

**Texas State Soil and Water Conservation Board
Clean Water Act §319(h) Nonpoint Source Grant Program
FY 2021 Workplan 21-10**

SUMMARY PAGE			
Title of Project	Continuation of the Attoyac Bayou Watershed Protection Plan Implementation		
Project Goals	<ul style="list-style-type: none"> Facilitate and support effective implementation of the Attoyac Bayou WPP through adaptive outreach and education strategies Provide updates on implementation progress, engage stakeholders and seek input on future implementation activities Provide information to watershed residents on the importance of maintaining and achieving water quality standards and implementing BMPs Support future funding acquisition, track management implementation, and encourage BMP adoption Evaluate progress made toward achieving WPP implementation milestones Coordinate and conduct relevant outreach and education activities in and around the watershed Monitor water quality in the Attoyac Bayou watershed to show BMP implementation effectiveness 		
Project Tasks	(1) Project Administration; (2) Quality Assurance; (3) Support and Facilitate WPP Implementation and Tracking; (4) Outreach and Education Coordination and Delivery; (5) Surface Water Quality Monitoring		
Measures of Success	<ul style="list-style-type: none"> Watershed partnership engagement maintained and WPP implementation promotion continued WPP implementation documented and progress toward implementation goals quantified Knowledge of watershed and resource management enhanced through education and outreach program delivery Potential funding sources identified and sought Water quality monitoring to measure the effects of WPP implementation carried out 		
Project Type	Implementation (X); Education (); Planning (); Assessment (); Groundwater ()		
Status of Waterbody on 2020 Texas Integrated Report	<u>Segment ID</u> 0612_01 0612_02 0612_03 0612F_01	<u>Parameter of Impairment or Concern</u> Bacteria Bacteria Bacteria Bacteria	<u>Category</u> 5c 5c 5c CN
Project Location (Statewide or Watershed and County)	The Attoyac Bayou Watershed upstream of Sam Rayburn Reservoir in San Augustine, Nacogdoches, Shelby and Rusk counties		
Key Project Activities	Hire Staff (); Surface Water Quality Monitoring (X); Technical Assistance (); Education (X); Implementation (X); BMP Effectiveness Monitoring (X); Demonstration (); Planning (); Modeling (); Bacterial Source Tracking (); Other ()		
2017 Texas NPS Management Program Reference	<ul style="list-style-type: none"> Component 1: LTG Objectives 1, 2, 3, 6, STG 1 Obj. B, E; STG 2 Obj. B, D; STG 3 Obj. A, B, D, G Component 2 Component 3 Component 6 Milestones: Priority Watershed Milestones (Ch. 2): Stakeholder Participation, Water Quality Monitoring 		

Project Costs	Federal	\$ 315,816	Non-Federal	\$ 210,544	Total	\$ 526,360
Project Management	• Texas A&M AgriLife Research, Texas Water Resources Institute					
Project Period	November 22, 2021 – May 31, 2025					

Part I – Applicant Information

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

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 management, project oversight and lead reporting. Provide assistance to the watershed coordinator in stakeholder relations and education/outreach coordination. Maintain project website. Support funding acquisition.
Angelina & Neches River Authority (ANRA)	Serve as watershed coordinator, lead stakeholder engagement efforts. Track WPP implementation progress. Provide updates on implementation and monitoring to watershed stakeholders. Perform water quality analysis for effectiveness monitoring. Seek future funding sources.
Stephen F. Austin State University Water for East Texas Center (SFASU WET)	Collaborate with the watershed coordinator and TWRI PM to provide updates on BMP effectiveness monitoring occurring in the watershed. Conduct instream water quality monitoring to measure the effectiveness of WPP implementation.
Pineywoods RC&D	Collaborate with the watershed coordinator to provide updates on implementation and monitoring to watershed stakeholders. Provide input and support for seeking future funding sources.
Nacogdoches County Soil and Water Conservation District	Collaborate with the watershed coordinator to provide updates on implementation and monitoring of WQMPs and other relevant BMPs to watershed stakeholders. Provide input and support for seeking future funding sources.

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 <i>Texas Coastal NPS Pollution Control Program</i> ; or (f) the <i>Texas Groundwater Protection Strategy</i> ?				<table border="1"> <tr> <td>Yes</td> <td>X</td> <td>No</td> </tr> </table>	Yes	X	No
Yes	X	No					
If yes, identify the document.		Attoyac Bayou Watershed Protection Plan					
If yes, identify the agency/group that developed and/or approved the document.		TSSWCB, TWRI	Year Developed	2014			

Watershed Information				
Watershed or Aquifer Name(s)	Hydrologic Unit Code (12 Digit)	Segment ID	Category on 2020 IR	Size (Acres)
Attoyac Bayou	120200050301 – 0307; 0401 – 0406; 0501	0612	5c	354,629

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>2020 Texas Integrated Report</i> , Clean Rivers Program Basin Summary/Highlights Reports, or other documented sources.			
<u>IMPAIRMENTS (2020 Texas Water Quality Inventory and 303(d) List)</u>			
Segment 0612: Attoyac Bayou: From a point 2.4 miles downstream of Curry Creek in Nacogdoches/San Augustine Counties to FM 95 in Rusk County			
<u>Listed</u>	<u>Impairment</u>	<u>Category</u>	<u>Year</u>
0612_01: Lower boundary upstream to Polly Branch confluence	bacteria	5c	2004
0612_02: From Polly Branch upstream to Bear Bayou	bacteria	5c	2004
0612_03: Bear Bayou to upper boundary at FM 95	bacteria	5c	2004
<u>CONCERNS (2020 Texas Water Quality Inventory)</u>			
0612F_01, bacteria in water (recreation use), CN			
<u>SOURCES (2020 Texas Water Quality Inventory)</u>			
Bacteria: nonpoint sources and municipal point source discharges			
<u>2020 Upper Neches Basin Summary Report, Angelina & Neches River Authority</u>			
Point Sources: municipal wastewater discharge, numerous point sources including WWTFs for the City of Garrison and Martinsville ISD			
Non-Point Sources: Failing and non-existent septic systems; wildlife (deer and feral hogs); and livestock and agriculture operations, including livestock and poultry, however, bacterial source tracking results suggest that their contributions are minimal compared to other nonpoint sources			

Project Narrative

Problem/Need Statement

The Attoyac Bayou, Segment 0612, is one sub-watershed within the Upper Neches River Watershed that is considered impaired due to excessive levels of monitored fecal indicator bacteria. The Bayou extends approximately 82 miles from its headwaters in Rusk County and flows through Nacogdoches, San Augustine and Shelby counties before emptying into Sam Rayburn Reservoir. The watershed contains several named communities including Chireno, Attoyac, Martinsville, Grigsby, Garrison and others; however, these are small rural communities. The remainder of the area is predominantly managed for agricultural (cattle and poultry), silvicultural, recreational and wildlife uses and contains many rural residents and four known permitted wastewater discharges totaling less than 500,000 gallons per day.

In 2009, the Attoyac Bayou Watershed Partnership was formed to address the noted bacteria impairments. Using technical support from the Angelina & Neches River Authority (ANRA), Stephen F. Austin State University (SFASU), Texas A&M University and the Texas Water Resources Institute (TWRI) and funding from TSSWCB (Project 09-10) through a project entitled *Development of a Watershed Protection Plan for Attoyac Bayou*, the Attoyac Bayou Watershed Protection Plan (WPP) was completed. This plan outlines an appropriate strategy to address bacteria source contributions in this rural watershed and describes practices that, when implemented, will reduce loading contributions to the watershed. The plan was published in July 2014.

Coordinating the delivery of monitoring and implementation programs and tracking the progress toward meeting WPP implementation milestones requires a concerted effort. Currently, the project team is implementing the Attoyac Bayou WPP through a TSSWCB State Nonpoint Source grant program, *Attoyac Bayou Watershed Protection Plan Implementation Effectiveness Monitoring and Facilitation Continuation* (Contract No. 19-53), which will end in May 2021. The TWRI and ANRA project managers continue to work through their roles as watershed coordinators to implement the WPP. While no single management measure implemented can obtain the levels of *E. coli* reduction needed in the Attoyac Bayou to meet current water quality standards, an integrated approach through the continued implementation of the WPP can make strides towards meeting that goal. Current and previous WPP implementation projects have been successful in building relationships with stakeholders such as producers, residents, and local agencies, educating them on the importance of the WPP, and assisting with acquiring technical and financial support needed to implement the plan's management measures.

The project team has been addressing one of the highest priority needs identified in the WPP: failing on-site sewage facilities (OSSFs). Through an FY 2013 CWA Section 319(h) grant funding provided by TCEQ, ANRA administered the project entitled *Lake Sam Rayburn OSSF Program Support and Attoyac Bayou OSSF Remediation*. The project identified and replaced 26 failing or non-existent OSSFs and conducted water quality monitoring to document BMP effectiveness at five locations. The project team also developed a database to house information on OSSFs in a portion of the Attoyac Bayou watershed and collected and digitized OSSF data and locations for existing and new OSSFs. This project was completed June 2018. Building upon this project's success, a subsequent effort led by TWRI, ANRA, Pineywoods RC&D and SFASU repaired or replaced an additional 24 failing septic systems between January 2017 and January 2020 and developed recommendations for streamlining OSSF data management for TCEQ. The team is currently leading a third OSSF project to repair or replace at least 15 more systems.

Education and outreach programs are another aspect of WPP implementation that has and continues to occur. Due to the COVID-19 global health pandemic of 2020, traditional face-to-face meetings and programs have been difficult to organize and host due to federal, state, and local policies. Although circumstances may change by the time this project would begin, the pandemic has provided an opportunity for watershed coordinators to develop and build upon unique tools to aid in education and outreach efforts. There is a need for alternative strategies that can be effective regardless of extenuating circumstances since meeting and maintaining water quality standards is still important during a pandemic. Through this project, TWRI and ANRA will develop an education and outreach plan with TWRI and ANRA communications experts to build upon the general water quality knowledge that has been developed in the watershed through the many years the team has been implementing the WPP.

Project Narrative

General Project Description (Include Project Location Map)

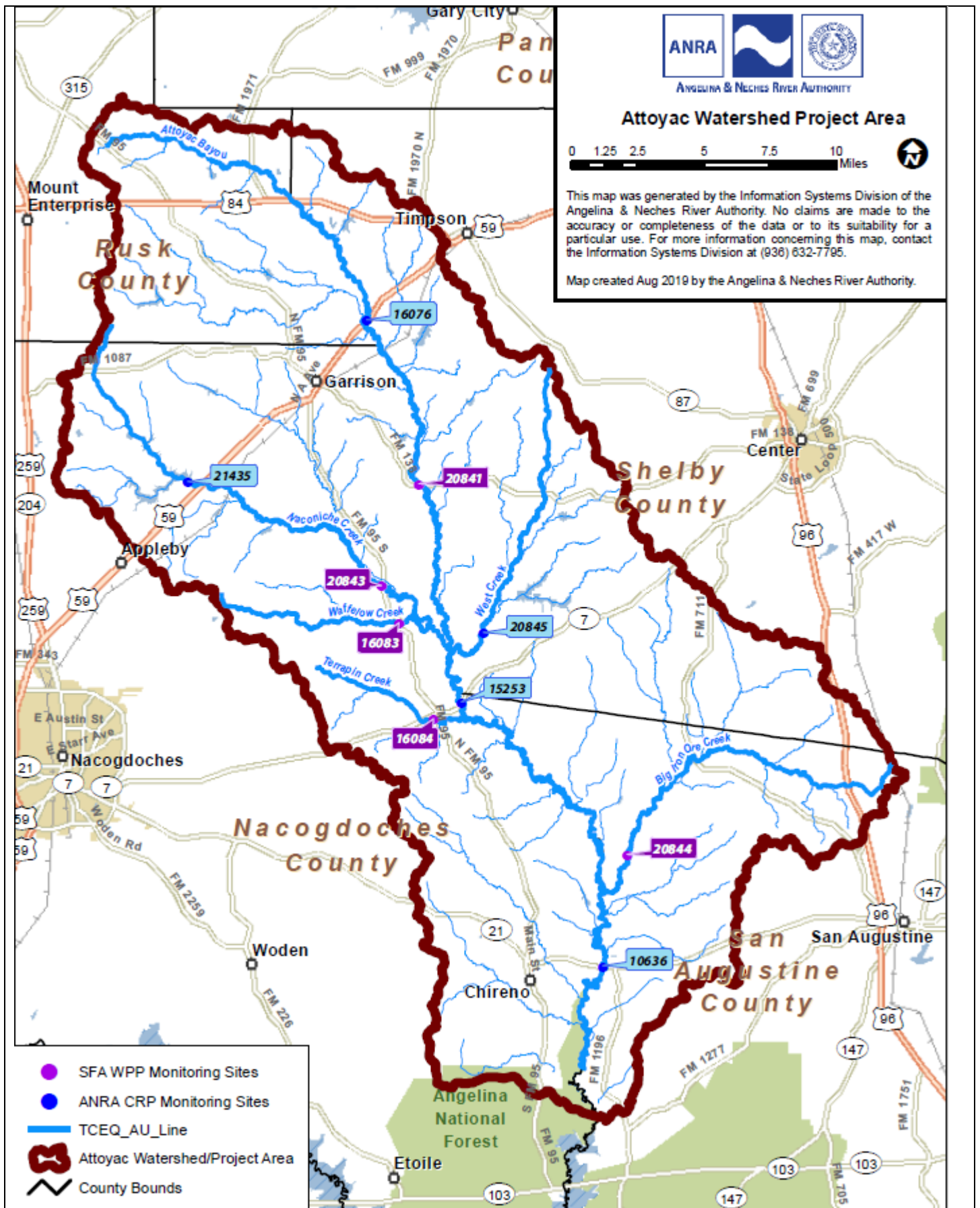
TWRI and ANRA will continue to work closely with local stakeholders to implement the WPP. Primarily, this will continue to be through organizing and hosting public meetings and educational programs, as well as meeting with individual stakeholders and organizations to seek out additional needs and relevant funding. The project team will continue to provide water quality and WPP progress updates at those meetings and participate in local events related to natural resource conservation and awareness. In the event in-person meetings are not able to take place due to health policies, the project team will work with TSSWCB and local partners to host these meetings either online or provide an alternate format.

The watershed coordinator will also focus on facilitating and supporting effective implementation of the WPP. This will be accomplished by continuing to work with watershed stakeholders to identify specific implementation needs across the watershed. Support will also be provided to assist stakeholders to acquire the needed funds to implement the plan. Maintaining contact with parties implementing aspects of the WPP and documenting implementation success will also be critical. Successful WPP implementation activities will be relayed to watershed stakeholders and agencies alike.

Coordinating delivery of education and outreach programming will also be carried out. The watershed coordinator will work with local entities to schedule programs. Evolving educational needs will also be noted and efforts will be made to address those needs if possible. This project will also focus on development of content that can be easily shared via online media outlets, radio, newspapers, or other methods as developed. Statewide education programs are already redirecting their efforts to providing webinars in place of face-to-face meetings, and TWRI will work with local partners to ensure residents are informed about those opportunities as appropriate.

In support of other WPP implementation activities funded with separate resources, instream water quality monitoring will be conducted to document BMP implementation effectiveness; specifically, OSSF repair and replacements. The SFASU WET Center will coordinate with ANRA to continue conducting targeted water quality monitoring across the watershed to document implementation impacts on instream water quality that complements existing Clean Rivers Program monitoring. Monthly monitoring will be carried out at five locations across the watershed where SFASU has monitored in the past (SFASU WPP and ANRA CRP Monitoring Sites in map provided). Water samples collected will be delivered to ANRA for Nitrate-N, Nitrite-N, Ammonia-N, Total Phosphorus, Chloride, Sulfate, Total Suspended Solids, and *E. coli*. Field parameters including pH, dissolved oxygen, temperature, conductivity and stream flow volume will also be collected during each sampling event.

Lastly, TWRI and ANRA will evaluate the overall progress made toward WPP implementation. A final report will be developed in the last quarter of the project that describes all activities carried out through this project and related implementation efforts.



Tasks, Objectives and Schedules						
Task 1	Project Administration					
Costs	Federal	\$ 22,108	Non-Federal	\$ 14,737	Total	\$ 36,845
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 1		Completion Date	Month 42	
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 42	
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 42	
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 39		Completion Date	Month 42	
Deliverables	<ul style="list-style-type: none">QPRs in electronic formatReimbursement Forms and necessary documentation in hard copy formatFinal Report in electronic and hard copy formats					

Tasks, Objectives and Schedules						
Task 2	Quality Assurance					
Costs	Federal	\$ 7,895	Non-Federal	\$ 5,264	Total	\$ 13,159
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 #5 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 1		Completion Date	Month 2	
Subtask 2.2	TWRI will implement the approved QAPP. TWRI will submit revisions and necessary amendments to the QAPP as needed.					
	Start Date	Month 2		Completion Date	Month 42	
Deliverables	<ul style="list-style-type: none">QAPP approved by TSSWCB and EPA in both electronic and hard copy formatsApproved revisions and amendments to QAPP, as neededData of known and acceptable quality as reported through Task #5					

Tasks, Objectives and Schedules						
Task 3	Support and Facilitate WPP Implementation and Tracking					
Costs	Federal	\$ 80,533	Non-Federal	\$ 53,689	Total	\$ 134,222
Objective	To ensure and track the successful implementation of the Attoyac Bayou WPP through continued stakeholder engagement and communication.					
Subtask 3.1	ANRA and TWRI with support from other project partners will facilitate public participation and stakeholder involvement by organizing and facilitating partnership meetings as needed where stakeholder feedback is received and information on implementation progress is relayed to the group. Announcements, notices, and agendas will be developed and distributed prior to these meetings. Meeting materials and minutes will also be developed and distributed. TSSWCB will review all meeting documents prior to public dissemination.					
	Start Date	Month 1		Completion Date	Month 42	
Subtask 3.2	ANRA and TWRI with support from other project partners will evaluate and track progress toward achieving milestones established in the WPP; and will work as appropriate to assess water quality data collected through the Clean Rivers Program and other data collection efforts in relation to achieving load reductions.					
	Start Date	Month 1		Completion Date	Month 42	
Subtask 3.3	TWRI and ANRA with support from other project partners will work to assist governmental and non-governmental entities in the watershed in the identification and acquisition of technical and financial assistance through proposals and grant applications. Efforts will also be made to bring technical and financial assistance resources to the watershed.					
	Start Date	Month 1		Completion Date	Month 42	
Subtask 3.4	ANRA and TWRI will work with project partners to maintain communication with the Attoyac Bayou watershed partnership and other watershed stakeholders utilizing appropriate communication mechanisms. These can include where appropriate: direct mailings, email, project website, mass media, flyers, brochures, letters, factsheets, and news releases.					
	Start Date	Month 1		Completion Date	Month 42	
Subtask 3.5	ANRA and TWRI with other project partners as appropriate will participate in other public meetings hosted by other entities, such as county commissioner’s court meetings, Clean River Program meetings and local soil and water conservation district meetings, to communicate project goals, activities and accomplishments.					
	Start Date	Month 1		Completion Date	Month 42	
Deliverables	<ul style="list-style-type: none">• Notices, agendas, meeting materials, attendance lists, and summaries from Partnership meetings• Documentation of resource opportunities identified, applied for, and resources obtained to support plan implementation• List of other meetings attended and dates with a summary of topics discussed and action needed included in QPRs• Information provided to Clean Rivers Program for publication materials• WPP informational materials, as developed and disseminated, including press releases and presentations made to interested groups					

Tasks, Objectives and Schedules						
Task 4	Outreach and Education Coordination and Delivery					
Costs	Federal	\$ 85,270	Non-Federal	\$ 56,847	Total	\$ 142,117
Objective	To promote stakeholder involvement, provide information transfer and encourage participation in the Attoyac Bayou WPP implementation efforts; to develop relevant educational materials such as fact sheets, infographics, and/or short educational videos that will reach a wide audience through online media outlets, direct mailings, radio, newspapers, or other methods as appropriate.					
Subtask 4.1	ANRA and TWRI will work with other project partners to coordinate education and outreach activities as identified in the Attoyac Bayou WPP. Project partners will support, promote, and participate in, as appropriate, any field days, demonstrations, site tours, or education events sponsored by Texas A&M AgriLife Extension Service, USDA-NRCS, and/or SWCDs for the Attoyac Bayou watershed.					
	Start Date	Month 1		Completion Date	Month 42	
Subtask 4.2	ANRA and TWRI will work to coordinate and deliver water resources and related environmental outreach and education efforts within and around the watershed as identified in the Attoyac Bayou WPP. Coordination between collaborating entities will be carried out to select the appropriate mix of programs to deliver in and around the watershed. Potential programs to be delivered over the course of the project include but are not limited to:					
	<ul style="list-style-type: none">• Lone Star Healthy Streams workshop• Intro to Septic Systems for Homeowners• Aerobic system operation and maintenance workshops for homeowners• Riparian Management Workshops for landowners and land managers• Texas Watershed Steward Program• Texas Well Owner Network trainings and well screening events• Texas Stream Team volunteer monitoring trainings• Feral Hog Management Workshop					
	The project’s goal is to cumulatively deliver at least 3 programs throughout the course of the project. Knowledge gained by program attendees and practices implemented/planned to be implemented as a result of programming will allow loading reduction estimates to be calculated based on accepted calculation methods such as those described in Appendix D of the Attoyac Bayou WPP.					
	Start Date	Month 1		Completion Date	Month 42	
Subtask 4.3	ANRA and TWRI will collaborate with other project partners to develop and distribute news releases, flyers, emails and other materials as appropriate to promote planned education and outreach events.					
	Start Date	Month 1		Completion Date	Month 42	
Subtask 4.4	ANRA and other project partners, as appropriate, will deliver invited presentations on general water quality and the Attoyac Bayou when possible.					
	Start Date	Month 1		Completion Date	Month 42	
Subtask 4.5	TWRI and ANRA, in coordination with project partners and respective communications teams, will develop educational materials, such as direct mailers, short videos, or digital infographics, to promote the WPP and educate residents in the area.					
	Start Date	Month 1		Completion Date	Month 42	
Deliverables	<ul style="list-style-type: none">• Notices, agendas, meeting materials, and summaries from workshops, field tours, demonstrations, site tours, or educational events attended• Copies of invited presentations given• Educational and promotional materials developed• One grazing BMP educational direct mailer campaign to watershed livestock producers• One educational and WPP promotional video to be distributed in the first annual newsletter and online media outlets					

Tasks, Objectives and Schedules						
Task 5	Surface Water Quality Monitoring					
Costs	Federal	\$ 120,010	Non-Federal	\$ 80,007	Total	\$ 200,017
Objective	To conduct instream water quality monitoring that will continue to document water quality over time from the WPP development period into the implementation phase.					
Subtask 5.1	SFASU WET Center will conduct up to 33 routine, monthly, ambient water quality monitoring events at 5 locations throughout the Attoyac Bayou watershed over the course of the project to document WPP implementation impacts on water quality. Sampling will include routine field parameters (temp, pH, DO, conductivity, flow) and collection of water samples of the volume required by the QAPP. Water samples will be delivered to ANRA’s NELAP certified lab within the appropriate holding time for bacteriological and nutrient analysis (these analyses will include ammonia-N, nitrate-N, nitrite-N, Total P, Total Suspended Solids, Total, Chloride, Sulfate, and <i>E. coli</i> enumeration utilizing the IDEXX method).					
	Start Date	Month 2		Completion Date	Month 40	
Subtask 5.2	ANRA’s NELAP certified lab will receive and process water samples received from SFASU WET Center for the analysis listed above.					
	Start Date	Month 2		Completion Date	Month 40	
Subtask 5.3	ANRA will review, verify, and validate water quality data to ensure its consistency with the project QAPP and will submit data to TCEQ for inclusion in SWQMIS semi-annually.					
	Start Date	Month 2		Completion Date	Month 42	
Subtask 5.4	SFASU WET Center, with assistance from ANRA and TWRI, will evaluate water quality data collected through this project and that available in SWQMIS to determine the impacts of WPP implementation on instream water quality through statistical analyses and trend analysis as appropriate for inclusion in the project final report.					
	Start Date	Month 2		Completion Date	Month 42	
Deliverables	<ul style="list-style-type: none">• Data of known and acceptable quality produced, formatted and included in SWQMIS• Water quality analyses completed and described for inclusion in the project final report					

Project Goals (Expand from Summary Page)

- Facilitate and cultivate support to effectively implement the Attoyac Bayou WPP through the continued engagement of watershed stakeholders, cities, counties, TSSWCB, SWCDs, NRCS and others as appropriate
- Conduct periodic stakeholder meetings that provide updates on Attoyac Bayou WPP implementation progress, to keep stakeholders engaged in efforts to implement the WPP and seek input from stakeholders on future implementation activities
- Support future funding acquisition by working with local stakeholders, entities and agencies to identify specific funding needs, identify specific funding sources, and assist in efforts to acquire those funds
- Track and document implementation of the Attoyac Bayou WPP and convey this progress to watershed stakeholders, entities and agencies
- Evaluate progress made toward achieving WPP implementation milestones by reporting implementation milestones included in the WPP and actual implementation achieved by the end of this project
- Coordinate and conduct relevant outreach and education activities in and around the watershed to support Attoyac Bayou WPP implementation and encourage BMP adoption
- Continue monitoring water quality in the Attoyac Bayou watershed to show BMP implementation effectiveness on instream water quality

Measures of Success (Expand from Summary Page)

- Continued watershed partnership engagement and WPP implementation promotion as documented through the number of meetings held and updates provided to the partnership
- Documented WPP implementation and progress toward achieving implementation goals quantified by number of WQMPs and BMPs adopted, educational contact hours from programs organized and hosted, and online outreach metrics such as unique visitors to Attoyac website and clicks on digital media campaigns
- Enhanced knowledge of watershed and resource management through education and outreach program delivery
- Provided technical and financial assistance to the partnership through identification of resources, attempts to acquire resources and quantified by number of grants written and received
- Completed up to 33 months of water quality monitoring to measure the effects of WPP implementation

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, implementation strategies and available resources in watersheds identified as impacted by NPS pollution in the latest state approved Texas Water Quality Inventory and 303(d) List.
- 2 – Support the implementation of state, regional and local programs to prevent NPS pollution through... implementation and education.
- 3 - Support the implementation of state, regional, and local programs to reduce NPS pollution, such as the implementation of strategies defined in WPPs and other water planning efforts in the state
- 6 – Develop partnerships, relationships... to facilitate collective, cooperative approaches to manage NPS pollution.
- 7 – Increase overall public awareness of NPS issues and prevention activities.
- 8 – Enhance public participation and outreach by providing forums for citizens and industry to contribute their ideas and concerns about the water quality management process

Short-term Goals

<p>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...</p> <ul style="list-style-type: none"> • Objective B – Ensure that monitoring procedures meet quality assurance requirements and are in compliance with EPA-approved ... TSSWCB Quality Management Plans • Objective E – Conduct monitoring to determine effectiveness of ...WPPs and BMP implementation <p>Goal Two – Implementation: Implement ... WPPs... to reduce NPS pollution by targeting implementation activities to the areas identified as impacted ... by NPS pollution.</p> <ul style="list-style-type: none"> • Objective D – Implement...WPPs...to restore and maintain water quality in water bodies identified as impacted by NPS pollution <p>Goal Three – Education: Conduct education... activities to increase awareness of NPS pollution and activities which contribute to the degradation of water bodies...by NPS pollution</p> <ul style="list-style-type: none"> • Objective A – Enhance existing outreach programs at...local levels to maximize the effectiveness of NPS education • Objective B – Administer programs to educate citizens about water quality and their potential role in causing NPS pollution • Objective D – Conduct outreach through the CRP, AgriLife Extension, SWCDs, and others to enable stakeholders and the public to participate in decision making and provide a more complete understanding of water quality issues and how they relate to each citizen • Objective G – Implement public outreach and education to maintain and restore water quality in water bodies impacted by NPS pollution <p>Component 2 – Working partnerships and linkages with appropriate state, ... regional, and local entities, private sector groups and Federal agencies.</p> <p>Component 3 –Balanced approach that emphasizes both statewide NPS programs and on the ground management of individual watersheds.</p> <p>Component 6 – Implement all NPS program components required by CWA §319(b) and establish strategic approaches and adaptive management to achieve and maintain water quality standards as expeditiously as practicable.</p>
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Estimated Load Reductions Expected
<p>Load reductions expected from this project include those quantified through pre- and post-tests given at educational programs. These will vary depending on the actual programs delivered in the watershed and will be quantified in the project final report based on accepted calculation methods such as those described in Appendix D of the Attoyac Bayou WPP. < http://attoyac.tamu.edu/media/1462/tr-458.pdf ></p> <p>Effectiveness monitoring will also allow for pollutant load reductions to be quantified. Water quality data collected through this project can be compared to previously collected data through appropriate statistical analysis to determine if water quality has improved since WPP implementation began.</p>

EPA State Categorical Program Grants – Workplan Essential Elements FY 2018-2022 EPA Strategic Plan Reference
<p>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.</p> <p>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.</p>

Part III – Financial Information

Budget Summary

Federal	\$	315,816	% of total project	60%
Non-Federal	\$	210,544	% of total project	40%
Total	\$	526,360	Total	100%
Category		Federal	Non-Federal	Total
Personnel	\$	66,915	\$ 31,700	\$ 98,615
Fringe Benefits	\$	24,406	\$ 7,894	\$ 32,300
Travel	\$	2,358	\$ 0	\$ 2,358
Equipment	\$	0	\$ 0	\$ 0
Supplies	\$	750	\$ 0	\$ 750
Contractual	\$	162,737	\$ 108,640	\$ 271,377
Construction	\$	0	\$ 0	\$ 0
Other	\$	17,456	\$ 0	\$ 17,456
Total Direct Costs	\$	274,622	\$ 148,234	\$ 422,856
Indirect Costs (≤ 15%)	\$	41,194	\$ 20,391	\$ 61,585
Unrecovered IDC			\$ 41,919	\$ 41,919
Total Project Costs	\$	315,816	\$ 210,544	\$ 526,360

Budget Justification (Federal)		
Category	Total Amount	Justification
Personnel	\$ 66,915	<p>TWRI Associate Director: \$108,524 @ 1.46 months (4.05% per year) – \$13,975</p> <p>TWRI TBD Program Specialist: \$52,800 @ 7.2 months (20% per year) – \$33,619</p> <p>TWRI TBD Project Specialist: \$75,040 @ 3 months (8.33% per year) – \$19,321</p> <p>*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</p> <p>*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.</p> <p>*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.</p>
Fringe Benefits	\$ 24,406	<p>Fringe for faculty and staff is calculated at 19.7% salary plus \$963 per month.</p> <p>Fringe for students is calculated at 11% salary plus \$558 per month.</p> <p>*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</p> <p>*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.</p> <p>*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.</p>
Travel	\$ 2,358	12 trips to the watershed @ 300 miles each at the state mileage rate
Equipment	\$ 0	N/A
Supplies	\$ 750	Miscellaneous office and meeting supplies: pens, paper, notebooks, etc.
Contractual*	\$ 162,737	<p>Angelina & Neches River Authority – \$95,043</p> <p>Stephen F. Austin State University – WET Center: \$67,694</p>
Construction	\$ 0	N/A
Other	\$ 17,456	<p>TWRI Communications Services (includes press releases, newsletter article, infographics, promotional material design and review, etc.): \$13,600</p> <p>Grazing BMP Direct Mailer printing: \$1,635</p> <p>Grazing BMP Direct Mailer postage: \$1,421</p> <p>Computer software license: \$300</p> <p>Facility rental: \$500</p>
Indirect	\$ 41,194	15% Total Direct Costs (TDC)

Budget Justification (Non-Federal)		
Category	Total Amount	Justification
Personnel	\$ 31,700	<p>TWRI TBD Director: \$209,180 @ 1.71 months (4.76% per year) – \$31,700</p> <p>*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</p> <p>*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.</p> <p>*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.</p>
Fringe Benefits	\$ 7,894	<p>Fringe for faculty and staff is calculated at 18.5% salary plus \$771 per month.</p> <p>Fringe for students is calculated at 11% salary plus \$558 per month.</p> <p>*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</p> <p>*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.</p> <p>*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.</p>
Travel	\$ 0	N/A
Equipment	\$ 0	N/A
Supplies	\$ 0	N/A
Contractual*	\$ 108,640	<p>ANRA – \$63,602</p> <p>SFASU – \$45,038</p>
Construction	\$ 0	N/A
Other	\$ 0	N/A
Indirect	\$ 20,391	<p>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.</p>
Unrecovered IDC	\$ 41,919	<p>Unrecovered IDC: 51.5% MTDC – 15% TDC</p> <ul style="list-style-type: none"> - IDC on MTDC: \$161,385 MTDC * 51.5% = \$83,113 - IDC on TDC: \$274,622 TDC * 15% = \$41,194 <p>Total Unrecovered IDC: \$83,113 – \$41,194 = \$41,919</p>

Budget Justification (Federal) – Angelina & Neches River Authority		
Category	Total Amount	Justification
Personnel	\$ 37,610	CRP Manager: \$42,601 @ 2.92 months: \$10,351 QA Officer: \$52,953 @ 1.76 months: \$7,784 Information Resources Manager: \$83,458 @ 2.8 months: \$19,475
Fringe Benefits	\$ 10,531	28% of salaries
Travel	\$ 0	N/A
Equipment	\$ 0	N/A
Supplies	\$ 8,501	Water Quality Monitoring Supplies • Gloves, Labels, Detergents, Filters: = \$701 Esri Software- 1 Year License: \$7,800
Contractual*	\$ 0	N/A
Construction	\$ 0	N/A
Other	\$ 34,640	NELAP Surface Water Quality Monitoring Analysis • –Up to \$40 per nutrient/bacteria analysis = \$34,640
Indirect	\$ 3,761	10% of salaries

Budget Justification (Non-Federal) – Angelina & Neches River Authority		
Category	Total Amount	Justification
Personnel	\$ 45,136	CRP Coordinator: \$42,601 @ 3.24 months: \$11,502 Information Resources Manager: \$83,458 @ 3.6 months: \$25,037 Administration Division Manager: \$47,496 @ 1.7208 months: \$6,811 ANRA General Manager: \$119,059 @ .18 months: \$1,786
Fringe Benefits	\$ 12,638	28% of Salaries
Travel	\$ 0	N/A
Equipment	\$ 0	N/A
Supplies	\$ 0	N/A
Contractual*	\$ 0	N/A
Construction	\$ 0	N/A
Other	\$ 1,314	NELAP Surface Water Quality Monitoring Analysis • Up to \$260 each = \$1,314
Indirect	\$ 4,514	10% of personnel

Budget Justification (Federal) – Stephen F. Austin State University WET Center		
Category	Total Amount	Justification
Personnel	\$ 49,400	TBD Graduate Student: \$20,400 @ 24 months: \$40,800 TBD Student Worker: \$10/hr., 10 hr./wk.: 86 wks.: \$8,600
Fringe Benefits	\$ 5,314	Graduate Fringe = salary * 2% + (\$360.54/mo * 0.5) Student Worker Fringe = salary * 2%
Travel	\$ 2,415	30 trips - 149 miles @ state rate
Equipment	\$ 0	N/A
Supplies	\$ 1,735	SWQM Sampling Supplies
Contractual*	\$ 0	N/A
Construction	\$ 0	N/A
Other	\$ 0	N/A
Indirect	\$ 8,830	15% of MTDC

Budget Justification (Non-Federal): SFASU WET Center		
Category	Total Amount	Justification
Personnel	\$ 19,489	SFASU Associate Professor: \$63,429 @ 3.6 months: \$19,489 *3% salary increase included in yrs. 2 & 3
Fringe Benefits	\$ 5,809	Salary * 29.5% yr. 1; Salary * 30% yr. 2 & 3
Travel	\$ 0	N/A
Equipment	\$ 0	N/A
Supplies	\$ 0	N/A
Contractual*	\$ 0	N/A
Construction	\$ 0	N/A
Other	\$ 1,893	YSI Multiprobe daily rental: \$75/day @ 18 days Doppler Flow Meter daily rental: \$30.16/day @ 18 days
Indirect	\$ 8,429	31% of Modified Total Non-Federal Direct
Unrecovered Indirect	\$ 9,418	16% of Modified Total Federal Direct