

**Texas State Soil and Water Conservation Board
State Nonpoint Source Grant Program
FY 2021 Workplan 21-56**

SUMMARY PAGE			
Title of Project	Using soil sample analysis to help address nutrient and sediment run off in the Arroyo Colorado Watershed		
Project Goals	<ul style="list-style-type: none"> Promote soil sample testing for program delivery Improve information transfer regarding nutrient management and crop nutrient needs Stakeholder program engagement Evaluate information transfer and nutrient load reductions achieved 		
Project Tasks	(1) Project Administration; (2) Quality Assurance; (3) Promote and Deliver an Annual Soil Testing Campaign; (3) Conduct Education and Outreach to Increase Landowner Participation in Incentive Programs		
Measures of Success	<ul style="list-style-type: none"> Information regarding soil fertility and crop nutrient need transferred to watershed stakeholders Soil testing campaign completed that informs grower decisions regarding crop nutrient needs Informational resources relative to ag BMPs updated and translated to Spanish Changes in nutrient application resulting from soil test results 		
Project Type	Implementation (X); Education (X); Planning (); Assessment (); Groundwater ()		
Status of Waterbody on 2020 Texas Integrated Report	<u>Segment ID</u>	<u>Parameter of Impairment or Concern</u>	<u>Category</u>
	2201 Arroyo Colorado Tidal	Bacteria DDE in edible tissue Depressed dissolved oxygen Mercury in edible tissue PCBs in edible tissue	5c 5c 5a (04) & 5c (05) 5c 5a
	2201B Unnamed Drainage Ditch Tributary (B) in Cameron County Drainage District #3	Bacteria	5b
	2202 Arroyo Colorado Above-Tidal	Bacteria DDE in edible tissue Mercury in edible tissue PCBs in edible tissue	5b 4a 5c 5a
	2202A Donna Reservoir	PCBs in edible tissue	4a
	2491 Laguna Madre	Bacteria Depressed dissolved oxygen	5c 5b
	2491OW Laguna Madre (Oyster Waters)	Bacteria	5c

Project Location (Statewide or Watershed and County)	Arroyo Colorado Watershed; Cameron, Hidalgo, and Willacy counties	
Key Project Activities	Hire Staff (); Surface Water Quality Monitoring (); Technical Assistance (); Education (X); Implementation (X); BMP Effectiveness Monitoring (); Demonstration (); Planning (); Modeling (); Bacterial Source Tracking (); Other ()	
2017 Texas NPS Management Program Reference	<ul style="list-style-type: none"> • Component 1 <ul style="list-style-type: none"> • Long Term Goal Objectives: 1, 2, 3, 5, 6, 7, 8 • Short Term Goal, Objective 2 Implementation: B, D • Short Term Goal, Objective 3 Education: A, B, C, D, F • Component 2 • Component 3 • Component 4 • Milestone/Measurement: ST3/C,D Watershed Training; ST3/A,B,F,G Watershed Education; ST2/A,C Watershed Coordination; ST2/D Implement WPPs 	
Project Costs	Total	\$202,490
Project Management	<ul style="list-style-type: none"> • Texas A&M AgriLife Research, Texas Water Resources Institute 	
Project Period	March 17, 2021 – May 31, 2023	

Part I – Applicant Information

Applicant

Project Lead	Dr. Lucas Gregory						
Title	Assistant Director and 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. East; 2118 TAMU						
City	College Station	County	Brazos	State	Texas	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 oversight and reporting, conduct soil sample collection training, data submittals, and final report development.
Texas A&M AgriLife, District 12 Research and Extension Center	Work with TWRI in updating educational materials to make region specific and present during educational events, as appropriate with the help of Willacy, Hidalgo and Cameron County Extension Agents.
Texas State Soil and Water Conservation Board, Harlingen Regional Office (HRO)	Work with and assist SWCDs in the distribution of soil testing and nutrient management fact sheets. Provide information to AgriLife Extension to coordinate related education programs and assist with demonstration field tour.

Southmost Soil and Water Conservation District #319 and Hidalgo Soil and Water Conservation District #350 (SWCD)	Lead soil test campaign program and provide information to AgriLife Extension to coordinate related education programs and assist with demonstration field tour
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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> ?				Yes	X	No	
If yes, identify the document.		Update to the Arroyo Colorado Watershed Protection Plan 2017					
If yes, identify the agency/group that developed and/or approved the document.		Arroyo Colorado Watershed Partnership, facilitated by TWRI and TCEQ; approved by TCEQ and EPA		Year Developed		2017	

Watershed Information				
Watershed or Aquifer Name(s)	Hydrologic Unit Code (12 Digit)	Segment ID	Category on 2020 IR	Size (Acres)
Lower Arroyo Colorado	121102080700	2201	5a & 5c	83,558
Middle Arroyo Colorado	121102080600	2202		105,412
Upper Arroyo Colorado	121102080100	2202	5b 5c 5a	109,630

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 & Concerns</u>			
SegID 2201: Arroyo Colorado Tidal: From the confluence with Laguna Madre in Cameron/Willacy County to a point 100 meters (110 yards) downstream of Cemetery Road south of Port Harlingen in Cameron County			
Parameter	Category	Year	Assessment Unit IDs
Bacteria	5c	2006	2201_01, 02, 03, 04, 05
Dissolved Oxygen 24 hr min	5c	1996	2201_04, 05
Mercury in edible tissue	5c	2008	2201_05
PCBs in edible tissue	5a	2008	2201_05
Chlorophyll-a	CS		2201_01, 02, 03, 04, 05
Nitrate	CS		2201_01, 02, 03, 04, 05
Total Phosphorus	CS		2201_04, 05
Dissolved Oxygen 24 hr avg	CN		2201_05

SegID 2201B: Unnamed Drainage Ditch Tributary (B) in Cameron County Drainage District #3 (unclassified water body) From the confluence with the Arroyo Colorado in Cameron County in the Rio Hondo turning basin at -97.6, 26.196 decimal degrees to a point 17.6 km upstream at the FM 510 crossing.

<u>Parameter</u>	<u>Category</u>	<u>Year</u>	<u>Assessment Unit IDs</u>
Bacteria	5b	2010	2201B_01
Chlorophyll-a	CS		2201B_01

SegID 2202: Arroyo Colorado Above Tidal: From a point 100 meters (110 yards) downstream of Cemetery Road south of Port Harlingen in Cameron County to FM 2062 in Hidalgo County

<u>Parameter</u>	<u>Category</u>	<u>Year</u>	<u>Assessment Unit IDs</u>
Bacteria	5c	1996	2202_01, 02, 03, 04
Mercury in edible tissue	5c	2008	2202_01, 02, 03, 04
PCBs in edible tissue	5a	2008	2202_01, 02, 03, 04

SegID: 2202A Donna Reservoir Off-channel irrigation reservoir pumped from Rio Grande near the City of Donna in Hidalgo County

<u>Parameter</u>	<u>Category</u>	<u>Year</u>	<u>Assessment Unit IDs</u>
Bacteria	5c	1996	2202_01, 02, 03, 04

Potential Sources: All Segments and AUs

Bacteria – NPS Crop production (irrigated); PS - Municipal Point Source Discharges; NPS - Urban Runoff/Storm Sewers; Unknown Sources

Chlorophyll-a – NPS Crop production (irrigated); PS - Municipal Point Source Discharges; NPS – Urban Runoff/Storm Sewers

Nitrate – NPS Crop production (irrigated); PS - Municipal Point Source Discharges; NPS – Urban Runoff/Storm Sewers

Total Phosphorus - NPS Crop production (irrigated); PS - Municipal Point Source Discharges; NPS – Urban Runoff/Storm Sewers

Dissolved Oxygen 24hr average – NPS - Crop production (irrigated); PS - Municipal Point Source Discharges; UNK - Source Unknown; NPS - Non-Point Source; NPS - Urban Runoff/Storm Sewers

Mercury and PCBs - Atmospheric Deposition – Acidity Toxics; UNK - Source Unknown; PS - Industrial Point Source Discharge

Project Narrative

Problem/Need Statement

The Update to the Arroyo Colorado Watershed Protection Plan 2017 (ACWPP Update) was developed with local, state, and federal stakeholder input to address water quality issues in the Arroyo Colorado (Flores et al. 2017). The watershed is located in Cameron, Hidalgo, and Willacy counties in the Lower Rio Grande Valley of South Texas. The Arroyo Colorado flows approximately 90 miles from east of McAllen, transecting Hidalgo and Cameron counties and forms the boundary between Cameron and Willacy counties until it reaches the Lower Laguna Madre. The Arroyo Colorado is the primary source of fresh water to the Lower Laguna Madre and serves as a nursery for aquatic life. Approximately 706 square miles of land drains into the Arroyo Colorado. Primary land uses include agriculture, including vegetable and fruit crops (54%); range (18.5%); urban (12%); water bodies (6%); and sugarcane (4%) (Kannan, 2012); and some industry exists. Agriculture and municipalities are the primary water users in the watershed and return flows from these sources largely sustain flows in the Arroyo Colorado. These return flows carry nutrients, sediment, and bacteria into the water body, leading to elevated levels of bacteria and nutrients, resulting in low dissolved oxygen levels.

The tidal segment (SegID 2201) of the Arroyo Colorado was first listed as having low levels of dissolved oxygen in 1996 and elevated levels of bacteria in 2006 (TCEQ) while the above tidal segment (SegID 2202) was listed in 1996 for having elevated levels of bacteria. The Laguna Madre (SegID 2491) is also listed as impaired by bacteria and low dissolved oxygen. Nutrient loading from the watershed was identified as a significant contributor to the low dissolved oxygen concentrations. Irrigated cropland was further identified as a primary nutrient contributor to waterbodies across the watershed.

To address these impairments and concerns, the Arroyo Colorado Agricultural Issues Workgroup, made up of local, state, and federal stakeholders, recommended agricultural management practice installation supplemented with education and outreach as a high priority for implementation. These recommendations included the inclusion of continual soil testing campaign implementation to encourage growers to test soils prior to nutrient application. This information raises grower awareness of current nutrient availability and planned crop needs thus allowing growers to make precise nutrient additions that specifically meet crop needs. This combined with other education and outreach programming such as integrated farm management planning, pesticide education, and cost-share availability education, have been effective in raising water quality awareness. However, the Arroyo Colorado Watershed Partnership has yet to meet its goal of 150,000 irrigated acres under conservation programs. To date there are approximately 133,000 acres under conservation practices. A soil testing campaign will continue to raise awareness, 2) provide technical education for understanding of BMPs and their benefits, and 3) facilitate awareness and use of financial incentives.

References:

Kannan, N. 2012. *SWAT modeling of the Arroyo Colorado watershed*. Texas Water Resources Institute Technical Report 426. Retrieved from website: <http://twri.tamu.edu/reports/2012/tr426.pdf>

Flores, J., Wagner, K., Gregory, L., Benavides, J., Cawthon, T. 2017. *Update to the Arroyo Colorado Watershed Protection Plan*. Texas Water Resources Institute Technical Report – 504. Retrieved from website: <http://arroyocolorado.org/media/671263/arroyo-colorado-wppfinaloptimized.pdf>

Project Narrative

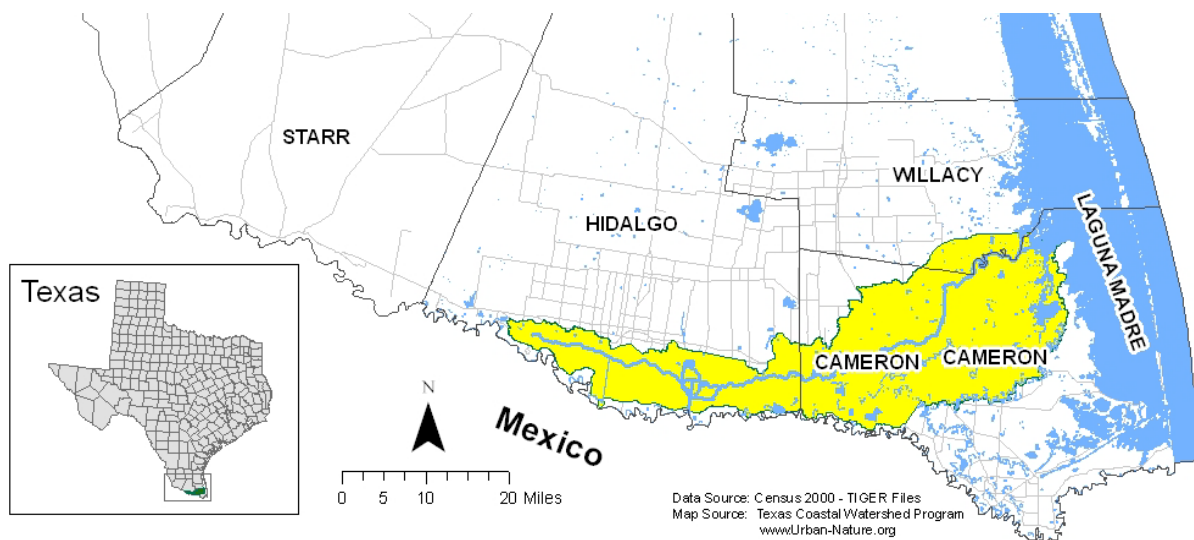
General Project Description (Include Project Location Map)

The primary focus of this project is to provide specific information regarding soil fertility and nutrient management to growers in the LRGV that will complement efforts from TSSWCB 19-05 and enhance the education program delivery. This project compliments ongoing partnership efforts implementing the Arroyo Colorado Watershed Protection Plan and addresses the need of educating the agricultural community.

A soil testing campaign will be held that will offer producers free soil tests. The soil testing campaign will be advertised through email from current contact lists created from past projects and the airing of a previously developed Public Service Announcement. The Extension Associate will host an educational event to kick off the soil testing campaign; the event will focus on the importance of soil health's role in nutrient management. Similar events will be held in subsequent years. The Extension Associate will also be available to provide soil test interpretation assistance for growers upon request. The project's goal is to provide up to 500 soil tests per year across the watershed. A subset of samples will be analyzed to provide additional information on chemical parameters including total organic carbon, total nitrogen, colored dissolved organic matter, pharmaceutical and personal care product compounds, and per-and polyfluoroalkyl compounds throughout the watershed.

To advertise the program, the Extension Associate will provide news releases and direct emails about upcoming educational opportunities and will continue to distribute educational resource materials to watershed stakeholders. Select educational resources will also be translated to Spanish to improve information transfer to watershed stakeholders. Direct contact will be made through personal contact, meetings with key stakeholders, and through participation in agriculture focused events, programs and venues across the LRGV.

This project will provide information to agricultural producers in the Arroyo Colorado watershed regarding proper nutrient management. To do so, the Extension Associate will coordinate a soil fertility and soil management program that will be held once annually and provide producers with technical information needed to make decisions about various BMPs.



Tasks, Objectives and Schedules				
Task 1	Project Administration			
Costs	Total	\$28,349		
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 15 th of March, June, September, and December. QPRs shall be distributed to all Project Partners.			
	Start Date	Month 1	Completion Date	Month 24
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 24
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 24
Subtask 1.4	TWRI will develop a Final Report that summarizes activities completed, conclusions reached during the project and discusses the extent to which project goals and measures of success have been achieved.			
	Start Date	Month 1	Completion Date	Month 24
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	Promote and Deliver an Annual Soil Testing Campaign			
Costs	Total	\$101,245		
Objective	To implement and promote a soil testing campaign that will help producers meet requirements of various management practices and incentive programs.			
Subtask 2.1	AgriLife Extension will host a soil testing campaign for agricultural producers in Cameron, Hidalgo, and Willacy counties and promote its use to support nutrient management. Producers will be encouraged to participate in soil testing to determine nutrient application needs and AgriLife Extension will provide follow-up educational assistance to interpret soil test results.			
	This project will pay up to \$12 per soil test sample for up to 300 samples annually taken within the Arroyo Colorado watershed; this project will pay for all soil tests necessary to comply with soil testing frequencies consistent with the NRCS practice standard for Nutrient Management (590). Soil tests and shipping paid for with project funding must be completed by a public soil testing laboratory, such as the AgriLife Extension Soil, Water and Forage Testing Laboratory.			
	Start Date	Month 1	Completion Date	Month 24

Subtask 2.2	Soil testing campaign advertisement will be conducted through email via contact lists created by past projects, participation in grower programs, and by airing of a Soil Testing Public Service Announcement developed under a previous project. The TWRI Extension Associate will distribute soil sample bags and forms to each county Extension office, USDA service centers, and the Texas State Soil Water Conservation Board Harlingen Regional Office. County Extension Agents will help promote the soil testing campaign within their respective counties through their educational programs and direct contact.			
	Start Date	Month 1	Completion Date	Month 24
Deliverables	<ul style="list-style-type: none"> • Number of soil testing participants annually • Results of soil testing campaign samples • Airing schedule of Public Service Announcements 			

Tasks, Objectives and Schedules

Task 3	Conduct Education and Outreach to Increase Landowner Participation in Incentive Programs			
Costs	Total	\$72,896		
Objective	To provide and evaluate the effectiveness of educational material delivery to growers via newsletters, programs and events.			
Subtask 3.1	Host an educational soil fertility and soil management event once annually in the project area to promote soil testing.			
	Start Date	Month 1	Completion Date	Month 24
Subtask 3.2	Distribute information on soil testing through Arroyo Colorado Watershed quarterly updates and annual newsletters.			
	Start Date	Month 1	Completion Date	Month 24
Subtask 3.3	Review existing management factsheets and documents used to promote soil testing and agricultural BMP implementation and identify needed updates to these documents. Updates will be made and existing materials will be replaced with updated content.			
	Start Date	Month 1	Completion Date	Month 6
Subtask 3.4	Updated management factsheets and related resources will be translated to Spanish and distributed throughout the watershed through County Extension Agents, USDA offices, Irrigation Districts, SWCDs, and stakeholder events/meetings as appropriate.			
	Start Date	Month 3	Completion Date	Month 9
Subtask 3.5	Educational program (Subtask 3.1) effectiveness will be assessed using a post-evaluation at events. Evaluations will contain before and after scales for producers to rate their opinions about the program that will be used to assess their gain in knowledge and willingness to adopt nutrient management BMPs.			
	Start Date	Month 1	Completion Date	Month 24
Deliverables	<ul style="list-style-type: none"> • Delivery of Soil Fertility and Soil Management educational events • Newsletters and quarterly updates • Updated ag BMP factsheets and related materials • Ag BMP factsheets and related materials translated into Spanish • Post evaluations at educational events 			

Project Goals (Expand from Summary Page)

- Educate agricultural producers regarding nutrient management, plant nutrition needs, nutrient application timing and other relevant topics through programs, events, and newsletters
- Support and promote the adoption of BMPs through incentive programs from USDA-NRCS and TSSWCB
- Develop and deliver educational materials including soil testing fact sheets, nutrient management fact sheets, and annual ACW newsletters
- Increase the number of BMPs adopted in the Lower Rio Grande Valley by providing materials and other educational efforts that raise nutrient management.

Measures of Success (Expand from Summary Page)

- Increase in the number of BMPs installed as a result of increased outreach and education through this project.
- Completion of at least 300 soil samples annually from producers in Willacy, Hidalgo, and Cameron counties.
- Completed review and update of existing ag BMP information/education resources to ensure information presented is accurate
- Expand applicability of printed information/education resources by translating them to Spanish to facilitate information transfer to the Spanish speaking members of the agricultural community in and around the watershed
- Estimates of nutrient application reductions resulting from information transferred via educational programs and materials as documented in program evaluations.

2017 Texas NPS Management Program Reference (Expand from Summary Page)

Components, Goals, and Objectives

Component 1: Explicit short- and long-term goals, objectives, ... that protect surface and groundwater.

Long Term Goals

- 1: Focus NPS abatement efforts, implementation strategies, and available resources in watersheds identified as impacted by nonpoint source pollution.
- 2: Support the implementation of state, regional and local programs to prevent NPS pollution through assessment, implementation, and education.
- 3: Support the implementation of state, regional and local programs to reduce NPS pollution, such as implementation of strategies defined in Watershed Protection Plans.
- 5: Support the implementation of state, regional, and local programs to reduce NPS pollution in the coastal management zone through the Texas Coastal NPS Pollution Control Program.
- 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

- Implementation: Coordinate and administer the implementation of Watershed Protection Plans and other state, regional, and local plans/programs to reduce NPS pollution.
 - Objective B: Develop and implement BMPs to address constituents of concern or water bodies not meeting water quality standards in watersheds identified as impacted by NPS pollution.
 - Objective D: Implement Watershed Protection Plans developed to restore and maintain water quality in water bodies identified as impacted by nonpoint source pollution.
- Education: Conduct education and technology transfer activities to help increase awareness of NPS pollution and prevent activities contributing to the degradation of water bodies, including aquifers, by NPS pollution
 - Objective A: Enhance existing outreach programs at the state, regional and 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 C: Where applicable, expedite development of technology transfer activities to be conducted upon completion of BMP implementation.
 - Objective D: Conduct outreach through the Texas A&M AgriLife Extension Service, Soil and Water Conservation Districts, and others to facilitate broader participation and partnerships. 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 F: Implement public outreach and education to maintain and restore water quality in waterbodies impacted by NPS pollution.

Component 2: Working partnerships and linkages to appropriate state, regional and local entities, private sector groups and Federal agencies.

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.

Component 4: Description of how resources will be allocated between abating known water quality impairments from nonpoint source pollution.

Estimated Load Reductions Expected (Only applicable to Implementation Project Type)

The goal of this project is for agricultural producers to complete soil tests and plan nutrient applications for the next growing season based upon crop-specific nutrient needs. It is expected that nutrient application reductions will occur because of this project; however, the amount of reduction will vary by individual fields tested. This project will evaluate changes in nutrient application due to soil test results and will estimate nutrient application reductions resulting from the soil testing campaign and associated education and outreach activities based on grower feedback received.

SWAT modeling results presented in the Update to the ACWPP demonstrate the potential for agricultural conservation practice implementation to reduce nutrient loading into the Arroyo Colorado. While this management strategy includes a number of practices that are not nutrient focused, each plan contains nutrient management as a cornerstone of its implementation activity. Under the Update to the ACWPP, implementation scenarios were modeled compared to current and future baseline conditions. Using the more conservative current baseline conditions as a point of comparison, the model predicts that phosphorus loads will be reduced approximately 16% and nitrate+nitrite will be decrease by 21% as a direct result of agricultural conservation practice implementation. This project will help in achieving this modeled nutrient reduction goal.

Part III – Financial Information

Budget Summary	
Category	
Personnel	\$ 57,254
Fringe Benefits	\$ 18,939
Travel	\$ 3,559
Equipment	\$ 0
Supplies	\$ 101
Contractual	\$ 0
Construction	\$ 0
Other	\$ 96,225
Total Direct Costs	\$ 176,078
Indirect Costs (≤ 15%)	\$ 26,412
Unrecovered IDC	
Total Project Costs	\$ 202,490

Budget Justification (Federal)		
Category	Total Amount	Justification
Personnel	\$ 57,254	<p>TWRI TBD Program Manager, \$71,467 annually @ 1.7 months – \$10,100 TWRI Extension Associate, \$48,508 annually @ 0.65 months – \$2,703 TWRI Project Specialist, 45,000 annually @ 1.55 months - \$5,820 TWRI Program Coordinator, \$55,768 annually @ 6.27 months – \$30,006 TWRI Grad Research Assistant, \$50,000 annually @ 2.07 months - \$8,625</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. *(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 the aggregate, will not exceed total effort estimates for the entire project.)</p>
Fringe Benefits	\$ 18,939	<p>Fringe for faculty and staff is calculated at 18.5% salary plus \$771 per month. Fringe for student staff 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 *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.</p>
Travel	\$ 3,559	<p>TWRI: local mileage in watershed to workshops, project presentations and for meeting with producers to pick up soil samples estimated at:</p> <ul style="list-style-type: none"> • 3,200 miles @ state rate/mile (\$2,000) <p>TWRI: travel from College Station to watershed; 2 trips in total: (\$1,559 total)</p> <ul style="list-style-type: none"> • 5 days per diem @ state rate/day (\$275) • 4 nights lodging @ state rate/night (\$384) • 1440 miles @ state rate/mile (\$900)
Equipment	\$ 0	N/A
Supplies	\$ 101	TWRI supplies include, but are not limited to pens, printer toner, paper, etc. for preparation and delivery of education events.
Contractual*	\$ 0	N/A
Construction	\$ 0	N/A
Other	\$ 96,225	<p>Communications Services (\$10,000)</p> <ul style="list-style-type: none"> • Press release development, materials updates, website updates and maintenance, media posts, etc. <p>Direct Soil Testing Mailers (\$1,300) Sample shipping (\$1,425) Soil analysis costs 300 total samples @ \$12 ea. (\$3,600) Advanced Soil Sample Analysis: 60 @ \$1,300 ea. (\$78,000) Fact Sheet Printing (\$1,500) Translation Services (\$400)</p>
Indirect	\$ 26,412	15% Modified Total Direct Costs