Texas State Soil and Water Conservation Board
Clean Water Act §319(h) Nonpoint Source Grant Program
FY 2021 Workplan 21-05

SUMMARY PAGE						
Title of Project	Middle Yegua and Davidson Creeks Continued Monitoring					
Project Goals	• Supplement existing water quality and quantity data through water quality monitoring					
Project Tasks	(1) Project Administration; (2) Quality Assurance; (3) Continued Surface Water Quality Monitoring for Middle Yegua and Davidson Creeks					
Measures of Success	• Collection and analysis of quality assured data generated for watershed sampling sites					
Project Type	Implementation ( ); Education ( ); Planning (X); Assessment ( ); Groundwater ( )					
Status of Waterbody on *2020 Texas Integrated Report*	Segment ID Davidson Creek 1211A Middle Yegua Creek 1212A	Parameter of Impairment or Concern Bacteria, depressed dissolved oxygen Bacteria, depressed dissolved oxygen, habitat	Category 5c, NS 5c, NS, CS			
Project Location (Statewide or Watershed and County)	Davidson Creek watershed in Milam and Burleson counties Middle Yegua Creek watershed in Lee, Bastrop, Williamson, and Milam counties					
Key Project Activities	Hire Staff ( ); Surface Water Quality Monitoring (X); Technical Assistance ( ); Education ( ); Implementation ( ); BMP Effectiveness Monitoring ( ); Demonstration ( ); Planning ( ); Modeling ( ); Bacterial Source Tracking ( ); Other ( )					
2017 Texas NPS Management Program Reference	• Component 1: LTG 1, 2, 6 • Component 1: STG 1A, 1B • Components 2, 3, 7					
Project Costs	Federal	$136,302	Non-Federal	$90,868	Total	$227,170
Project Management	• Texas A&M AgriLife Research, Texas Water Resources Institute					
Project Period	September 1, 2021 – August 31, 2024					

Part I – Applicant Information

Applicant							
Project Lead	T. Allen Berthold						
Title	Assistant Director						
Organization	Texas A&M AgriLife Research, Texas Water Resources Institute						
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Street Address	578 John Kimbrough Blvd., 2260 TAMU						
City	College Station	County	Brazos	State	Texas	Zip Code	77843
Telephone Number	979-845-2028			Fax Number	979-845-0662		

Co-Applicant							
Project Co-Lead	Dr. Lucas Gregory						
Title	Assistant Director and QA Officer						
Organization	Texas A&M AgriLife Research, Texas Water Resources Institute						
E-mail Address	lfgregory@ag.tamu.edu						
Street Address	578 John Kimbrough Blvd., 2260 TAMU						
City	College Station	County	Brazos	State	Texas	Zip Code	77843
Telephone Number	979-845-7869			Fax Number	979-845-0662		

Project Partners	
Names	Roles & Responsibilities
Texas State Soil and Water Conservation Board (TSSWCB)	Provide state oversight and management of all project activities and ensure coordination of activities with related projects and TCEQ.
Texas A&M AgriLife Research, Texas Water Resources Institute (TWRI)	Provide project administration, coordination, quality assurance, and water quality monitoring.

Part II – Project Information

Project Type							
Surface Water	X	Groundwater					
Does the project implement recommendations made in: (a) a completed WPP; (b) an adopted TMDL; (c) an approved I-Plan; (d) a Comprehensive Conservation and Management Plan developed under CWA §320; (e) the *Texas Coastal NPS Pollution Control Program*; or (f) the *Texas Groundwater Protection Strategy*?				Yes		No	X
If yes, identify the document.	N/A						
If yes, identify the agency/group that developed and/or approved the document.	N/A			Year Developed	N/A		

Watershed Information				
Watershed or Aquifer Name(s)	Hydrologic Unit Code (12 Digit)	Segment ID	Category on 2020 IR	Size (Acres)
Davidson Creek watershed	120701020401-120701020406	1211A	5c	139,367
Middle Yegua Creek watershed	120701020101-120701020111	1212A	5c, CS	281,798

Water Quality Impairment

Describe all known causes (i.e., pollutants of concern) and sources (e.g., agricultural, silvicultural) of water quality impairments or concerns from any of the following sources: *2020 Texas Integrated Report*, Clean Rivers Program Basin Summary/Highlights Reports, or other documented sources.

IMPAIRMENTS

SegID: 1211A: Davidson Creek: Intermittent stream with perennial pools from the confluence with Yegua Creek to 1.7 km above CR 322, Milam County

Parameter	Category	Year
Bacteria	5c	2002

1211A_02: Intermittent stream with perennial pools from the confluence with Yegua Creek upstream of 0.2 km above SH 21near the city of Caldwell; App D

Parameter	Category	Year
Depressed Dissolved Oxygen	5c	2010

1211A_02: Intermittent stream with perennial pools from the confluence with Yegua Creek upstream of 0.2 km above SH 21near the city of Caldwell; App D

SegID: 1212A: Middle Yegua Creek: From the confluence with East Yegua and Yegua Creeks in Lee County to the County/Williamson County line

Parameter	Category	Year
Bacteria	5c	2010

1212A_02: From the confluence with West Yegua Creek upstream to the headwaters of water body in Williamson County

CONCERNS (*2020 Texas Water Quality Inventory*)

SegID: 1212A: Middle Yegua Creek: From the confluence with East Yegua and Yegua Creeks in Lee County to the County/Williamson County line

Assessment Unit	Concern	Level of Support
1212A_02	Dissolved Oxygen Grab	CS (Concern screening levels)
1212A_02	Habitat	CS (Concern screening levels)

SOURCES (*2020 Texas Integrated*)

Davidson Creek: Segment ID 1211A, AU ID 1211A_02
E. coli, Dissolved Oxygen 24hr Avg., Dissolved Oxygen 24hr Min.
Non-point sources: Agriculture, Natural Sources, Unknown

Middle Yegua Creek: Segment ID 1212A, AU ID 1212A_02
E. coli, Dissolved Oxygen Grab, Habitat
Point sources: Unknown
Non-point sources: Unknown

Project Narrative

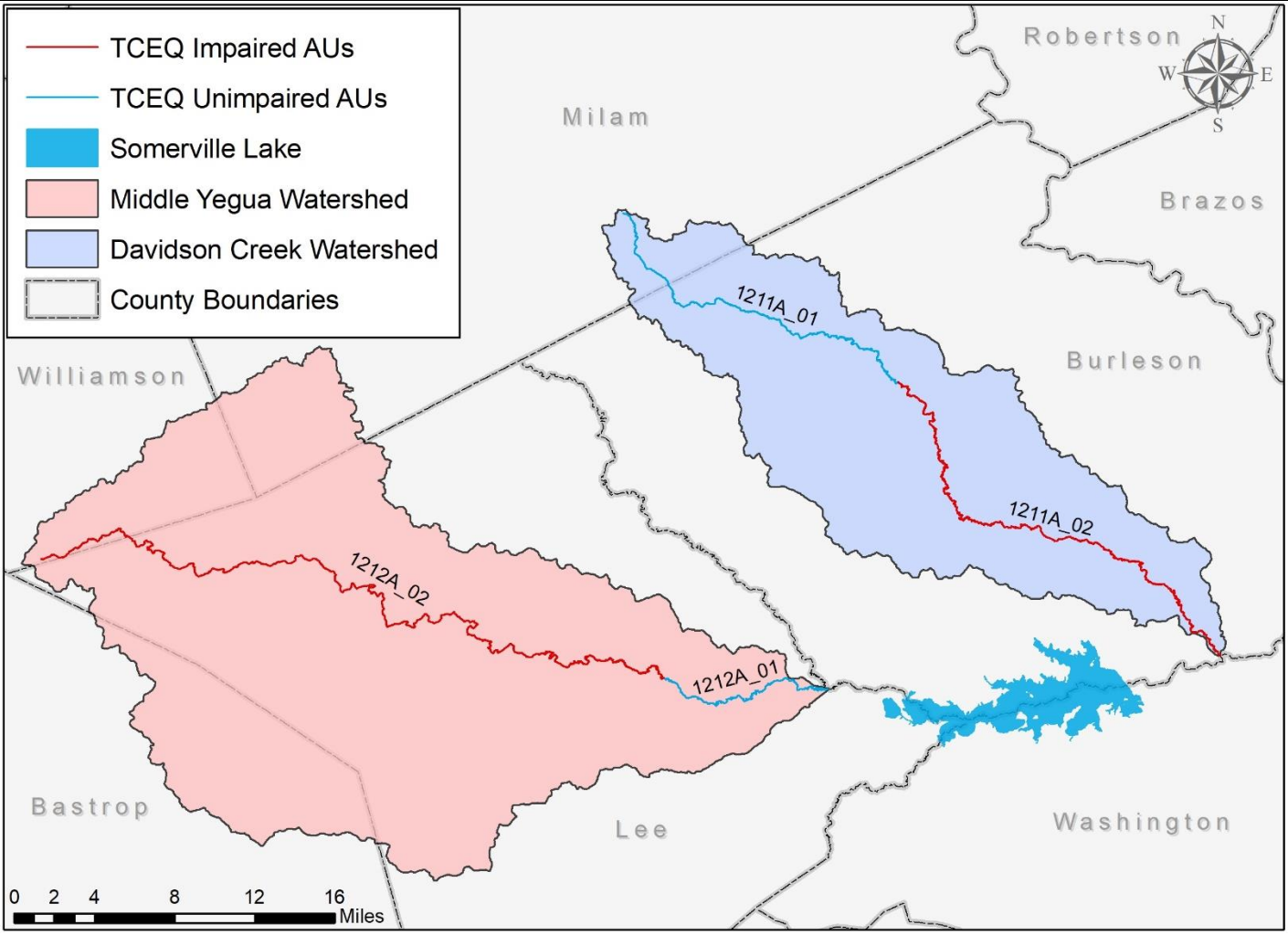
Problem/Need Statement

The Texas Integrated Report and 303(d) List has identified Middle Yegua Creek (SegID 1212A) and Davidson Creek (SegID 1211A) as impaired for not meeting the state's water quality standard for contact recreation. The following AUs are impaired for elevated levels of bacteria: 1212A_02 and 1211A_02. Davidson Creek is also impaired for depressed dissolved oxygen for AU 1211A_02.

No water quality data was collected for either water body between 2008 and 2018. Data collection resumed in 2018 at six sites, three in the Davidson Creek watershed and three in the Middle Yegua Creek watershed. However, sufficient data to fully assess the bacteria impairment will not be available until the *2022 Texas Integrated Report* is developed. Collecting more water quality data will help develop a foundation for future watershed planning and implementation efforts if the impairments are confirmed in that report. Additionally, expanded data collection will allow for more accurate assessment of waterbody conditions and aid in identifying potential causes and sources of pollution. It is through monitoring and adequate data that watershed managers will be able to get a true assessment of water quality and water quality inhibitors. Also, this additional data can be used to give stakeholders and other interested parties current knowledge of water quality issues in the watersheds.

Project Narrative

General Project Description



To supplement existing data and attempt to fill data gaps and improve analysis, water quality data will be collected at six sites monthly (three sites in each of the Middle Yegua Creek and Davidson Creek watersheds). Flow data will be collected as well at the Middle Yegua Creek and Davidson Creek sites. This additional surface water quality monitoring data can be used to eventually update loading reductions and the LDCs in the Middle Yegua, Davidson, and Deer Creeks Characterization Report.

Tasks, Objectives and Schedules						
Task 1	Project Administration					
Costs	Federal	$20,445	Non-Federal	$13,630	Total	$34,075
Objective	To effectively administer, coordinate, and monitor all work performed under this project including technical and financial supervision, and preparation of status reports.					
Subtask 1.1	TWRI will prepare electronic quarterly progress reports (QPRs) for submission to the TSSWCB. QPRs shall document all activities performed within a quarter and shall be submitted by the 1st of January, April, July and October. QPRs shall be distributed to all Project Partners.					
	Start Date	Month 1		Completion Date		Month 36
Subtask 1.2	TWRI will perform accounting functions for project funds and will submit appropriate Reimbursement Forms to TSSWCB at least quarterly.					
	Start Date	Month 1		Completion Date		Month 36
Subtask 1.3	TWRI will host coordination meetings or conference calls, at least quarterly, with Project Partners to discuss project activities, project schedule, communication needs, deliverables, and other requirements. TWRI will develop lists of action items needed following each project coordination meeting and distribute to project personnel.					
	Start Date	Month 1		Completion Date		Month 36
Subtask 1.4	TWRI will develop a Final Report that summarizes activities completed and conclusions reached during the project and discusses the extent to which project goals and measures of success have been achieved.					
	Start Date	Month 33		Completion Date		Month 36
Deliverables	• QPRs in electronic format • Reimbursement Forms and necessary documentation in hard copy format • Final Report in electronic and hard copy formats					

Tasks, Objectives and Schedules						
Task 2	Quality Assurance					
Costs	Federal	$4,089	Non-Federal	$2,726	Total	$6,815
Objective	To develop data quality objectives (DQOs) and quality assurance/control (QA/QC) activities to ensure data of known and acceptable quality are generated through this project.					
Subtask 2.1	TWRI will develop a QAPP for activities in Task #3 consistent with the most recent versions of *EPA Requirements for Quality Assurance Project Plans (QA/R-5)* and the *TSSWCB Environmental Data Quality Management Plan*. All monitoring procedures and methods prescribed in the QAPP shall be consistent with the guidelines detailed in the *TCEQ Surface Water Quality Monitoring Procedures, Volume 1: Physical and Chemical Monitoring Methods for Water, Sediment, and Tissue (RG-415)* and *Volume 2: Methods for Collecting and Analyzing Biological Assemblage and Habitat Data (RG-416)*. [Consistency with Title 30, Chapter 25 of the Texas Administrative Code, *Environmental Testing Laboratory Accreditation and Certification*, which describes Texas' approach to implementing the National Environmental Laboratory Accreditation Conference (NELAC) standards, shall be required where applicable.]					
	Start Date	Month 1		Completion Date		Month 6
Subtask 2.2	TWRI will implement the approved QAPP. TWRI will submit revisions and necessary amendments to the QAPP as needed.					
	Start Date	Month 6		Completion Date		Month 36
Deliverables	• QAPP approved by TSSWCB and EPA in both electronic and hard copy formats • Approved revisions and amendments to QAPP, as needed • Data of known and acceptable quality as reported through Task #3					

Tasks, Objectives and Schedules						
Task 3	Continued Surface Water Quality Monitoring for Middle Yegua and Davidson Creeks					
Costs	Federal	$111,768	Non-Federal	$74,512	Total	$186,280
Objective	To continue collecting surface water quality and flow data for future watershed-based planning efforts.					
Subtask 3.1	TWRI will conduct monthly ambient water quality monitoring at three sites in each of the Middle Yegua and Davidson Creeks watersheds. Sampling will include routine field parameters (temperature, pH, DO, conductivity) and collection of water samples of the volume required by the QAPP in Task 2. Flow data will also be collected for Middle Yegua and Davidson Creeks. Water samples will be delivered to Aqua-Tech Laboratories Inc. within the appropriate holding time for analysis. Water samples returned to the lab will be analyzed for *E. coli* bacteria.					
	Start Date	Month 6	Completion Date	Month 30		
Subtask 3.2	Aqua-Tech Laboratories Inc. will transfer completed lab analysis data to TWRI who will maintain a master database of collected data. Data will be submitted to TSSWCB by TWRI for submission to SWQMIS on a quarterly basis.					
	Start Date	Month 6	Completion Date	Month 30		
Deliverables	• Documentation of sampling events in QPRs • Quarterly data submissions (data summary and checklist, event and result files, and validator report) after successful upload into SWQMIS test environment					

Project Goals (Expand from Summary Page)
TWRI will acquire and summarize existing surface water quality data from the watershed. Existing data will be supplemented through monthly water quality monitoring at sites identified from site recon and the QAPP. New data will be submitted to SWQMIS. Existing and new data will be summarized and analyzed in the project final report to evaluate water quality trends.

Measures of Success (Expand from Summary Page)
This project will be considered successful upon collection of 24 months' worth of monthly ambient water quality data. Progress will be reported in quarterly progress reports and results will be provided in a final report.

***2017 Texas NPS Management Program* Reference (Expand from Summary Page)**
Components, Goals, and Objectives
Component 1: Explicit short- and long-term goals, objectives and strategies that protect surface … water. Long-Term Goal – Protect and restore water quality affected by NPS pollution through assessment,…, and education. Objectives • 1 – Focus NPS abatement efforts, …available resources in watersheds identified as impacted by NPS pollution • 2 – Support the implementation of state, regional and local programs to prevent NPS pollution through assessment… and education. • 6 – Develop partnerships, relationships… to facilitate collective, cooperative approaches to manage NPS pollution. Short-term Goals Goal One – Data Collection and Assessment: Coordinate with appropriate federal, state, regional and local entities, and stakeholder groups to target water quality assessment activities in high priority, NPS-impacted watersheds…and areas where additional information is needed. • Objective A – Identify surface water bodies…from the IR… that need additional information to characterize non-attainment of designated uses and water quality standards. • Objective B – Ensure that monitoring procedures meet quality assurance requirements and are in compliance with EPA-approve TSSWCB Quality Management Plans.
Component 2: Working partnerships and linkages with appropriate state, … regional, and local entities, private sector groups and Federal agencies.
Component 3: Balanced approach that emphasizes both statewide NPS programs and on-the-ground management of individual watersheds.
Component 7: Manage and implement the NPS program efficiently and effectively, including necessary financial management

EPA State Categorical Program Grants – Workplan Essential Elements FY 2018-2022 EPA Strategic Plan Reference
Strategic Plan Goal – Goal 1 Core Mission: Deliver a cleaner, safer, and healthier environment for all Americans and future generations by carrying out the Agency's core mission.
Strategic Plan Objective – Objective 1.2 Provide for Clean and Safe Water to ensure waters are clean through improved water infrastructure and, in partnership with states and tribes, sustainably manage programs to support drinking water, aquatic ecosystems, and recreational, economic, and subsistence activities.

Part III – Financial Information

Budget Summary			
Federal	$ 136,302	% of total project	60%
Non-Federal	$ 90,868	% of total project	40%
Total	$ 227,170	Total	100%

Category	Federal	Non-Federal	Total
Personnel	$ 77,674	$ 25,616	$ 103,290
Fringe Benefits	$ 24,889	$ 5,807	$ 30,696
Travel	$ 2,227	$ 0	$ 2,227
Equipment	$ 0	$ 0	$ 0
Supplies	$ 900	$ 0	$ 900
Contractual	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0
Other	$ 12,834	$ 0	$ 12,834
Total Direct Costs	$ 118,524	$ 31,423	$ 149,947
Indirect Costs (≤ 15%)	$ 17,778	$ 16,183	$ 33,961
Unrecovered IDC	$ 0	$ 43,262	$ 43,262
Total Project Costs	$ 136,302	$ 90,868	$ 227,170

Budget Justification (Federal)		
Category	Total Amount	Justification
Personnel	$ 77,674	Assistant Director: $83,118 annually @ 0.72 months (2% per year) – $5,293 Assistant Director & QAO: $95,448 annually @ 0.72 months (2% per year) – $6,077 TBD Program Manager: $64,970 annually @ 3 months (8.33% per year) – $16,728 Research Associate: $43,450 annually @ 7.2 months (20% per year) – $27,666 Research Associate: $50,692 annually @ 2.88 months (8% per year) – $12,910 TBD Hourly Laborer: $15 per hour @ 5 hours per week @ 40 weeks per year – $9,000 *named positions are budgeted with a 3% annual pay increase in all years; TBD positions and graduate students are budgeted with a 3% pay increase in years after year 1 *Salary estimates are based on average monthly percent effort for the entire contract. Actual percent effort may vary more or less than estimated between months; but in aggregate, will not exceed total effort estimates for the entire project. *cell phone allowances for project calls/emails during & after business hours & travel are occasionally factored into salaries & fringe, but again, will not exceed overall dollar amount.
Fringe Benefits	$ 24,889	Fringe for faculty and staff is calculated at 18.5% salary plus $771 per month. Fringe for students is calculated at 11% salary plus $558 per month. Fringe for hourly labor is 11% of salary. *named positions are budgeted with a 3% annual pay increase in all years; TBD positions and graduate students are budgeted with a 3% pay increase in years after year 1 *Salary estimates are based on average monthly percent effort for the entire contract. Actual percent effort may vary more or less than estimated between months; but in aggregate, will not exceed total effort estimates for the entire project. *cell phone allowances for project calls/emails during & after business hours & travel are occasionally factored into salaries & fringe, but again, will not exceed overall dollar amount.
Travel	$ 2,227	Monitoring Mileage: 165 miles * $0.50 per mile * 27 trips = $2,227
Equipment	$ 0	N/A
Supplies	$ 900	Project supplies including: paper, pens, sharpies, clipboard, towels, storage bins, batteries & housing, binders, labels: $900
Contractual*	$ 0	N/A
Construction	$ 0	N/A
Other	$ 12,834	Communication Services: $1,200 Sampling Equipment Rental: $225 per month * 24 months: $5,400 Lab Analysis: 6 samples per month * $41 per sample * 24 months: $5,904 Software Licenses: $330
Indirect	$ 17,778	15% Total Direct Costs (TDC)

Budget Justification (Non-Federal)		
Category	Total Amount	Justification
Personnel	$ 25,616	TWRI Director: $209,180 annually @ 1.38 months (3.85% per year) – $25,616 *named positions are budgeted with a 3% annual pay increase in all years; TBD positions and graduate students are budgeted with a 3% pay increase in years after year 1 *Salary estimates are based on average monthly percent effort for the entire contract. Actual percent effort may vary more or less than estimated between months; but in aggregate, will not exceed total effort estimates for the entire project.
Fringe Benefits	$ 5,807	Fringe for faculty and staff is calculated at 18.5% salary plus $771 per month. Fringe for students is calculated at 11% salary plus $558 per month. *named positions are budgeted with a 3% annual pay increase in all years; TBD positions and graduate students are budgeted with a 3% pay increase in years after year 1 *Salary estimates are based on average monthly percent effort for the entire contract. Actual percent effort may vary more or less than estimated between months; but in aggregate, will not exceed total effort estimates for the entire project.
Travel	$ 0	N/A
Equipment	$ 0	N/A
Supplies	$ 0	N/A
Contractual*	$ 0	N/A
Construction	$ 0	N/A
Other	$ 0	N/A
Indirect	$ 16,183	Texas A&M AgriLife Research's federally negotiated indirect cost rate (IDC) is 51.5% of modified total direct costs (MTDC). MTDC includes up to $25,000 of each subcontract and excludes tuition, facility rental and equipment over $5,000.
Unrecovered IDC	$ 43,262	Unrecovered IDC: 51.5% MTDC – 15% TDC - IDC on MTDC: $118,524 MTDC * 51.5% = $61,040 - IDC on TDC: $118,524 TDC * 15% = $17,778 Total Unrecovered IDC: $61,040 – $17,778 = $43,262