPont, TCEQ CRP Work Lead.</p> <p>Replaced Kelly Rodibaugh with Rebecca DuPont as Acting Project Quality Assurance Specialist.</p> <p>Replaced Corrina Fox, BCRA GD Operations Manager/QAO with Levi Sparks</p>	<p>Personnel changes at TCEQ</p> <p>Personnel changes at BCRA GD</p>
Figure A4.1		<p>Replaced Sarah Eagle, TCEQ CRP Work Lead with Rebecca DuPont, TCEQ CRP Work Lead.</p> <p>Replaced Kelly Rodibaugh with Rebecca DuPont as Acting Project Quality Assurance Specialist.</p> <p>Replaced Corrina Fox, BCRA GD Operations Manager/QAO with Levi Sparks</p>	<p>Personnel changes at TCEQ</p> <p>Personnel changes at BCRA GD</p>
Section A6		<p>Changed the number of bay and tidal sites from 9 to 10. Changed the number of 24-DO from 2 to 3.</p> <p>Changed the number of biannual metals sampling sites from 2 to 3.</p> <p>Changed the number of BCRA GD monitoring sites from 3 to 4.</p>	Describes changes to monitoring design for FY2021 based on the FY2020 Coordinated Monitoring Meetings

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 A		Updated Table A7.5 Updated Table A7.1	When determining the analytical method limits for enterococcus samples, a common misconception is that the saline matrix is interfering due in part to the IDEXX instructions regarding dilution in “marine” water. This is not the case. The interference is caused by competing bacillus bacteria. Therefore, enterococcus samples should be diluted 1/10 as a routine practice. The AWRL is changed to 10 MPN/100 mL and the LOQ will remain 1 MPN/100 mL in this amendment. A secondary accredited method was added to nitrate and nitrite using method 353.2 in the event of IC instrument failure using method EPA 300.0.
Appendix B		Updated sample design rationale for FY2021	Describes changes to monitoring design for FY2021 based on the FY2020 Coordinated Monitoring Meetings
Appendix B		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	Monitoring maps were updated to reflect 2021 monitoring changes
Appendix E		The COC form for the City of Corpus Christi Water Utilities Lab (WUL) was changed to include additional lab method for nitrate and nitrite.	COC was updated to allow for nitrate/nitrite methods EPA 300.0 or EPA 353.2.

Detail of Changes

A1 Approval Page

Texas Commission on Environmental Quality Water Quality Planning Division

Electronically Approved *09/28/2020*
Rebecca DuPont, Work Lead Date
Clean Rivers Program

Electronically Approved *09/28/2020*
Rebecca DuPont Date
Project Manager

Electronically Approved *09/28/2020*
Rebecca DuPont Date
Acting Project Quality Assurance Specialist

Electronically Approved *09/28/2020*
Cathy Anderson, Team Leader Date
Data Management and Analysis

Monitoring Division

Electronically Approved *09/23/2020*
Dana D. Squires Date
Lead Quality Assurance Specialist

Nueces River Authority (NRA)

Electronically Approved 09/23/2020

Sam Sugarek
NRA Project Manager/Quality Assurance Officer

Date

City of Corpus Christi Water Utilities Laboratory (WUL)

Electronically Approved ***09/24/2020***

Marisa Juarez Date
WUL Laboratory Manager

Electronically Approved ***09/23/2020***

Laura Lira Date
WUL Laboratory Quality Assurance Officer

**Bandera County River Authority and Groundwater District
(BCRAGD)**

***Electronically Approved* 09/28/2020**

David Mauk Date
BCRAGD General Manager

***Electronically Approved* 09/22/2020**

Levi Sparks Date
BCRAGD Quality Assurance Officer

A3 Distribution List

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Levi Sparks, Operations Manager/Quality
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Dale Jurecka, Lab Manager
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Angel Mata, QAO
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A4 PROJECT/TASK ORGANIZATION

Description of Responsibilities

TCEQ

Rebecca DuPont ***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 D. Squires ***CRP Lead 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 review and approval of CRP QAPPs. Prepares and distributes annual audit plans. Conducts monitoring systems audits of Planning Agencies. Concurs with and monitors implementation of corrective actions. 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 QAPPs 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 Nueces River Authority audits. Verifies QAPPs are being followed by contractors and that projects are producing data of known quality. Coordinates project planning with the Nueces 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, most current version. 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).

Rebecca DuPont

Acting CRP Project Quality Assurance Specialist

Serves as liaison 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.

NUECES RIVER AUTHORITY

Sam Sugarek

Nueces River Authority Project Manager

Responsible for writing and maintaining the QAPP and monitoring its implementation. 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 Nueces River Authority 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. 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.

Sam Sugarek

Nueces River Authority Quality Assurance Officer

Responsible for coordinating the implementation of the QA program. 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 the Nueces River Authority 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. Assists the NRA Project Manager in conducting 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.

Sam Sugarek

Nueces River Authority Data Manager

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

Kevin Reese

Nueces River Authority Web/Database Manager

Maintains quality-assured data on NRA internet sites along with all other CRP Website Requirements.

Sam Sugarek

Nueces River Authority Field Supervisor

Coordinates field sampling and data collection activities and supervises the field personnel in conducting sampling events. Ensures that all field personnel are properly trained and equipped to conduct the necessary monitoring and that all sampling procedures are followed according to the QAPP. Ensures that personnel, supplies, and equipment are available at all appropriate times. Responsible for overseeing the Aquatic Resource Specialist in completing sample documentation including labeling samples and ensuring the correct sites are identified. Supervises field and laboratory data entry to the NRA database. Reviews data entered into NRA database and informs NRA Project Manager of any needed corrections.

Shellie McCumber

Nueces River Authority Aquatic Resource Specialist

Conducts field sampling and data collection activities following procedures outlined in the QAPP. Responsible for completing sample documentation including labeling samples and ensuring the correct sites are identified. Responsible for ensuring all instrument calibration data is complete. Enters data into NRA database and informs NRA Project Manager of any needed corrections.

City of Corpus Christi-Water Utilities Laboratory (WUL)

Marisa Juarez

WUL, Laboratory Manager

Responsible for the overall performance, administration, and reporting of analyses performed by the WUL. 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 the 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. Enforces corrective action, as required.

Laura Lira

WUL, Laboratory QAO

Responsible for the overall quality control and quality assurance of analyses performed by the WUL. 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.

Center for Coastal Studies Laboratory at Texas A&M University – Corpus Christi (CCSL)

Paul Zimba

CCSL, Laboratory Manager

Responsible for the overall performance, administration, and reporting of analyses performed by CCSL. Responsible for supervision of laboratory and field personnel involved in generating analytical data for the project. Ensures that laboratory and field personnel have adequate training and a thorough knowledge of the 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. Enforces corrective action, as required.

Brien Nicolau

CCSL, Laboratory QAO

Responsible for the overall quality control and quality assurance of analyses performed by CCSL. 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.

San Antonio River Authority Regional Environmental Laboratory (SARA REL)

Shannon Tollison

SARA REL, Laboratory Supervisor

Responsible for overall performance, administration, and reporting of analyses performed by SARA's Regional 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 the 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. Additionally, the lab director will review and verify all field and laboratory data for integrity and continuity, reasonableness and conformance to project requirements, and then validated against the data quality objectives listed in Appendix A.

Patty Carvajal

SARA REL, Laboratory QAO

Maintains operating procedures that are in compliance with the QAPP, amendments and appendices. Responsible for the overall quality control and quality assurance of analyses performed by SARA's Regional Environmental Laboratory. Assists with monitoring systems audits for CRP projects. 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.

Lower Colorado River Authority Environmental Laboratory Services (LCRA ELS)

Dale Jurecka

LCRA ELS, Laboratory Manager

Responsible for the overall performance, administration, and reporting of analyses performed by LCRA's ELS. Responsible for supervision of laboratory and field personnel involved in generating analytical data for the project. Ensures that laboratory and field personnel have adequate training and a thorough knowledge of the 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. Enforces corrective action, as required.

Angel Mata

LCRA ELS, Laboratory QAO

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.

Bandera County River Authority and Groundwater District (BCRAGD)

David Mauk

General Manager

Responsible for overall performance, administration, and reporting of analyses performed by BCRAGD field staff. Responsible for supervision of field personnel involved in generating analytical data for the project. Ensures that field personnel have adequate training and a thorough knowledge of the QAPP and related SOPs. Responsible for oversight of all field operations ensuring that all QA/QC requirements are met, documentation is complete and adequately maintained, and results are reported accurately. Additionally, the general manager will review and verify all field work and laboratory calibrations for integrity and continuity, reasonableness and conformance to project requirements.

Levi Sparks

BCRAGD Operations Manager/QAO

Maintains operating procedures that are in compliance with the QAPP, amendments and appendices. Responsible for the overall quality control and quality assurance of analyses performed by BCRAGD's field staff. Assists with monitoring systems audits for CRP projects. Additionally, the QAO will review and verify all field and laboratory data for integrity and continuity, reasonableness and conformance to project requirements, and then validated against the data quality objectives.

Responsible for coordinating the implementation of the QA program. Responsible for identifying, receiving, and maintaining project quality assurance records. Notifies the NRA QAO of particular circumstances which may adversely

affect the quality of data. Coordinates and monitors deficiencies, nonconformance and corrective action. Coordinates and maintains records of data verification and validation. Coordinates their search and review of technical QA material and data related to water quality monitoring system design and analytical techniques.

Levi Sparks

BCRAGD Watershed Protection Coordinator / Field Supervisor / Lab Supervisor

Coordinates field sampling and data collection activities and supervises the field personnel in conducting sampling events. Ensures that all field personnel are properly trained and equipped to conduct the necessary monitoring and that all sampling procedures are followed according to the QAPP. Ensures that personnel, supplies, and equipment are available at all appropriate times. Responsible for overseeing the Natural Resource Specialist in completing sample documentation including labeling samples and ensuring the correct sites are identified. Ensures that samples are sent properly to lab for analysis. Responsible for recording all reagents into the reagent log and labeling all reagent bottles in accordance with the Nueces River Authority QAPP and the BCRAGD SOP for CRP. Conducts all pre- and post-calibrations and maintains all sampling equipment.

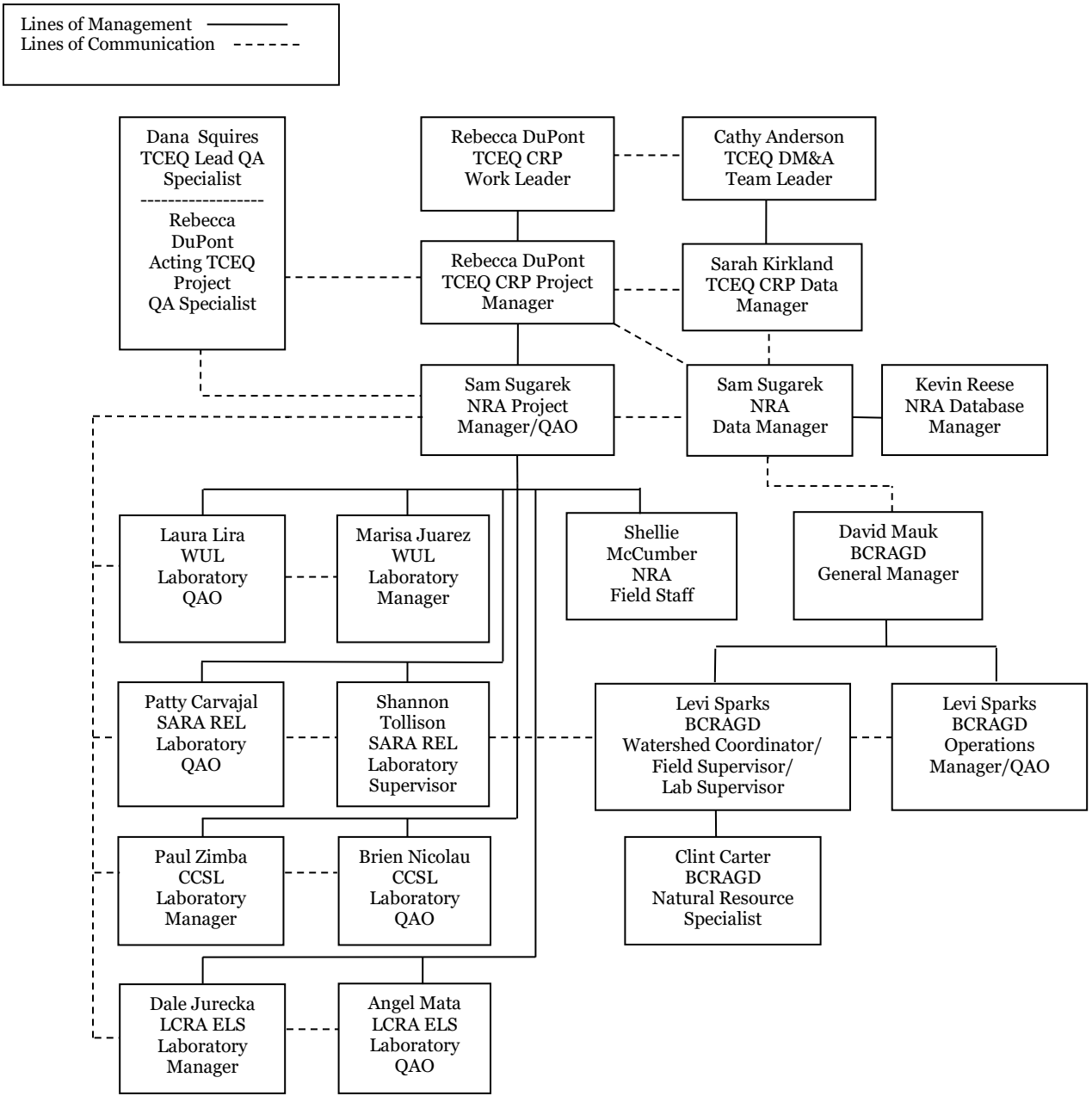
Clint Carter

BCRAGD Natural Resource Specialist

Conducts field sampling and data collection activities following procedures outlined in the QAPP. Responsible for completing sample documentation including labeling samples and ensuring the correct sites are identified. Ensures that samples are sent properly to lab for analysis.

Project Organization Chart

Figure A4.1. Organization Chart - Lines of Communication



A6 Project/Task Description

NRA will monitor 11 bay and tidal monitoring stations quarterly for conventional, bacteria, and field parameters. NRA will also monitor 2 bay and tidal monitoring stations on a semi-annual basis for conventional, bacteria, and field parameters. NRA will monitor a minimum of 33 river and lake monitoring stations quarterly for conventional, bacteria, flow (where applicable), and field parameters. NRA will also monitor 2 river monitoring stations on a quarterly basis for Chlorophyll-*a*, TDS, bacteria, and field parameters. NRA will also monitor one river monitoring station for bacteria and field parameters only and one river monitoring station for field parameters only. NRA will also conduct 24-hour dissolved oxygen monitoring at 3 monitoring stations given sufficient water. NRA will monitor for metals in water at 3 monitoring stations on a twice per year frequency and at 5 monitoring stations on a quarterly basis.

Bandera County River Authority and Groundwater District (BCRAGD) will conduct routine quarterly monitoring, collecting field, conventional, bacteria and, where applicable, flow data at 4 river monitoring stations in basin 20.

See Appendix B for the project-related work plan tasks and schedule of deliverables for a description of work defined in this QAPP.

See Appendix B for sampling design and monitoring pertaining to this QAPP.

Amendments to the QAPP

Revisions to the QAPP may be necessary to address incorrectly documented information or to reflect changes in project organization, tasks, schedules, objectives, and methods. Requests for amendments will be directed from the Nueces River Authority Project Manager to the CRP Project Manager electronically. The Nueces River Authority will submit a completed QAPP Amendment document, including a justification of the amendment, a table of changes, and all pages, sections, and attachments affected by the amendment. Amendments are effective immediately upon approval by the Nueces River Authority Project Manager, the Nueces River Authority QAO, the CRP Project Manager, the CRP Lead QA Specialist, the TCEQ QA Manager or designee, the CRP Project QA Specialist, and additional parties affected by the amendment. Amendments are not retroactive. No work shall be implemented without an approved QAPP or amendment prior to the start of work. Any activities under this contract that commence prior to the approval of the governing QA document constitute a deficiency and are subject to corrective action as described in section C1 of this QAPP. Any deviation or deficiency from this QAPP which occurs after the execution of this QAPP will be addressed through a Corrective Action Plan (CAP). An Amendment may be a component of a CAP to prevent future recurrence of a deviation.

Amendments will be incorporated into the QAPP by way of attachment and distributed to personnel on the distribution list by the Nueces River Authority Project Manager. If adherence letters are required, the Nueces River Authority will secure an adherence letter from each sub-tier project participant (e.g., subcontractors, sub-participant, or other units of government) affected by the amendment stating the organization's awareness of and commitment to requirements contained in each amendment to the QAPP. The Nueces River Authority will maintain this documentation as part of the project's QA records, and ensure that the documentation is available for review.

Special Project Appendices

Projects requiring QAPP appendices will be planned in consultation with the Nueces River Authority and the TCEQ Project Manager and TCEQ technical staff. Appendices will be written in an abbreviated format and will reference the Nueces River Authority QAPP where appropriate. Appendices will be approved by the Nueces River Authority Project Manager, the Nueces River Authority QAO, the Laboratory (as applicable), and the CRP Project Manager, the CRP Project QA Specialist, the CRP Lead QA Specialist and additional parties affected by the Appendix, as appropriate. Copies of approved QAPP appendices will be distributed by the Nueces River Authority to project participants before data collection activities commence. The Nueces River Authority will secure written documentation from each sub-tier project participant (e.g., subcontractors, subparticipants, other units of government) stating the organization's awareness of and commitment to requirements contained in each special project appendix to the QAPP. The Nueces River Authority will maintain this documentation as part of the project's QA records, and ensure that the documentation is available for review.

Table A9.1 Project Documents and Records

*NRA stores all documentation including electronic and paper documents at least 7 years.

Document/Record	Location	Retention (yrs)	Format
QAPPs, amendments and appendices	NRA, BCRAGD	7*	Paper, electronic
Field SOPs	NRA, BCRAGD	7*	Paper, electronic
Laboratory Quality Manuals	WUL, SARA REL, CCSL, LCRA ELS	5	Paper, electronic
Laboratory SOPs	WUL, SARA REL, CCSL, LCRA ELS	5	Paper, electronic
QAPP distribution documentation	NRA, BCRAGD	7*	Paper, electronic
Field staff training records	NRA, BCRAGD	7*	Paper, electronic
Field equipment calibration/maintenance logs	NRA, BCRAGD	7*	Paper
Field instrument printouts	NRA, BCRAGD	7*	Electronic
Field notebooks or data sheets	NRA, BCRAGD	7*	Paper
Laboratory Data Results	NRA, BCRAGD	7*	Paper
Chain of custody records	NRA, BCRAGD, WUL, CCSL, SARA REL, LCRA ELS	7*	Paper
Laboratory calibration records	WUL, SARA REL, CCSL, LCRA ELS	5	Paper, electronic
Laboratory instrument printouts	WUL, SARA REL, CCSL, LCRA ELS	5	Paper, electronic
Laboratory data reports/results	WUL/SARA REL, CCSL, LCRA ELS	5	Paper, electronic
	NRA, BCRAGD	7*	Paper, electronic
Laboratory equipment maintenance logs	WUL, SARA REL, CCSL, LCRA ELS	5	Paper, electronic
Corrective Action Documentation	WUL, SARA REL, CCSL, LCRA ELS	5	Paper, electronic
	NRA, BCRAGD	7*	Paper, electronic

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 A: Measurement Performance Specifications (Table A7)

TABLE A7.1 Measurement Performance Specifications for the Nueces River Authority

Conventional Parameters in Water

Parameter	Units	Matrix	Method	Parameter Code	AWRL	LOQ	LOQ Check Sample %Rec	Precision (RPD) of LCS/LCSD)	Bias %Rec. of LCS	Lab
ALKALINITY, TOTAL (MG/L AS CaCO ₃)	mg/L	water	SM2320B	00410	20	20	NA	20	NA	WUL
RESIDUE, TOTAL NONFILTRABLE (MG/L)	mg/L	water	SM2540D	00530	5	NA	NA	NA	NA	WUL
NITROGEN, AMMONIA, TOTAL (MG/L AS N)	mg/L	water	EPA350.1 Rev. 2.0 (1993)	00610	0.1	0.1	70-130	20	80-120	WUL
NITRITE NITROGEN, TOTAL (MG/L AS N)	mg/L	water	EPA 300.0 Rev. 2.1 (1993)	00615	0.05	0.02	70-130	20	80-120	WUL
NITRATE NITROGEN, TOTAL (MG/L AS N)	mg/L	water	EPA 300.0 Rev. 2.1 (1993)	00620	0.05	0.025	70-130	20	80-120	WUL
NITRATE NITROGEN (MG/L AS N)	mg/L	water	EPA 353.2	00615	0.05	0.02	70-130	20	80-120	WUL
NITRITE NITROGEN (MG/L AS N)	mg/L	water	EPA 353.2	00620	0.05	0.02	70-130	20	80-120	WUL
NITROGEN, KJELDAHL, TOTAL (MG/L AS N)	mg/L	water	EPA 351.4	00625	0.2	0.2	70-130	20	80-120	WUL
PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)	mg/L	water	EPA365.1	00665	0.06	0.06	70-130	20	80-120	WUL
CARBON, TOTAL ORGANIC, NPOC (TOC), MG/L	mg/L	water	SM5310 C	00680	2	0.3	NA	NA	NA	WUL
CHLORIDE (MG/L AS CL)	mg/L	water	EPA 300.0 Rev. 2.1 (1993)	00940	5	0.3	70-130	20	80-120	WUL
SULFATE (MG/L AS SO ₄)	mg/L	water	EPA 300.0 Rev. 2.1 (1993)	00945	5	0.1	70-130	20	80-120	WUL
RESIDUE, TOTAL FILTRABLE (DRIED AT 180C) (MG/L)	mg/L	water	SM2540C	70300	10	2.5	NA	20	80-120	WUL
CHLOROPHYLL-A, FLUOROMETRIC METHOD, UG/L	µg/L	water	EPA 445.0	70953	3	2	NA	NA	NA	WUL
PHEOPHYTIN-A UG/L FLUOROMETRIC METHOD	µg/L	water	EPA 445.0	32213	3	2	NA	NA	NA	WUL
CHLOROPHYLL-A, HPLC VISIBLE WAVELENGTH METHOD DETENTION, UG/L	µg/L	water	EPA 447.0	32211	3	2	NA	NA	NA	CCSL
PHEOPHYTIN-A UG/L HPLC VISIBLE WAVELENGTH DETENTION METHOD	µg/L	water	EPA 447.0	32218	3	2	NA	NA	NA	CCSL

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.)

TABLE A7.5 Measurement Performance Specifications for the Nueces River Authority

Bacteriological Parameters in Water

Parameter	Units	Matrix	Method	Parameter Code	AWRL	LOQ	LOQ Check Sample %Rec	Precision (RPD) of LCS/LCSD)	Bias %Rec. of LCS	Lab
E. COLI, COLILERT, IDEXX METHOD, MPN/100ML	MPN/100 mL	water	SM 9223-B*	31699	1	1	NA	0.50	NA	WUL
ENTEROCOCCI, ENTEROLERT, IDEXX, (MPN/100 ML)	MPN/100 mL	water	Enterolert **	31701	10	1	NA	0.50	NA	WUL
E.COLI, COLILERT, IDEXX, HOLDING TIME	hours	water	NA	31704	NA	NA	NA	NA	NA	WUL

* E.coli samples analyzed by SM 9223-B should be processed within 8 hours when possible. When transport conditions necessitate delays in delivery longer than 6 hours, the holding time may be extended and samples must be processed as soon as possible and within 30 hours.

**Enterococcus Samples should be diluted 1:10 for all waters.

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) monitoring Procedures, Volume 2: Methods for Collecting and Analyzing Biological Assemblage and Habitat Data, 2014 (RG-416)

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

Segment 2003 – One quarterly monitoring station located on the tidal portion of Aransas Creek (Station 12948) will be removed following completion of monitoring project by TWRI. One existing station (Station 12947) will serve at the monitoring station for that segment.

Segment 2003B – One quarterly monitoring station located on the tidal portion of Chiltipin Creek (Station ID 12930) will be added due to recommendations by stakeholders for conventional parameters, bacteria, and field measurements. Metals in water, dissolved and total, will be added on a 2x per year basis.

Segment 2109 – One quarterly monitoring station, located on the Leona River (Station ID 18418) will have 24-hour dissolved oxygen monitoring added to the address the DO impairment.

Segment 2114A – One quarterly monitoring station, located on Commissioner's Creek (Station ID 22227) will be added due to recommendations by stakeholder for conventional parameters, bacteria and field measurements

Segment 2492 – One monthly monitoring station on Los Olmos Creek (Station ID 13034), which is funded by CRP on a quarterly basis and by TxGLO on a 8x/year basis will become quarterly CRP site following the completion of the TxGLO special study in December 2020.

Monitoring Sites for FY 2021

Table B1.1 Sample Design and Schedule, FY 2021

Basin 20																						
<i>Site Description</i>	<i>Station ID</i>	<i>Waterbody ID</i>	<i>Reg</i>	<i>SE</i>	<i>CE</i>	<i>MT</i>	<i>24 hr DO</i>	<i>AqHab</i>	<i>Benthics</i>	<i>Nekton</i>	<i>Metals in Water</i>	<i>Organic Water</i>	<i>Metal Sed</i>	<i>Organic Sed</i>	<i>Conv</i>	<i>Amb Tox Water</i>	<i>Amb Tox Sed</i>	<i>Bacteria</i>	<i>Flow</i>	<i>Fish Tissue</i>	<i>Field</i>	<i>Comments</i>
MISSION RIVER TIDAL NEAR SOUTH BANK IMMEDIATELY DOWNSTREAM OF THE FM 2678 BRIDGE BETWEEN REFUGIO AND BAYSIDE	12943	2001	14	NR	NR	RT									4			4			4	
MISSION RIVER IMMEDIATELY UPSTREAM OF US 77 BRIDGE AT REFUGIO	12944	2002	14	NR	NR	RT									4			4	4		4	
ARANSAS RIVER TIDAL AT BOAT RAMP ON FM 629 TERMINUS SOUTH OF BONNIE VIEW	12947	2003	14	NR	NR	RT									4			4			4	
CHILTIPIN CREEK MID CHANNEL AT UNNAMED BRIDGE POSSIBLY AKA PLYMOUTH RD 2.11 KM DOWNSTREAM OF N END FM 631 NE OF SINTON	12930	2003A	14	NR	NR	RT					2				4			4			4	

Basin 20 - Continued

<i>Site Description</i>	<i>Station ID</i>	<i>Waterbody ID</i>	<i>Reg</i>	<i>SE</i>	<i>CE</i>	<i>MT</i>	<i>24 hr DO</i>	<i>AqHab</i>	<i>Benthics</i>	<i>Nekton</i>	<i>Metal Water</i>	<i>Organic Water</i>	<i>Metal Sed</i>	<i>Organic Sed</i>	<i>Conv</i>	<i>Amb Tox Water</i>	<i>Amb Tox Sed</i>	<i>Bacteria</i>	<i>Flow</i>	<i>Fish Tissue</i>	<i>Field</i>	<i>Comments</i>
ARANSAS RIVER AT COUNTY ROAD EAST OF SKIDMORE	12952	2004	14	NR	NR	RT									4			4	4		4	
ARANSAS CREEK AT US 181 NORTH OF SKIDMORE IN BEE COUNTY	12941	2004A	14	NR	NR	RT									4			4	4		4	
POESTA CREEK, 77 M DOWNSTREAM OF SH 202	12937	2004B	14	NR	NR	RT									4			4	4		4	

Basin 21

NUECES RIVER AT BLUNTZER BRIDGE ON FM 666	12964	2102	14	NR	NR	RT									4			4	4		4	
NUECES RIVER AT LA FRUTA BRIDGE ON SH 359	12965	2102	14	NR	NR	RT									4			4	4		4	TDS, Chloro phyll- <i>a</i> /Pheo phytin only
NUECES RIVER BELOW LAKE CORPUS CHRISTI AT HAZEL BAZEMORE PARK BOAT RAMP 4.5 KM UPSTREAM OF I-37	20936	2102	14	NR	NR	RT									4			4	4		4	

Basin 21 - Continued

<i>Site Description</i>	<i>Station ID</i>	<i>Waterbody ID</i>	<i>Reg</i>	<i>SE</i>	<i>CE</i>	<i>MT</i>	<i>24 hr DO</i>	<i>AqHab</i>	<i>Benthics</i>	<i>Nekton</i>	<i>Metal Water</i>	<i>Organic Water</i>	<i>Metal Sed</i>	<i>Organic Sed</i>	<i>Conv</i>	<i>Amb Tox Water</i>	<i>Amb Tox Sed</i>	<i>Bacteria</i>	<i>Flow</i>	<i>Fish Tissue</i>	<i>Field</i>	<i>Comments</i>
NUECES RIVER IMMEDIATELY UPSTREAM OF THE SALTWATER BARRIER DAM AT LABONTE PARK	21815	2102	14	NR	NR	RT									4			4	4		4	TDS, Chloro phyll- a/Pheo phytin only
LAKE CORPUS CHRISTI MID-LAKE AT THE DAM 380 M NNW OF NORTHERN TIP OF DAM USGS SITE	12967	2103	14	NR	NR	RT									4			4			4	
LAKE CORPUS CHRISTI APPROX. 0.2 MI OFF WESTERN SHORE DIRECTLY WEST OF HIDEAWAY HILL	17384	2103	14	NR	NR	RT									4			4			4	
NUECES RIVER AT LIVE OAK CR 151 NEAR RIVER CREEK ACRES UPSTREAM OF LAKE CORPUS CHRISTI	17648	2103	14	NR	NR	RT									4			4	4		4	
NUECES RIVER AT FM 1042 BRIDGE 1.2 MILES NORTH OF SIMMONS	12972	2104	14	NR	NR	RT					4				4			4	4		4	
NUECES RIVER AT SH 16 SOUTH OF TILDEN	12973	2104	16	NR	NR	RT									4			4	4		4	
NUECES RIVER AT FM 624	12974	2104	16	NR	NR	RT													4		4	

Basin 21 - Continued

<i>Site Description</i>	<i>Station ID</i>	<i>Waterbody ID</i>	<i>Reg</i>	<i>SE</i>	<i>CE</i>	<i>MT</i>	<i>24 hr DO</i>	<i>AqHab</i>	<i>Benthics</i>	<i>Nekton</i>	<i>Metal Water</i>	<i>Organic Water</i>	<i>Metal Sed</i>	<i>Organic Sed</i>	<i>Conv</i>	<i>Amb Tox Water</i>	<i>Amb Tox Sed</i>	<i>Bacteria</i>	<i>Flow</i>	<i>Fish Tissue</i>	<i>Field</i>	<i>Comments</i>
NUECES RIVER BRIDGE ON FM 190 NORTH OF ASHERTON	12976	2105	16	NR	NR	BS	4												4		4	
FRIO RIVER AT SH 72 IN THREE RIVERS TX	12977	2106	14	NR	NR	RT									4			4	4		4	
NUECES RIVER BRIDGE ON US 281 SOUTH OF THREE RIVERS	12979	2106	14	NR	NR	RT									4			4	4		4	
ATASCOSA RIVER AT FM 99 BRIDGE WEST OF WHITSETT	12980	2107	14	NR	NR	RT					4				4			4	4		4	
ATASCOSA RIVER AT FM 541 4.75 KM UPSTREAM OF THE CONFLUENCE WITH LIVEOAK CREEK IN ATASCOSA COUNTY	20764	2107	13	NR	NR	BS	4												4		4	
ATASCOSA RIVER AT FM 541 4.75 KM UPSTREAM OF THE CONFLUENCE WITH LIVEOAK CREEK IN ATASCOSA COUNTY	20764	2107	13	NR	NR	RT									4			4	4		4	
SAN MIGUEL CREEK AT SH 16 NORTH OF TILDEN	12983	2108	16	NR	NR	RT					4				4			4	4		4	
LEONA RIVER 370 M UPSTREAM OF FM 140	18418	2109	13	NR	NR	RT	4								4			4	4		4	

Basin 21 - Continued

<i>Site Description</i>	<i>Station ID</i>	<i>Waterbody ID</i>	<i>Reg</i>	<i>SE</i>	<i>CE</i>	<i>MT</i>	<i>24 hr DO</i>	<i>AqHab</i>	<i>Benthics</i>	<i>Nekton</i>	<i>Metal Water</i>	<i>Organic Water</i>	<i>Metal Sed</i>	<i>Organic Sed</i>	<i>Conv</i>	<i>Amb Tox Water</i>	<i>Amb Tox Sed</i>	<i>Bacteria</i>	<i>Flow</i>	<i>Fish Tissue</i>	<i>Field</i>	<i>Comments</i>
SABINAL RIVER BRIDGE AT US 90 WEST OF SABINAL	12993	2110	13	NR	NR	RT									4			4	4		4	
SABINAL RIVER AT FM 187 5.6 MI SOUTH OF VANDERPOOL	14939	2111	13	NR	BA	RT									4			4	4		4	
SABINAL RIVER AT RANCH ROAD 187 APPROX 10 KILOMETERS SOUTH OF UTOPIA AND 400 METERS UPSTREAM OF THE CONFLUENCE WITH ONION CREEK	21948	2111	13	NR	BA	RT									4			4	4		4	
NUECES RIVER IMMEDIATELY DOWNSTREAM OF SH 55 SOUTHBOUND BRIDGE APPROXIMATELY 2.5 KM SOUTH OF LAGUNA	16704	2112	13	NR	NR	RT									4			4	4		4	

Basin 21 - Continued

<i>Site Description</i>	<i>Station ID</i>	<i>Waterbody ID</i>	<i>Reg</i>	<i>SE</i>	<i>CE</i>	<i>MT</i>	<i>24 hr DO</i>	<i>AqHab</i>	<i>Benthics</i>	<i>Nekton</i>	<i>Metal Water</i>	<i>Organic Water</i>	<i>Metal Sed</i>	<i>Organic Sed</i>	<i>Conv</i>	<i>Amb Tox Water</i>	<i>Amb Tox Sed</i>	<i>Bacteria</i>	<i>Flow</i>	<i>Fish Tissue</i>	<i>Field</i>	<i>Comments</i>
HONDO CREEK MID CHANNEL IMMEDIATELY DOWNSTREAM OF SH 173 SOUTHEAST OF HONDO	18408	2114	13	NR	NR	RT									4			4			4	
COMMISSIONER'S CREEK DOWNSTREAM OF THE CAMP OF THE OZARKS IMPOUNDMENT	22227	2114A	13	NR	BA	RT									4			4			4	
SECO CREEK AT SH 470 APPROXIMATELY 10 MI WEST OF TARPLEY	13017	2115	13	NR	BA	RT									4			4	4		4	
CHOKE CANYON RESERVOIR NEAR THE DAM 422 M SOUTH AND 129 M EAST OF SPILLWAY CHANNEL USGS SITE AC	13019	2116	14	NR	NR	RT									4			4			4	
CHOKE CANYON RESERVOIR MID LAKE 15 M E OF LIVE OAK/MCMULLEN COUNTY LINE NEAR OLD HWY 99 1.25 KM NORTH OF CC STATE PARK POINT	13020	2116	14	NR	NR	RT									4			4			4	

Basin 21 - Continued

<i>Site Description</i>	<i>Station ID</i>	<i>Waterbody ID</i>	<i>Reg</i>	<i>SE</i>	<i>CE</i>	<i>MT</i>	<i>24 hr DO</i>	<i>AqHab</i>	<i>Benthics</i>	<i>Nekton</i>	<i>Metal Water</i>	<i>Organic Water</i>	<i>Metal Sed</i>	<i>Organic Sed</i>	<i>Conv</i>	<i>Amb Tox Water</i>	<i>Amb Tox Sed</i>	<i>Bacteria</i>	<i>Flow</i>	<i>Fish Tissue</i>	<i>Field</i>	<i>Comments</i>
CHOKO CANYON RESERVOIR APPROX 0.45 KM SOUTHEAST OF FM 99 SOUTHERN MOST BRIDGE CROSSING THE FRIO RIVER ARM	17389	2116	16	NR	NR	RT					4				4			4			4	
FRIO RIVER AT SH 16 IN TILDEN	13023	2117	16	NR	NR	RT					4				4			4	4		4	
Basin 22																						
FRIO RIVER IMMEDIATELY UPSTREAM OF SH 97 NORTH OF FOWLERTON	18373	2117	16	NR	NR	RT									4			4	4		4	
ARROYO COLORADO AT US 77 IN SW HARLINGEN	13079	2202	15	NR	NR	RT									4			4	4		4	
PETRONILA CREEK 181 METERS WEST AND 6 METERS SOUTH FROM THE INTERSECTION OF ALICE ROAD AND LOST CREEK ROAD	20806	2204	14	NR	NR	RT									4			4			4	
PETRONILA CREEK AT FM 665 EAST OF DRISCOLL	13096	2204	14	NR	NR	RT									4			4	4		4	
PETRONILA CREEK AT FM 892 SE OF DRISCOLL	13094	2204	14	NR	NR	RT									4			4	4		4	

Basin 24

<i>Site Description</i>	<i>Station ID</i>	<i>Waterbody ID</i>	<i>Reg</i>	<i>SE</i>	<i>CE</i>	<i>MT</i>	<i>24 hr DO</i>	<i>AqHab</i>	<i>Benthics</i>	<i>Nekton</i>	<i>Metal Water</i>	<i>Organic Water</i>	<i>Metal Sed</i>	<i>Organic Sed</i>	<i>Conv</i>	<i>Amb Tox Water</i>	<i>Amb Tox Sed</i>	<i>Bacteria</i>	<i>Flow</i>	<i>Fish Tissue</i>	<i>Field</i>	<i>Comments</i>
PORT BAY AT MIDDLE OF SH 188 WEST OF ROCKPORT	13405	2472	14	NR	NR	RT					2				2			2			2	
REDFISH BAY AT SH 361 AT 3RD BRIDGE BETWEEN ARANSAS PASS AND PORT ARANSAS	13426	2483	14	NR	NR	RT									4			4			4	
CONN BROWN HARBOR MID HARBOR 50 M NORTHEAST OF THE INTERSECTION OF HUFF ST AND EAST MADDOX AVE IN ARANSAS PASS	18848	2483A	14	NR	NR	RT					2				2			2			2	
OSO BAY IMMEDIATELY OFFSHORE AT TIP OF PENINSULA AT PADRE ISLAND DRIVE/SOUTHBOUND AT SH 358	13440	2485	14	NR	NR	RT									4			4			4	
OSO BAY 40 M UPSTREAM OF OCEAN DRIVE AND APPROXIMATELY 50 M WEST OF EASTERN LANDFALL OF BRIDG	13442	2485	14	NR	NR	RT									4			4			4	

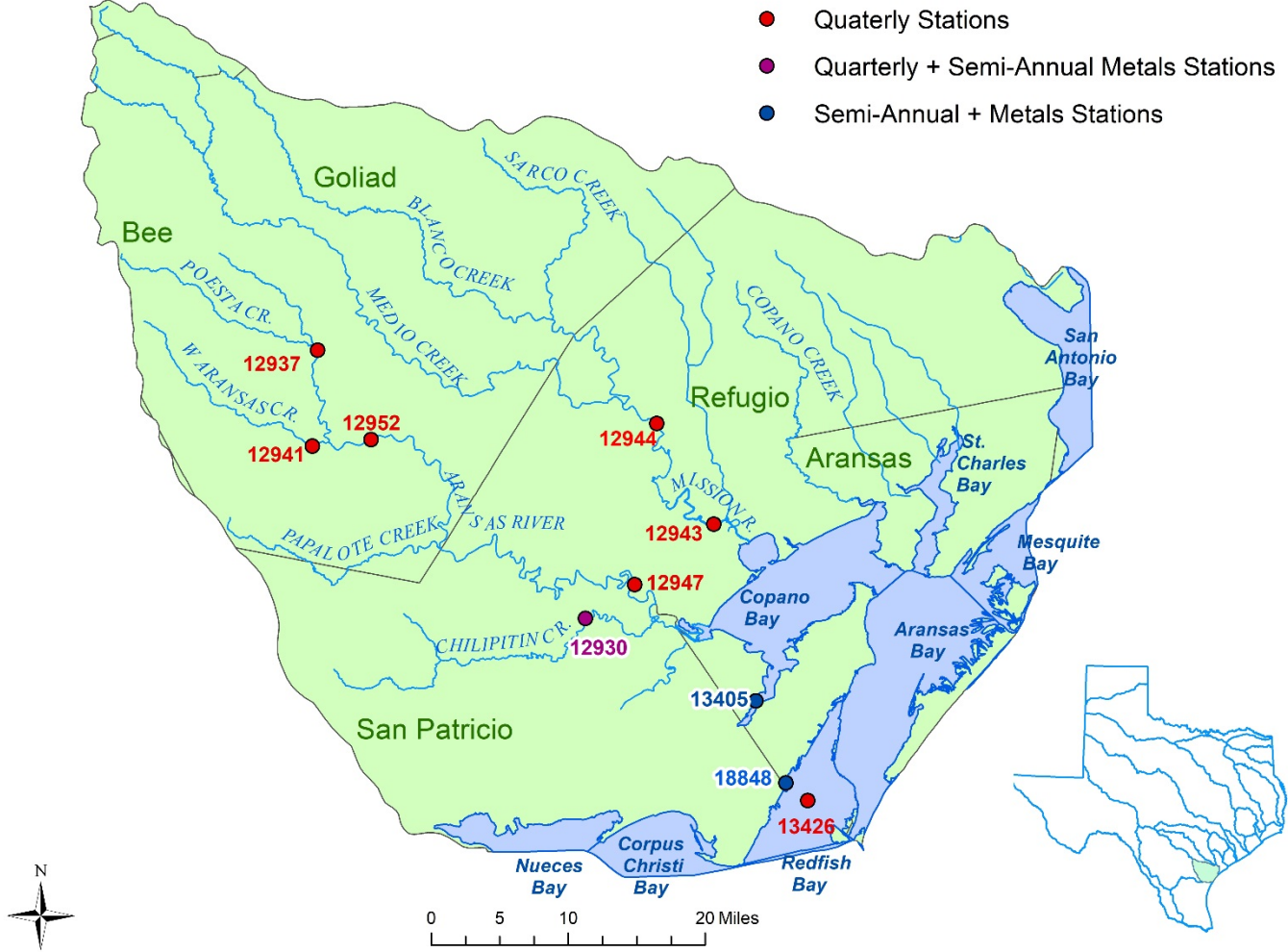
Basin 24 - Continued

<i>Site Description</i>	<i>Station ID</i>	<i>Waterbody ID</i>	<i>Reg</i>	<i>SE</i>	<i>CE</i>	<i>MT</i>	<i>24 hr DO</i>	<i>AqHab</i>	<i>Benthics</i>	<i>Nekton</i>	<i>Metal Water</i>	<i>Organic Water</i>	<i>Metal Sed</i>	<i>Organic Sed</i>	<i>Conv</i>	<i>Amb Tox Water</i>	<i>Amb Tox Sed</i>	<i>Bacteria</i>	<i>Flow</i>	<i>Fish Tissue</i>	<i>Field</i>	<i>Comments</i>
OSO CREEK IMMEDIATELY DOWNSTREAM OF SH 286 SOUTH OF CORPUS CHRISTI	13028	2485A	14	NR	NR	RT								4			4				4	
OSO CREEK IMMEDIATELY DOWNSTREAM OF FM 763 SOUTHWEST OF CORPUS CHRISTI	13029	2485A	14	NR	NR	RT								4			4				4	
HIDALGO MAIN FLOODWATER CHANNEL AT FM 1420 1.65 KM SOUTH OF INTERSECTION WITH FM 490 EAST OF RAYMONDVILLE	22003	2491C	15	NR	NR	RT								4			4	4			4	
RAYMONDVILLE DRAIN AT WILLACY COUNTY ROAD 445 800 METERS NORTH OF INTERSECTION WITH FM 3142 EAST OF RAYMONDVILLE	22004	2491C	15	NR	NR	RT								4			4	4			4	
LOS OLMOS CREEK IMMEDIATELY UPSTREAM OF US 77 SOUTH OF RIVIERA	13034	2492	14	NR	NR	RT								7			7				7	3x CMP, 4x CRP

Basin 24 - Continued

<i>Site Description</i>	<i>Station ID</i>	<i>Waterbody ID</i>	<i>Reg</i>	<i>SE</i>	<i>CE</i>	<i>MT</i>	<i>24 hr DO</i>	<i>AqHab</i>	<i>Benthics</i>	<i>Nekton</i>	<i>Metal Water</i>	<i>Organic Water</i>	<i>Metal Sed</i>	<i>Organic Sed</i>	<i>Conv</i>	<i>Amb Tox Water</i>	<i>Amb Tox Sed</i>	<i>Bacteria</i>	<i>Flow</i>	<i>Fish Tissue</i>	<i>Field</i>	<i>Comments</i>
SAN FERNANDO CREEK AT US 77 AT KINGSVILLE	13033	2492A	14	NR	NR	RT									4			4	4		4	
SAN MARTIN LAKE MID ESTUARY 2.04 KM EAST AND 0.80 KM NORTH OF THE HWY 48 BRIDGE NORTHEAST OF BROWNSVILLE	22170	2494C	15	NR	NR	RT									4			4			4	

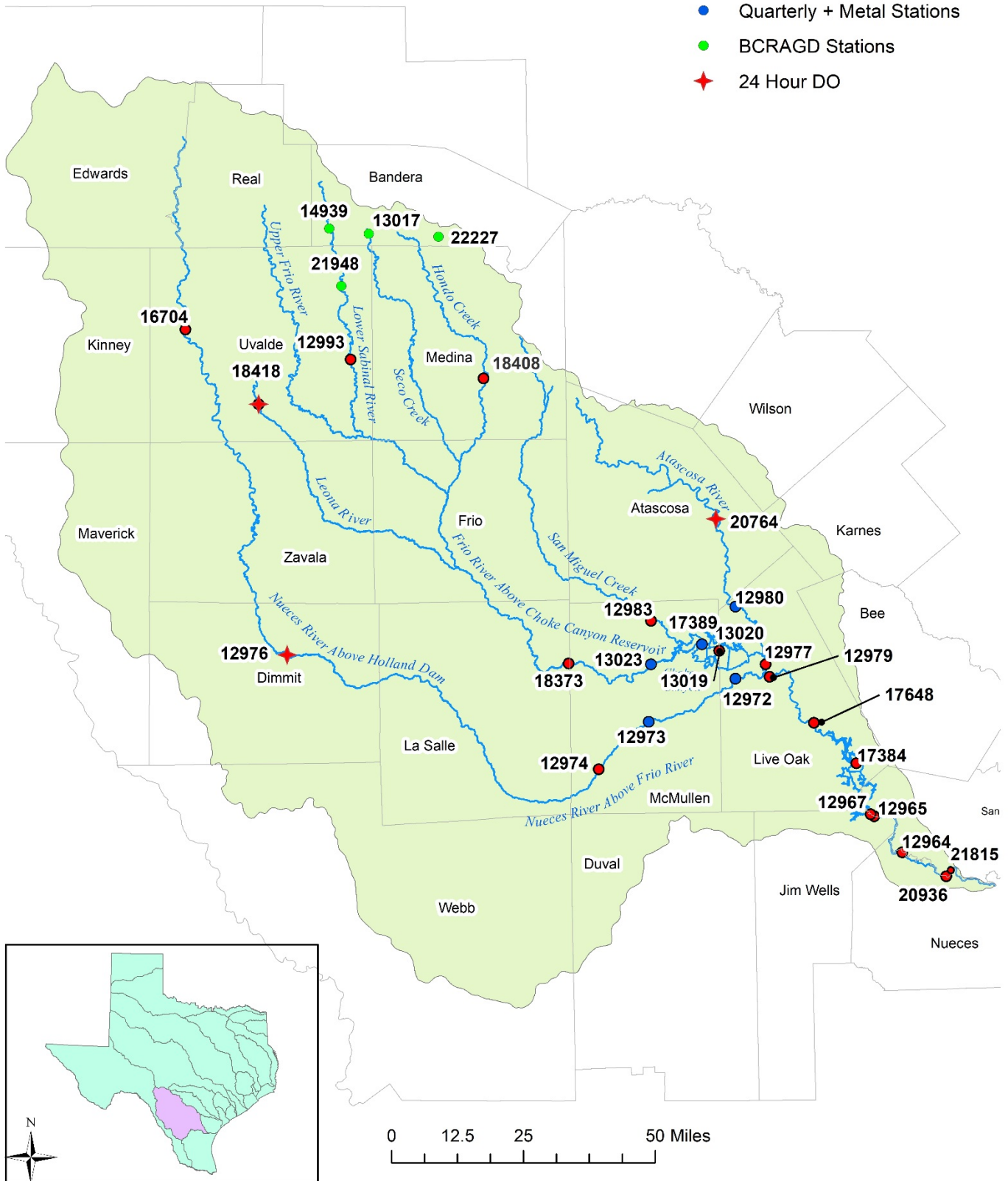
San Antonio-Nueces Coastal Basin



Nueces River Basin

NRA Monitoring Stations

- Quarterly Stations
- Quarterly + Metal Stations
- BCRA GD Stations
- ★ 24 Hour DO



CUSTOMER RECORD and ANALYSIS

Send Results to: Sam Sugarek
Nueces River Authority



Address: 602 N. Staples. St. #280
Corpus Christi, TX 78401

NUECES RIVER AUTHORITY

Lab Analysis Request

Phone:	Fax:	Project Name:	Project No.:																																		
361-653-2110	361-653-2115	Clean Rivers Program Monitoring	CRP NRA/WUL																																		
Sampling by:		Matrix	Preserved (w/ice)	Sampling																																	
Sam Sugarek		Liquid	H ₂ SO ₄	Ice/Ref	Date	Time	Alkalinity SM 2320 B	Chloride EPA 300.0	Sulfate EPA 300.0	TDS SM 2540 C	Nitrate-N EPA 300.0 or 353.2	Nitrite-N EPA 300.0 or 353.2	TKN EPA 351.4	Ammonia-N EPA 350.1	Phosphorus EPA365.1	TOC SM 5310 C	TSS SM 2540 D	Pheophytin-a EPA 445.0	Chlorophyll-a EPA 445.0 445447.0	E. coli SM 9223-B	Enterococcus - Enterolert																
Shellie McCumber																																					
Site Identification:	Lab Only	No. Containers	Conductivity of water at site																																		
Relinquished by:		Date	Time	Received By:		Date	Time	Remarks: X = laboratory measurement																													
								Receiving Temp (°C)																													