

Texas State Soil and Water Conservation Board
Clean Water Act §319(h) Nonpoint Source Grant Program
FY 2023 Workplan 23-03

SUMMARY PAGE						
Title of Project	Little Brazos Tributaries Continued Water Quality Monitoring					
Project Goals	<ul style="list-style-type: none"> • Provide quality assured water quality monitoring data collection • Submit data for inclusion in the Texas Surface Water Quality Monitoring Information System (SWQMIS) • Recent water quality described in final project report 					
Project Tasks	(1) Project Administration; (2) Quality Assurance; (3) Surface Water Quality Monitoring					
Measures of Success	<ul style="list-style-type: none"> • Data of known and acceptable quality generated and delivered to the state for use in future water body assessments • Recent water quality status discovered and described in a final report 					
Project Type	Implementation (); Education (); Planning (); Assessment (X); Groundwater ()					
Status of Waterbody on 2022 Texas Integrated Report	<u>Segment ID</u>	<u>Parameter of Impairment or Concern</u>			<u>Category</u>	
	1242I – Campbells Creek	<i>E. coli</i> /dissolved oxygen			5c/CN, CS & NS	
	1242K – Mud Creek	<i>E. coli</i>			5b/NS	
	1242L – Pin Oak Creek	<i>E. coli</i>			5b/NS	
	1242M – Spring Creek	<i>E. coli</i> /dissolved oxygen			5b/CS & NS	
	1242O –Walnut Creek	<i>E. coli</i>			5b/NS	
Project Location (Statewide or Watershed and County)	Robertson County, Texas					
Key Project Activities	Hire Staff (); Surface Water Quality Monitoring (X); Technical Assistance (); Education (); Implementation (); BMP Effectiveness Monitoring (); Demonstration (); Planning (); Modeling (); Bacterial Source Tracking (); Other ()					
2022 Texas NPS Management Program Reference	<ul style="list-style-type: none"> • Component 1: LTG 1, 2 • Component 1: STG 1A, 1B • Component 3, 5, 7 					
Project Costs	Federal	\$149,321	Non-Federal	\$99,547	Total	\$248,868
Project Management	<ul style="list-style-type: none"> • Texas A&M AgriLife Research, Texas Water Resources Institute 					
Project Period	October 5, 2023 – September 30, 2026					

Part I – Applicant Information

Applicant							
Project Lead		Dr. Lucas Gregory					
Title		Associate Director					
Organization		Texas A&M AgriLife Research, Texas Water Resources Institute					
E-mail Address		lucas.gregory@ag.tamu.edu					
Street Address		1001 Holleman Dr. E, MS 2118					
City	College Station	County	Brazos	State	Texas	Zip Code	77840-2118
Telephone Number	979-314-2361			Fax Number	979-845-8554		

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 oversight and reporting, QA/QC, conduct water sample collection, data submittals, and final report development.

Part II – Project Information

Project Type						
Surface Water	X	Groundwater				
Does the project implement recommendations made in: (a) a completed WPP; (b) an accepted WPP; (c) an adopted TMDL; (d) an approved I-Plan; (e) a Comprehensive Conservation and Management Plan developed under CWA §320; (f) the <i>Texas Coastal NPS Pollution Control Program</i> ; or (g) the <i>Texas Groundwater Protection Strategy</i> ?				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 2022 IR	Size (Acres)
Campbells Creek 1242I	120701010609	1242I	5c	14,897
Mud Creek 1242K	120701010602	1242K	5b	39,425
Pin Oak Creek 1242L	120701010604	1242L	5b	25,953
Spring Creek 1242M	120701010608	1242M	5b	23,208
Walnut Creek 1242O	120701010501, ...02, and ...03	1242O	5b	87,519

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: <i>2022 Texas Integrated Report</i> , Clean Rivers Program Basin Summary/Highlights Reports, or other documented sources.
<p>2022 Texas Integrated Report: Potential Sources of Impairments and Concerns Campbells Creek 1242I – bacteria impairment – NPS natural conditions, NPS, NPS CAFOs Mud Creek 1242K – bacteria impairment – NPS, NPS CAFOs Pin Oak Creek 1242L – bacteria impairment – NPS, NPS CAFOs Spring Creek 1242M – bacteria impairment – NPS, NPS CAFOs Walnut Creek 1242O – bacteria impairment – NPS, NPS CAFOs</p> <p>2017 BRA Clean Rivers Program Basin Summary Report Sources of elevated bacteria levels prevalent through much of the watershed have not been determined. Creeks are small, rural tributaries with low to intermittent flow that are dominated by stormwater runoff.</p> <p>Recreational Use Attainability Analysis Report: 2014 Summarized information from the “Recreational Use Attainability Analysis of Five Creeks along the Little Brazos River” report developed by the Brazos River Authority indicates the following potential sources of pollution:</p> <p><u>Permitted Wastewater:</u> Campbells, Mud, Walnut Creeks <u>Non-permitted Agricultural:</u> grazing livestock – all watersheds; non-permitted poultry(broilers) – Campbells, Mud, Walnut Creeks</p>

On-site Sewage Systems: estimated at approximately 1,000 systems across the five watersheds, higher density in Campbells Creek near the City of Bryan
Wildlife and Feral Hogs: all watersheds

Project Narrative

Problem/Need Statement

A number of small creeks in the Brazos River basin are considered as impaired due to elevated *E. coli* concentrations but are not currently monitored. The Little Brazos River is the receiving water of five such creeks in Robertson County: Campbells Creek (1242I), Mud Creek (1242K), Pin Oak Creek (1242L), Spring Creek (1242M), and Walnut Creek (1242O). These creeks were first listed as impaired in the *2002 Texas Integrated Report* except for Walnut Creek, which was designated impaired in 2006. Data collected prior to 2010 was used in the *2014 Texas Integrated Report*. *E. coli* geometric means for these creeks ranged from 609 to 1,877 cfu/100 mL; well above the applicable water quality standard of 126 cfu/100 mL in place at the time. In the most recent assessment, the *2022 Texas Integrated Report*, no data were available for evaluation due to the amount of time elapsed since this data was collected, yet the stream remains impaired due to their prior impaired status.

In the 2018 Texas Surface Water Quality Standards, the Texas Commission on Environmental Quality recommended water quality standard changes for these five creeks to a secondary contact recreation 1 standard of 630 cfu/100 mL. This recommendation was made based upon the results of recreational use attainability analyses (RUAA) conducted by the Brazos River Authority (BRA) under TSSWCB Project (08-54). U.S. EPA has approved the standards change for Campbells Creek (1242I) and the State of Texas continues to await decisions on the other four creeks. Regardless, these creeks remain impaired due to lack of recent data that also precludes their ability to be delisted, even if water quality standard change recommendations are approved.

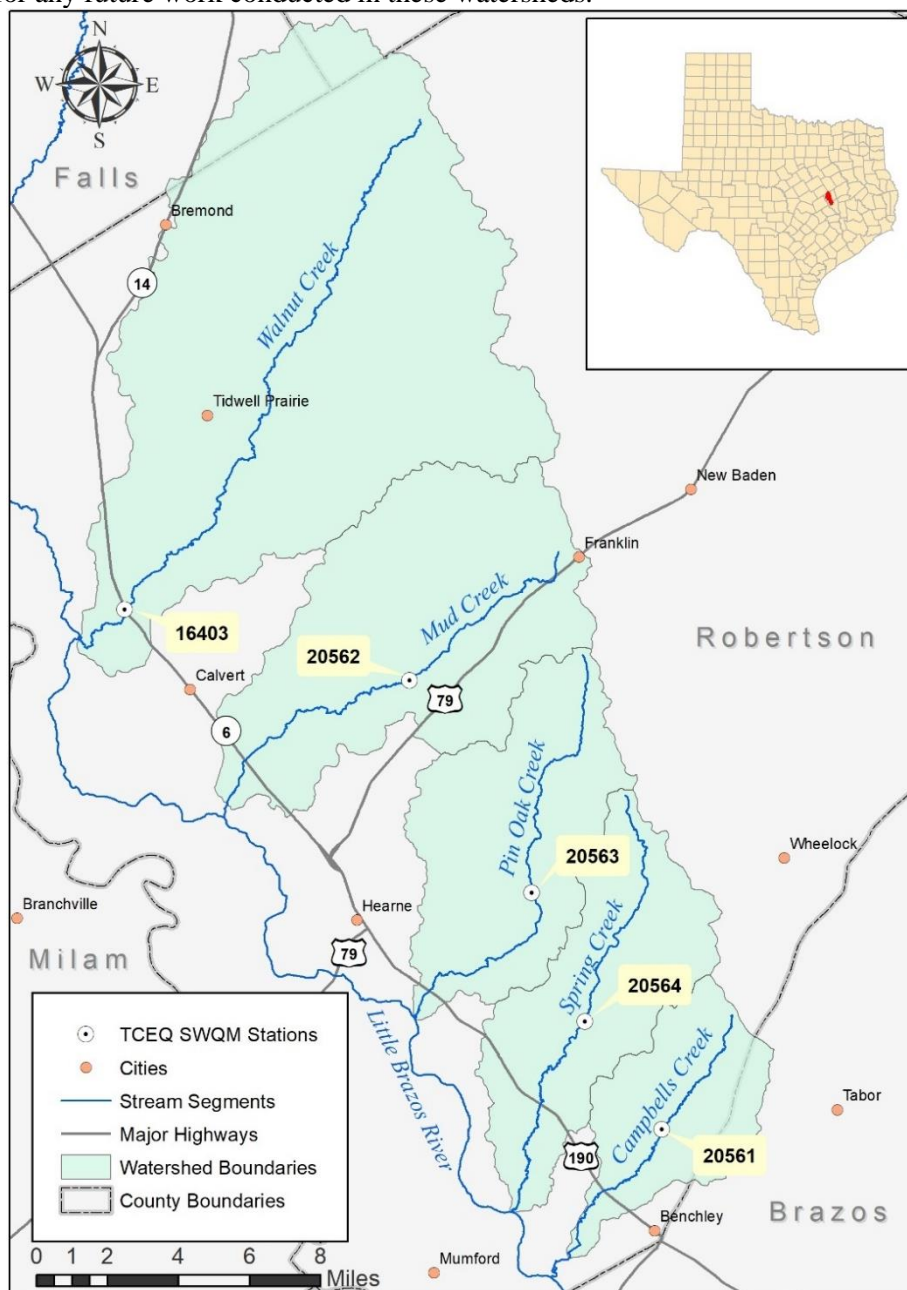
No water quality data was collected for the waterbodies between 2010 and 2021. Data collection resumed in 2021 at five sites, one in each watershed. However, sufficient data to fully assess the bacteria impairments will not be available until the *2028 Texas Integrated Report* is developed. Collecting more water quality data will help determine if the waterbodies remain impaired, and if standards are still not being met, remedial action such as development of total maximum daily loads or a watershed protection plan will be necessary. Each of these actions require a reasonable amount of water quality and quantity data to assess current conditions and estimate pollutant loading reductions necessary to meet applicable water quality standards. Currently, this data does not exist, and planning is not possible at this time.

Project Narrative

General Project Description

Through this project, routine water quality monitoring will be reinstated in the five watersheds described with a focus on collecting paired flow rate and *E. coli* concentration data. Data will be collected at five sites (one per watershed) monthly for 30 months. Sampling sites will be the same as the previous Little Brazos Tributaries monitoring project. All sampling procedures, methods, sampling sites, and planned project activity will be fully described in a project quality assurance project plan (QAPP). Sampling will not begin until the project QAPP is approved. Monthly sampling will include field parameters, streamflow measurement, and *E. coli* grab samples to allow data gaps to be filled thus enabling future water quality assessments and watershed analysis.

Water quality and quantity data will be uploaded to the TCEQ Surface Water Quality Monitoring Information System for future waterbody assessments. Findings will also be summarized in a project final report that provides an informational basis for any future work conducted in these watersheds.



Tasks, Objectives and Schedules						
Task 1	Project Administration					
Costs	Federal	\$19,412	Non-Federal	\$12,941	Total	\$32,353
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 1 st of January, April, July and October. QPRs shall be distributed to all Project Partners.					
	Start Date	Month 01		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 01		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 01		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 30		Completion Date	Month 36	
Deliverables	<ul style="list-style-type: none"> • 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	\$4,479	Non-Federal	\$2,987	Total	\$7,466
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 <i>EPA Requirements for Quality Assurance Project Plans (QA/R-5)</i> and the <i>TSSWCB Environmental Data Quality Management Plan</i> . All monitoring procedures and methods prescribed in the QAPP shall be consistent with the guidelines detailed in the <i>TCEQ Surface Water Quality Monitoring Procedures, Volume 1: Physical and Chemical Monitoring Methods for Water, Sediment, and Tissue (RG-415)</i> and <i>Volume 2: Methods for Collecting and Analyzing Biological Assemblage and Habitat Data (RG-416)</i> . [Consistency with Title 30, Chapter 25 of the Texas Administrative Code, <i>Environmental Testing Laboratory Accreditation and Certification</i> , which describes Texas' approach to implementing the National Environmental Laboratory Accreditation Conference (NELAC) standards, shall be required where applicable.]					
	Start Date	Month 01		Completion Date	Month 04	
Subtask 2.2	TWRI will implement the approved QAPP. TWRI will submit revisions and necessary amendments to the QAPP as needed.					
	Start Date	Month 04		Completion Date	Month 36	
Deliverables	<ul style="list-style-type: none"> • QAPP approved by TSSWCB and EPA in electronic format • 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	Surface Water Quality Monitoring					
Costs	Federal	\$125,430	Non-Federal	\$83,619	Total	\$209,049
Objective	To collect water quality and quantity data of known and acceptable quality for future waterbody assessments.					
Subtask 3.1	Water Quality Monitoring – Upon QAPP approval, TWRI will conduct monthly ambient water quality monitoring at five sites (one per creek) for 30 months (150 total samples). Sampling will include basic field parameters (temperature, pH, DO, conductivity, and flow where conditions allow) and grab sample collection (analyzed for <i>E. coli</i>). Water samples will be delivered to a NELAP accredited laboratory within the appropriate holding time for bacterial analysis.					
	Start Date	Month 05		Completion Date	Month 34	
Subtask 3.2	Water Quality Data Submission – TWRI will maintain a master database of collected water quality data. Data will be submitted for inclusion in SWQMIS on a quarterly basis.					
	Start Date	Month 09		Completion Date	Month 36	
Deliverables	<ul style="list-style-type: none"> Documentation of sampling events in QPRs SWQMIS data submissions (Data sets, Data Review Checklists) 					

Project Goals
<p>The goals of this project are threefold:</p> <ul style="list-style-type: none"> Provide water quality and quantity data collection that meets TCEQ requirements for data to be included in the Surface Water Quality Monitoring Information System that is acceptable for use in future waterbody assessments Reinstate water quality and quantity data collection in the five project watersheds to generate a data set sufficient for the State of Texas to assess water quality relative to applicable water quality standards and to begin building a data set for future planning activity if deemed necessary Describe recent water quality findings and short-term temporal trends in final project report along with an assessment of whether water quality will meet designated standards and what appropriate next steps are for evaluated watersheds

Measures of Success
<p>The project will be considered successful upon completion of data collection, its inclusion in the Surface Water Quality Monitoring Information System, and delivery of a summary report describing data collection findings.</p>

2022 Texas NPS Management Program Reference
Components, Goals, and Objectives
<p>Component 1: Explicit short- and long-term goals, objectives ... that protect surface and groundwater.</p> <ul style="list-style-type: none"> ○ LTG 1: Focus NPS abatement efforts, implementation strategies, and available resources in watersheds identified as impacted by nonpoint source pollution ○ LTG 2: Support the implementation of state, regional and local programs to prevent NPS pollution through assessment, implementation, and education. ○ STG 1: Data Collection and Assessment: coordinate with appropriate federal, state, regional, and local entities...to target water quality assessment activities.... where additional information is needed ○ Objective A: Identify surface water bodies ... 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 or TSSWCB Quality Management Plans
<p>Component 3: Combination of statewide nonpoint source programs and on-the-ground projects achieve water quality benefits; efforts are well-integrated with other relevant state and federal programs.</p>
<p>Component 5: Identify waters and watersheds impaired by nonpoint source pollution...and establish a process to assign priority and progressively address identified waters by conducting more detailed watershed assessments...</p>
<p>Component 7: Manage and implement the NPS program efficiently and effectively, including necessary financial management.</p>

Estimated Load Reductions Expected
<p>Loading reductions are not anticipated to result from this project. Data collection will allow for future loading reduction needs to be identified should resulting water quality verify the current impaired water quality status.</p>

EPA State Categorical Program Grants – Workplan Essential Elements FY 2022-2026 EPA Strategic Plan Reference
Strategic Plan Goal – 5.0 Ensure Clean and Safe Water for All Communities
Strategic Plan Objective – 5.2 - Protect and Restore Waterbodies and Watersheds
<p>This workplan supports Goal 5 (Ensure Clean and Safe Water for All Communities) and Objective 5.2 (Protect and Restore Waterbodies and Watersheds) by funding the Texas State and Soil Water Conservation Board's NPS Program for state and local planning, education, assessments, watershed restoration and protection, best management practices, and related water quality activities.</p>

Part III – Financial Information

Budget Summary				
Federal	\$	149,321	% of total project	60%
Non-Federal	\$	99,547	% of total project	40%
Total	\$	248,868	Total	100%
Category		Federal	Non-Federal	Total
Personnel	\$	76,925	\$ 25,317	\$ 102,242
Fringe Benefits	\$	28,624	\$ 7,506	\$ 36,130
Travel	\$	1,726	\$ 0	\$ 1,726
Equipment	\$	0	\$ 0	\$ 0
Supplies	\$	294	\$ 0	\$ 294
Contractual	\$	0	\$ 0	\$ 0
Construction	\$	0	\$ 0	\$ 0
Other	\$	22,275	\$ 0	\$ 22,275
Total Direct Costs	\$	129,844	\$ 32,823	\$ 162,667
Indirect Costs (≤ 15%)	\$	19,477	\$ 17,401	\$ 36,878
Unrecovered IDC			\$ 49,323	\$ 49,323
Total Project Costs	\$	149,321	\$ 99,547	\$ 248,868

Budget Justification (Federal)		
Category	Total Amount	Justification
Personnel	\$ 76,925	Associate Director: @ \$101,261 annually, 0.36 mo. – \$3,224 Research Specialist I: @ \$50,560 annually, 6.09 mo. – \$27,237 TBD Program Manager: @ \$78,614 annually, 1.8 mo. – \$12,150 TBD QA Officer: @ \$75,000 annually, 1.2 mo. – \$7,636 TBD Research Associate: @ \$60,000 annually, 5.17 mo. – \$26,678 *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	\$ 28,624	Fringe benefits are calculated at 18.9% * salary. For part-time and graduate research assistants, the fringe rate is 10.9%. Health insurance rates are at \$963/month for faculty/staff and \$560/month for students. *(Fringe benefits estimates are based on salary the estimates listed. Actual fringe benefits will vary between months coinciding with percent effort variations; but in aggregate, will not exceed the overall estimated total.)
Travel	\$ 1,726	Monitoring Mileage: 30 trips @ the state mileage rate = est. at \$1,726
Equipment	\$ 0	N/A
Supplies	\$ 294	General project supplies, including, but not limited to: paper, pens, sharpies, clipboard, towels, storage bins, batteries & housing, binders, labels - \$294
Contractual*	\$ 0	N/A
Construction	\$ 0	N/A
Other	\$ 22,275	Analysis costs at 150 samples * \$54 per sample: \$8,100 Equipment rental/user fees for 30 monitoring events: \$12,600 Water quality database maintenance: \$1,575
Indirect	\$ 19,477	Indirect costs are calculated at 15% of total federal direct costs per the RFP limitation. \$129,844 * 0.15 = \$19,477

Budget Justification (Non-Federal)		
Category	Total Amount	Justification
Personnel	\$ 25,317	Associate Director: \$101,261 annually, 2.82 mo. (7.85% per year) – \$25,317 *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	\$ 7,506	Fringe benefits are calculated at 18.9% * salary. For part-time and graduate research assistants, the fringe rate is 10.9%. Health insurance rates are at \$963/month for faculty/staff and \$560/month for students. *(Fringe benefits estimates are based on salary the estimates listed. Actual fringe benefits will vary between months coinciding with percent effort variations; but in aggregate, will not exceed the overall estimated total.) *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	\$ 0	N/A
Equipment	\$ 0	N/A
Supplies	\$ 0	N/A
Contractual*	\$ 0	N/A
Construction	\$ 0	N/A
Other	\$ 0	N/A
Indirect	\$ 66,724	Indirect costs (IDC) on the matching funds are calculated at Texas A&M AgriLife Research's negotiated IDC rate of 52.5% for years 1 and 2, and 54% year 3 of modified total direct costs (MTDC), which includes personnel, fringe, travel, supplies, other and up to \$25,000 of each subaward. $21,585 * 0.525 = \$11,332$ $11,238 * 0.540 = \$6,069$ Unrecovered IDC is calculated at 52.5% - 15% = 37.5% of MTDC for years 1 and 2. $87,679 * 0.375 = \$32,879$ Unrecovered IDC is calculated at 54.0% - 15% = 39% of MTDC for years 1 and 2. $42,165 * 0.39 = \$16,444$