



**Texas State Soil and Water Conservation Board
 Clean Water Act §319(h) Nonpoint Source Grant Program
 FY 2014 Workplan 14-12**

SUMMARY PAGE

Title of Project	Enhancing Feral Hog Management Through Statewide Implementation of Lone Star Healthy Streams
Project Goals	<ul style="list-style-type: none"> • Provide statewide feral hog damage management education through watershed-based group trainings. • Increase citizen awareness, understanding, and knowledge about the biology, economic damage, methods of removal, and laws and regulations concerning the management of feral hogs. • Provide best management practices for feral hog reduction promoting healthy watersheds. • Improve watershed health by empowering individuals and communities to reduce feral hog populations.
Project Tasks	(1) Project Administration; (2) Coordinate and deliver watershed-based feral hog education trainings in selected watersheds throughout Texas; (3) Initiation and creation of statewide Lone Star Healthy Streams Feral Hog Website; (4) Evaluate the effectiveness of the feral hog education trainings; (5) Create, distribute and manage extension education material and social media outlets.
Measures of Success	<ul style="list-style-type: none"> • Deliver a minimum of 30 watershed-based feral hog trainings in selected watersheds • Numbers of citizens participating in watershed-based feral hog trainings • Increased knowledge and plans for practice adoption of feral hog population reduction techniques, as measured by retrospective post-tests. • Creation of new Extension Lone Star Healthy Streams Feral Hog website • Creation of 3 new publications and 6 new videos regarding feral hog management. • Number of views, likes, page views, unique visitors, and posts of social media resources.
Project Type	Implementation (); Education (X); Planning (); Assessment (); Groundwater ()

Status of Waterbody on 2012 Texas Integrated Report	<u>Segment ID:</u>	<u>Parameter</u>	<u>Category</u>
	1103	Bacteria	5a
		Depressed DO	5a
	1103A	Bacteria	5a
	1103B	Bacteria	5a
	1103C	Bacteria	5a
		Depressed DO	5c
	1103D	Bacteria	5c
	1103E	Bacteria	5b
	1104	Bacteria	5a
		Depressed DO	5c
	1804A	Bacteria	5c
	1428C	Bacteria	4a
	1004E	Bacteria	5a
	1008	Bacteria	5a
		Depressed DO	5b
	1008H	Bacteria	5a
	1009	Bacteria	5a
	1009C	Bacteria	5a
	1009D	Bacteria	5a
	1009E	Bacteria	5a
	1010	Bacteria	5a
	1011	Bacteria	5a
	1810	Bacteria	4b
	1217B	Depressed DO	5c
	1217D	Depressed DO	5b
	1221	Bacteria	5b
	1221A	Depressed DO	5c
		Bacteria	5b
	1221B	Bacteria	5b
	1221D	Bacteria	5b
	1221F	Bacteria	5b
	1901	Bacteria	4a
	1301	Bacteria	5c
	1302	Bacteria	5b
	1302A	Bacteria	5b
	1302B	Bacteria	5b
		Depressed DO	5c
	1245	Depressed DO	5a
	1245C	Bacteria	5b
	1245D	Bacteria	5b
	1245F	Bacteria	5b
	1245I	Bacteria	5b

Project Location (Statewide or Watershed and County)	Bastrop Bayou Watershed in Brazoria County; Dickinson Bayou in Brazoria and Galveston Counties; Geronimo Creek Watershed in Guadalupe and Comal Counties; Gilleland Creek in Travis County; Lake Granbury Watershed in Hood, Parker, Palo Pinto, Ranger, Erath, and Jack Counties; Lake Houston Area Watersheds in Grimes, Harris, Liberty, Montgomery, San Jacinto, Walker, and Waller Counties; Lampasas River Watershed in Bell, Burnet, Coryell, Hamilton, Lampasas, Mills, and Williamson Counties; Leon River Watershed below Proctor Lake and above Belton Lake in Comanche, Hamilton, Erath, Coryell, Mills and Bell Counties; Lower San Antonio River Watershed in DeWitt, Goliad, Guadalupe, Karnes, Refugio, Victoria, and Wilson Counties; Plum Creek Watershed in Caldwell, Hays, and Travis Counties; San Bernard River Watershed in Austin, Colorado, Wharton, Fort Bend, and Brazoria Counties; Upper Oyster Creek in Fort Bend County; Carters and Burton Creeks Watershed in Brazos County; Guadalupe River Watershed Above Canyon Lake in Kerr County.					
Key Project Activities	Hire Staff (); Surface Water Quality Monitoring (); Technical Assistance (); Education (X); Implementation (); BMP Effectiveness Monitoring (); Other () Demonstration (); Planning (); Modeling (); Bacterial Source Tracking ()					
2012 Texas NPS Management Program Reference	<ul style="list-style-type: none"> • Component One – LTGs 1, 2, 3, 4 • Component One– STGs 3A, 3B, 3F • Component Two & Three 					
Project Costs	Federal	\$558,010	Non-Federal	376,973	Total	\$934,983
Project Management	<ul style="list-style-type: none"> • Texas A&M AgriLife Extension Service 					
Project Period	October 1, 2014 – September 30, 2017					

Part I – Applicant Information

Applicant							
Project Lead	James C. Cathey						
Title	Associate Department Head, Program Leader, Associate Professor and Wildlife Specialist						
Organization	Texas A&M AgriLife Extension Service						
E-mail Address	jccathey@tamu.edu						
Street Address	Wildlife and Fisheries Sciences, 2258 TAMU						
City	College Station	County	Brazos	State	Texas	Zip Code	77843
Telephone Number	979-845-7370			Fax Number	979-845-7103		

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 Extension Service – Department of Wildlife and Fisheries Sciences (Extension)	Provide overall project management including project administration, coordination, submission of quarterly and final reports, delivery of feral hog management education workshops, distribution and support of computer-based training, and evaluation of program effectiveness.
Texas A&M AgriLife Extension Service –Soil and Crop Sciences	Provide educational presentations at workshops in priority watersheds.
Texas Department of Agriculture	Provide educational presentations at feral hog workshops in priority watersheds.
Texas Animal Health Commission	Provide educational presentations at feral hog workshops in priority watersheds.

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.		<p>Draft Bastrop Bayou Watershed Protection Plan; Eight Total Maximum Daily Loads for Indicator Bacteria in Dickinson Bayou and Three Tidal Tributaries; Draft Geronimo and Alligator Creeks Watershed Protection Plan; Implementation Plan for One Total Maximum Daily Load for Bacteria in Gilleland Creek; Lake Granbury Watershed Protection Plan; Fifteen TMDLs for Indicator Bacteria in Watersheds of the Lake Houston Area; Watershed Protection Plan for the Leon River Below Proctor Lake and Above Belton Lake, One Total Maximum Daily Load for Bacteria in the Lower San Antonio River; Plum Creek Watershed Protection Plan; San Bernard River Watershed Protection Plan; One TMDL for Bacteria in Upper Oyster Creek; Three TMDL for Indicator Bacteria in Carters and Burton Creeks; One TMDL for Bacteria in the Guadalupe River Above Canyon Lake; Upper Cibolo Creek, Lampasas River .</p>					

<p>If yes, identify the agency/group that developed and/or approved the document.</p>	<p>Bastrop Bayou Stakeholder Group facilitated by Houston-Galveston Area Council, Galveston Bay Estuary Program and TCEQ; TCEQ, University of Houston, and CDM; The Geronimo and Alligator Creeks Watershed Partnership facilitated by GBRA, Texas AgriLife Extension Service and TSSWCB; TCEQ and the Lower Colorado River Authority; The Lake Granbury Watershed Protection Plan Stakeholders Committee facilitated by the Brazos River Authority and TCEQ; TCEQ and James Miertschin & Associates, Inc.; Brazos River Authority; TCEQ and James Miertschin & Associates, Inc.; Plum Creek Watershed Partnership facilitated by Texas AgriLife Extension Service and TSSWCB; Houston-Galveston Area Council and TCEQ; TCEQ and Texas Institute of Applied Environmental Research; Texas Institute for Applied Environmental Research, Texas Water Resources Institute and Stakeholders Committee of Carters and Burton Creeks; Stakeholder Committee facilitated by the Upper Guadalupe River Authority and TCEQ.</p>	<p>Year Developed</p>	<p>2011; 2012, 2012, 2007, 2011, 2011; 2011; 2008; 2008; 2011; 2007; 2012; 2007; 2012; 2012</p>
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Watershed Information				
Watershed or Aquifer Name(s)	Hydrologic Unit Code (12 Digit)	Segment ID	Category on 2012 IR	Size (Acres)
Upper Cibolo Creek	121003040101	1908	5c	49,209
Bastrop Bayou Tidal	120402050400	1105	2	188,965
Dickinson Bayou	120402040200	1103	5a	63,287
Geronimo Creek (including its tributary, Alligator Creek)	121002020110, 121002020111	1804A	5c	44,152
Gilleland Creek	120903010106	1428C	4a	52,866

Lake Granbury	120602010601 – 0608, 120602010701 – 0706, 120602010801 – 120602010809, 120602010901 – 120602010907, 120602011001 – 120602011004, 120602011101 – 120602011110, 120602011201 – 120602011208	1205	2	1,335,138
Stewarts Creek	120401010401	1004E	5a	21,051
Spring Creek	120401020201, 120401020205, 120401020209, 120401020212, 120401020213	1008	5a, 5b	100,148
Willow Creek	120401020210	1008H	5a	35,310
Cypress Creek	120401020103, 120401020104, 120401020106, 120401020107	1009	5a	24,299
Faulkey Gully	120401020106	1009C	5a	35,082
Spring Gully	120401020106	1009D	5a	35,082
Little Cypress Creek	120401020105	1009E	5a	34,687
Caney Creek	120401030101, 120401030102, 120401030104, 120401030105, 120401030110	1010	5a	114,773
Peach Creek	120401030106 – 120401030109	1011	5a	308,922
Lampasas River (Lampasas River above Stillhouse Hollow Lake, Rocky Creek, Sulphur Creek, Simms Creek)	120702030101 – 120702030509	1217 1217A 1217B 1217C	5c 2 2 2	839,800

Leon River below Proctor Lake and above Belton Lake	120702010501 – 120702010509, 120702010601 – 120702010605, 120702010701 – 120702010705, 120702010801 – 120702010806, 120702010901 – 120702010908, 120702011002	1221	5a	871,488
Lower San Antonio River	121003030202, 121003030205, 121003030206, 121003030403, 121003030404, 121003030501, 121003030503, 121003030505, 121003030604 – 121003030608, 121003040405	1901	4a	776,863
Plum Creek	110901050702, 110901050703, 111002030102, 111301050208, 111302090204, 120100040204, 120301010104, 120500030306, 120601020401, 120702010804, 120702010805, 120800020403, 121002030401 – 121002030403	1810	4b	288,240

San Bernard River	120904010101, 120904010102, 120904010104, 120904010109, 120904010205, 120904010207, 120904010302, 120904010304 – 120904010306, 120904010308	1301 1302 1302A 1302B	5c 5a 5c 5c	672,000
Upper Oyster Creek	120402050100, 120402050200, 120701040403	1245	5a	65,649
Carters and Burton Creek		1209C 1209D 1209L	5a	37,120
Guadalupe River Above Canyon Lake		1806	4a 5c	

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: *2012 Texas Integrated Report*, Clean Rivers Program Basin Summary/Highlights Reports, or other documented sources.

Segment ID	Body Name	Impairment	Code
1103	Dickinson Bayou Tidal	Bacteria	5a,4a
		Depressed DO	5b
1103A	Bensons Bayou	Bacteria	4a
1103B	Bordens Gully	Bacteria	4a
1103C	Geisler Bayou	Bacteria	4a
		Depressed DO	5b
1103D	Gum Bayou	Bacteria	5a
1103E	Cedar Creek	Bacteria	5a
1104	Dickinson Bayou Above Tidal	Bacteria	4b
1804A	Geronimo Creek	Bacteria	5c
1428C	Gilleland Creek	Bacteria	4a
1004E	Stewarts Creek	Bacteria	4a
1008	Spring Creek	Bacteria	4a
		Depressed DO	5c
1806	Guadalupe River Above Canyon Lake	Bacteria	4a, 5c
1806D	Quinlan Creek	Bacteria	5a
1806E	Town Creek	Bacteria	5a
1008H	Willow Creek	Bacteria	4a
1009	Cypress Creek	Bacteria	4a

1009C	Faulkey Gully	Bacteria	4a
1009D	Spring Gully	Bacteria	4a
1009E	Little Cypress Creek	Bacteria	4a
1010	Caney Creek	Bacteria	4a
1011	Peach Creek	Bacteria	5a, 4a
1810	Plum Creek	Bacteria	4b
1209C	Carters Creek	Bacteria	5a
1209L	Burton Creek	Bacteria	5a
1217B	Sulphur Creek	Depressed DO	5c
1217D	North Fork Rocky Creek	Depressed DO	5b
1221	Leon River below Proctor Lake	Bacteria	5b
1221A	Resley Creek	Bacteria	5b
		Depressed DO	5b
1221B	South Leon River	Bacteria	5b
1221D	Indian Creek	Bacteria	5b
1221F	Walnut Creek	Bacteria	5b
1901	Lower San Antonio River	Bacteria	4a
1301	San Bernard River Tidal	Bacteria	5c
1302	San Bernard River Above Tidal	Bacteria	5b
1302A	Gum Tree Branch	Bacteria	5b
1302B	West Bernard Creek	Bacteria	5b
		Depressed DO	5c
1245	Upper Oyster Creek	Bacteria	4a
		Depressed DO	4a
1245C	Bullhead Bayou	Bacteria	5b
1245D	Unnamed Tributary of Bullhead Bayou	Bacteria	5b
1245F	Alcorn Bayou	Bacteria	5b
1245I	Steep Bank Creek	Bacteria	5b
Water Quality Concerns			
1105	Bastrop Bayou Tidal	Depressed DO	CS
1105A	Flores Bayou	Depressed DO	CS
1105B	Austin Bayou Tidal	Depressed DO	CS
1105C	Austin Bayou Above Tidal	Bacteria	CN
		Depressed DO	CS
1105D	Unnamed Tributary of Bastrop Creek	Bacteria	CN
1105E	Brushy Bayou	Depressed DO	CS
1103	Dickinson Bayou Tidal	Chlorophyll-a	CS
		Depressed DO	CS
		Bacteria	CN
1103A	Bensons Bayou	Depressed DO	CS
1103B	Bordens Gulley	Depressed DO	CS
1103C	Geisler Bayou	Depressed DO	CS
1103E	Cedar Creek	Depressed DO	CS

1108	Chocolate Bayou Above Tidal	Bacteria	CN
		Depressed DO	CS
1110	Oyster Creek Above Title	Depressed DO	CS
1113	Armand Bayou Above Tidal	Depressed DO	CS
1113A	Armand Bayou Above Tidal	Depressed DO	CS
1113B	Horsepen Bayou Tidal	Depressed DO	CN
		Nitrite	CS
1113E	Big Island Slough	Depressed DO	CS
1804A	Geronimo Creek	Nitrate	CS
1428C	Gilleland Creek	Bacteria	CN
		Nitrate	CS
		Orthophosphorus	CS
1008	Spring Creek	Depressed DO	CS
		Nitrate	CS
		Orthophosphorus	CS
		Total phosphorus	CS
1008A	Mill Creek	Depressed DO	CS
1008B	Upper Panther Branch	Nitrate	CS
		Orthophosphorus	CS
		Total phosphorus	CS
1008C	Lower Panther Branch	Depressed DO	CS
		Nitrate	CS
		Orthophosphorus	CS
		Total phosphorus	CS
1008F	Lake Woodlands	Chlorophyll-a	CS
		Orthophosphorus	CS
		Total phosphorus	CS
1008H	Willow Creek	Nitrate	CS
		Orthophosphorus	CS
		Total phosphorus	CS
1008I	Walnut Creek	Bacteria	CN
1008J	Brushy Creek	Bacteria	CN
		Depressed DO	CS
1009	Cypress Creek	Nitrate	CS
		Depressed DO	CS
		Orthophosphorus	CS
		Total phosphorus	CS
1009C	Faulkey Gully	Nitrate	CS
		Orthophosphorus	CS
		Total phosphorus	CS
1009D	Spring Gully	Nitrate	CS
		Orthophosphorus	CS
		Total phosphorus	CS
1009E	Little Cypress Creek	Nitrate	CS

		Orthophosphorus	CS
		Total phosphorus	CS
1010C	Spring Branch	Bacteria	CN
		Depressed DO	CS
1012	Lake Conroe	Chlorophyll-a	CS
		Depressed DO	CS
1013	Buffalo Bayou Tidal	Nitrate	CS
		Orthophosphorus	CS
		Total phosphorus	CS
1217B	Sulphur Creek	Depressed DO	CS
1221	Leon River Below Proctor lake	Chlorophyll-a	CS
		Depressed DO	CS
1221A	Resley Creek	Chlorophyll-a	CS
		Nitrate	CS
		Bacteria	CN
		Orthophosphorus	CS
1221D	Indian Creek	Orthophosphorus	CS
		Nitrate	CS
1205	Lake Granbury	Chlorophyll-a	CS
1901	Lower San Antonio River	Bacteria	CN
		Chlorophyll-a	CS
		Nitrate	CS
		Orthophosphorus	CS
		Total phosphorus	CS
1810	Plum Creek	Depressed DO	CS
		Nitrate	CS
		Orthophosphorus	CS
		Total phosphorus	CS
1301	San Bernard River Tidal	Chlorophyll-a	CS
1302	San Bernard River Above Tidal	Depressed DO	CS
1302A	Gum Tree Branch	Depressed DO	CS
1302B	West Bernard Creek	Depressed DO	CS
		Ammonia	CS
1245	Upper Oyster Creek	Chlorophyll-a	CS
		Depressed DO	CN
		Nitrate	CS
		Orthophosphorus	CS
1245A	Red Gully	Bacteria	CN
		Nitrate	CS
		Orthophosphorus	CS
1245E	Flewellen Creek	Bacteria	CN
1245F	Alcorn Bayou	Nitrate	CS
		Orthophosphorus	CS
1245I	Steep Bank Creek	Orthophosphorus	CS

1245J	Stafford Run	Bacteria	CN
Special Interest			
1105	Bastrop Bayou Tidal	Bacteria	WAP
1205	Lake Granbury	Bacteria	WAP
1217	Lampasas River Above Stillhouse Hollow Lake	Bacteria	WAP

Project Narrative

Problem/Need Statement

Nonpoint source (NPS) pollution threatens all watersheds in Texas, resulting in damage to natural resources and reduced recreational opportunities. To help combat this threat, federal and state water resource management agencies have adopted the Watershed Approach for managing water quality. Herein, local stakeholders are actively involved in implementing water resource management and protection programs in their watershed. Many watershed protection plans (WPP) and Total Maximum Daily Loads (TMDLs) in implementation and development call for the removal of feral hogs, (a non-native highly prolific animal) to reduce their negative effects on water quality (e.g., Lampasas River, San Bernard). Providing education to landowners about effective removal and management strategies is crucial to the success of reducing feral hog populations.

Feral hogs have become one of the greatest wildlife damage management challenges in the United States. Feral hogs have established themselves across Texas and pose a variety of challenges, including water quality degradation, agricultural damage, predation, transmittal of disease and parasites, and environmental damage to both urban and rural environments. Between 1900 and 1990, the national population size and distribution of these animals in the United States had been relatively constant, including between 500,000 to 2 million animals found in 18 to 21 states. Today, however, the National Feral Swine Mapping System program currently reports 36 states with established populations of wild pigs. Nationwide, the population is now estimated at more than 4 million animals with an estimated 2.6 million head in Texas alone, making them one of the most abundant large invasive animal species to be found in the United States.

Yearly feral hog crop damages and control costs were reported to be >\$1.5 billion across the United States, annually (Pimental, 2007). Feral hogs have caused a high level of economic, biologic, and natural resource damage as their numbers rapidly expand and their impact becomes a national threat. This non-native invasive species is a liability to Texas waterways and ecosystems. Effects of their activities impacting water resources include increased sediment loads, algae blooms, oxygen depletion, and bank erosion. In areas where high density hog populations are present or where animals spend a significant portion of their time in and near streams, they are potentially a major contributor of bacteria and nutrients, which can substantially impact water quality. In addition to water quality issues, destruction of habitat for native wildlife and the predation of wildlife is a concern keeping ecosystems intact.

Evidence of feral hog activity and damage is observed frequently in many watersheds. Their local population and range appear to be expanding, and analyses demonstrate these animals are likely a source of NPS pollution to streams. Further, financial losses to the agricultural community in Texas are estimated at \$52

million on an annual basis. Landowners spend an estimated \$7 million annually on their control and/or correction of damage. However, these values are far underestimated, as damage to suburban areas was not included in the assessment. Likewise, monetary effects of problems associated with erosion, nutrient cycling, and water quality are just now being assessed by researchers. Additionally, it is clear that feral hogs have the potential to contribute *E.coli*, some of which could be pathogenic, that further degrade water quality but more importantly contribute to current bacteria impairments in Texas streams.

Through TSSWCB project 08-07, *Implementing Agriculture Nonpoint Source Components of the Plum Creek Watershed Protection Plan*, feral hogs gained considerable attention in the planning phase, resulting in an education campaign to describe techniques used by the public for feral hog removal. A full time Extension Assistant was hired to spearhead educational efforts in Travis, Hays, and Caldwell counties. Education outlets took several forms including: 56 one-on-one technical guidance site visits; 25 face-to-face community presentations with 3,301 attendees; development of web-based reporting tools to gather information on number of feral hog sightings, hogs removed, and methods of capture; a project description tri-fold pamphlet; 10 news releases with an audience considered to be several hundred thousand people; 16 hardcopy peer-edited articles, 7 of which were translated to Spanish; over 59,000 combined internet downloads/reads of 16 peer-edited articles; 13 internet web-videos viewed over 83,000 times; 2 voice-over presentations; 2 radio interviews having a 98 county-area broadcast with the potential to be heard by 6.5 million people.

Public education and outreach regarding feral hog management measures have been successfully implemented in the Plum Creek WPP and through additional programming of the Texas A&M AgriLife Extension Service. This agency and specifically the Wildlife and Fisheries Extension Unit provides quality, relevant outreach and continuing education programs and services to the people of Texas and the demand for information related to the management of feral hogs is high among many clientele groups in Texas.

Through TSSWCB project 12-06, *Statewide Delivery of Lone Star Healthy Streams Feral Hog Component and Providing Technical Assistance on Feral Hog Management in Priority Watersheds*, feral hogs gained considerable attention in the planning phase among watersheds, resulting in an education campaign to describe techniques used by the public for feral hog removal. Two full time Extension Associates and one full time Extension Assistant were hired to spearhead educational efforts in 39 counties (Brazoria, Galveston, Guadalupe, Comal, Travis, Hood, Parker, Palo Pinto, Eastland, Erath, Jack, Grimes, Harris, Liberty, Montgomery, San Jacinto, Walker, Waller, Bell, Burnet, Coryell, Hamilton, Lampasas, Mills, Williamson, Comanche, Mills, DeWitt, Goliad, Karnes, Refugio, Victoria, Wilson, Caldwell, Hays, Austin, Colorado, Wharton, Fort Bend counties). Education outlets took several forms including: 25 one-on-one technical guidance site visits; 55 face-to-face community presentations with 3,362 attendees; development of web-based reporting tools to gather information on number of feral hog sightings, hogs removed, and methods of capture; a project description tri-fold pamphlet; 8 news releases with an audience reached considered to be several hundred thousand people; 3 new internet web-videos viewed over 14,482 times; 13 newspaper interviews; 1 television interview; 1 magazine interview; 1 magazine article; 20 blog articles viewed over 18,042 times; 1 radio interview having a 98 county-area broadcast with the potential to be heard by 6.5 million people in Texas; 1 radio interview reaching more than 408 radio and cable stations nationwide. Linkage and amplification of feral hog extension education materials created in this effort were made to the WFSC Extension web-sites, Feral Hog Community of Practice, Wild Wonderings Blog and Trinity Waters websites – two concomitant efforts of WFSC AgriLife. Resources developed here were modified to be included in the eXtension.org Feral Hog Community of Practice. Those include videos, 100 plus frequently asked questions and 50 plus articles, Ask the Expert, and 4 national webinars, having 501 attendees.

Likewise, many of these resources were extended to 4 social media outlets for TSSWCB project 10-09, Cooperative Conservation in the Trinity River Basin to increase the reach of extension education materials to a larger audience.

Social Media Sites	URLs
Wildlife and Fisheries Extension Facebook	https://www.facebook.com/wfsceextension
Feral Hog Community of Practice	http://www.extension.org/feral_hogs
Feral Hog Community of Practice Facebook	https://www.facebook.com/FeralHogCoP
Feral Hog Scoop.it!	http://www.scoop.it/t/wild-pigs-feral-hogs
Wild Wonderings Blog	http://wild-wonderings.blogspot.com/
Trinity Waters Facebook	https://www.facebook.com/TrinityWaters
Trinity Waters Twitter	https://twitter.com/trinityWaters
Trinity Waters Scoop.it!	http://www.scoop.it/t/trinity-river-basin

During this project 45 one-hour educational presentations have been delivered to 24 watersheds (the Lower Colorado River, East Fork San Jacinto, Lake Houston Area, Lower Colorado-Cummins, Lower Brazos, Buffalo-San Jacinto, San Bernard River, West Galveston Bay, West Fork- San Jacinto, Spring Watershed, Central Matagorda Bay, Lower Brazos-Little Brazos, Lower Brazos, North Galveston Bay, Lower Trinity, Austin-Oyster, Lower Trinity, Austin-Oyster, Plum Creek, Geronimo and Alligator Creeks, Austin-Travis Lakes, San Marcos, Lower San Antonio, and Concho River Watersheds. There were 2 five-hour educational presentations in Plum Creek and the Lower San Antonio River Watersheds).

Through TSSWCB project 09-06, *Development of a Synergistic, Comprehensive Statewide Lone Star Healthy Streams Program*, many of the feral hog educational resources developed for the Plum Creek Watershed have been incorporated into the Lone Star Healthy Streams (LSHS) Program. The goal of the LSHS Program is the protection of Texas waterways from bacterial contamination originating from livestock operations and feral hogs. To achieve this goal, LSHSs objective is the education of Texas farmers, ranchers, and landowners about proper grazing, feral hog management, and riparian area protection to reduce the levels of bacterial contamination in streams, rivers, and other waterbodies. The Program’s major goal is the protection of Texas waterways from bacterial contamination originating from beef cattle, dairy cattle, horses, poultry, and feral hogs. The LSHS Program has produced five resource manuals that focus on bacterial runoff management for beef cattle, dairy cattle, horses, poultry, and feral hogs.

Through enhanced education regarding riparian protection and vegetation management on grazing lands, LSHS will further protect Texas waterways from sediment, nutrient, and pesticide runoff with the concomitant loss of water and topsoil. LSHS is the state’s primary coordinated and comprehensive educational program to address NPS pollution and water quality impacts from livestock operations and feral hogs. This project will deliver the feral hog component of the LSHS Program in priority watersheds.

Table 1. Products and performance for TSSWCB Project 08-07; Plum Creek Feral Hogs and TSSWCB Project 12-06; Statewide Delivery Lone Star Healthy Streams Feral Hogs.

Outreach/Programming	TSSWCB Project 08-07; Plum Creek Feral Hogs	TSSWCB Project 12-06; Statewide Delivery Lone Star Healthy Streams Feral Hogs	Total
One-on-One Technical Guidance	56	25	81
Presentations	25	55	80
Attendees	3,301	3,362	6,663
Extension Articles	16	0	16
Popular & Internet Articles	26	15	41
Internet Videos	13	3	16
Views/downloads Videos	.	.	190,000
Internet TV	.	9,573	9,573
Views/downloads Extension Articles	.	.	59,000
News Releases	10	8	18
Radio Interviews	2	2	4
Newspaper Interviews	0	13	13
Television Interviews	0	1	1
Number of Public Reports	59	96	155
Reported Feral Hogs Removed from Landowners	693	472	1,165

From 2008-2012, the Wildlife and Fisheries Extension Unit's outreach and educational efforts (funded outside of TSSWCB) relative to feral hog damage abatement were delivered to the public by County Extension Agents at the county, multi-county, regional and state levels with the support of Extension Wildlife Specialists and Associates via direct contact (i.e., phone, e-mail, publications, one-on-one), mass media, group meetings as applied research/result demonstrations. The return on outreach education's benefit/cost ratio was 22.63:1.00 or \$22.63 return per \$1.00 invested.

Based on evaluations conducted statewide program participants reported damage in the following categories: pastures-75%; fences, water troughs or other improvements-38%; owner/employee time-40%; commodity crops-29%; loss of hunting lease value, wildlife food plots/feeders-23%; wetlands-23%; loss of land value-23%; equipment/vehicles-21%; specialty crops-16%; livestock-11%; stored commodities-5%; and personal injuries-3%.

Increases in knowledge among program participants revealed the following on specific subjects (before vs. after a program) included: feral hog biology-75%; legal control options-69%; efficient trap/bait techniques-69%; types/extent of hog damage-47%. Ninety-eight percent of respondents increased their general

knowledge of feral hogs and their control.

Program evaluations revealed the following practice adoptions by percentage: use larger traps-56%; pre-bait traps to encourage consistent feral swine visits-51%; scout for feral swine-49%; use baits with scent appeal-40%; market trapped feral swine to offset economic impacts-39%; set traps whenever fresh sign appears-37%; vary/change baits used in traps at different locations-34%; and use protective eyewear/gloves during field dressing as a disease precaution-16%.

Based on evaluations conducted during FY 2012 statewide program participants reported damage in the following categories: pastures-69%; fences, water troughs or other improvements-30%; owner/employee time-31%; commodity crops-19%; loss of hunting lease value, wildlife food plots/feeders-18%; wetlands-17%; loss of land value-19%; equipment/vehicles-16%; specialty crops-13%; livestock-9%; stored commodities-4%; and personal injuries-3%.

Increases in knowledge among program participants in FY 2012 revealed the following on specific subjects (before vs. after a program) included: feral hog biology-92%; legal control options-85%; efficient trap/bait techniques-91%; types/extent of hog damage-79%. Ninety-nine percent of respondents increased their general knowledge of feral hogs and their control.

Program evaluations from FY 2012 revealed the following practice adoptions by percentage: use larger traps-44%; pre-bait traps to encourage consistent feral swine visits-42%; scout for feral swine-42%; use baits with scent appeal-32%; market trapped feral swine to offset economic impacts-35%; set traps whenever fresh sign appears-25%; vary/change baits used in traps at different locations-22%; and use protective eyewear/gloves during field dressing as a disease precaution-17%.

Feral hog damage management is an important educational process in Texas and our past efforts show a track record of productivity and high return on the dollar invested. This project will enhance statewide implementation, in targeted watersheds with bacteria impairments and WPPs/TMDLs, of the feral hog educational program to support and enhance current and future watershed management and protection efforts by watershed partnerships, agencies and natural resource organizations in Texas.

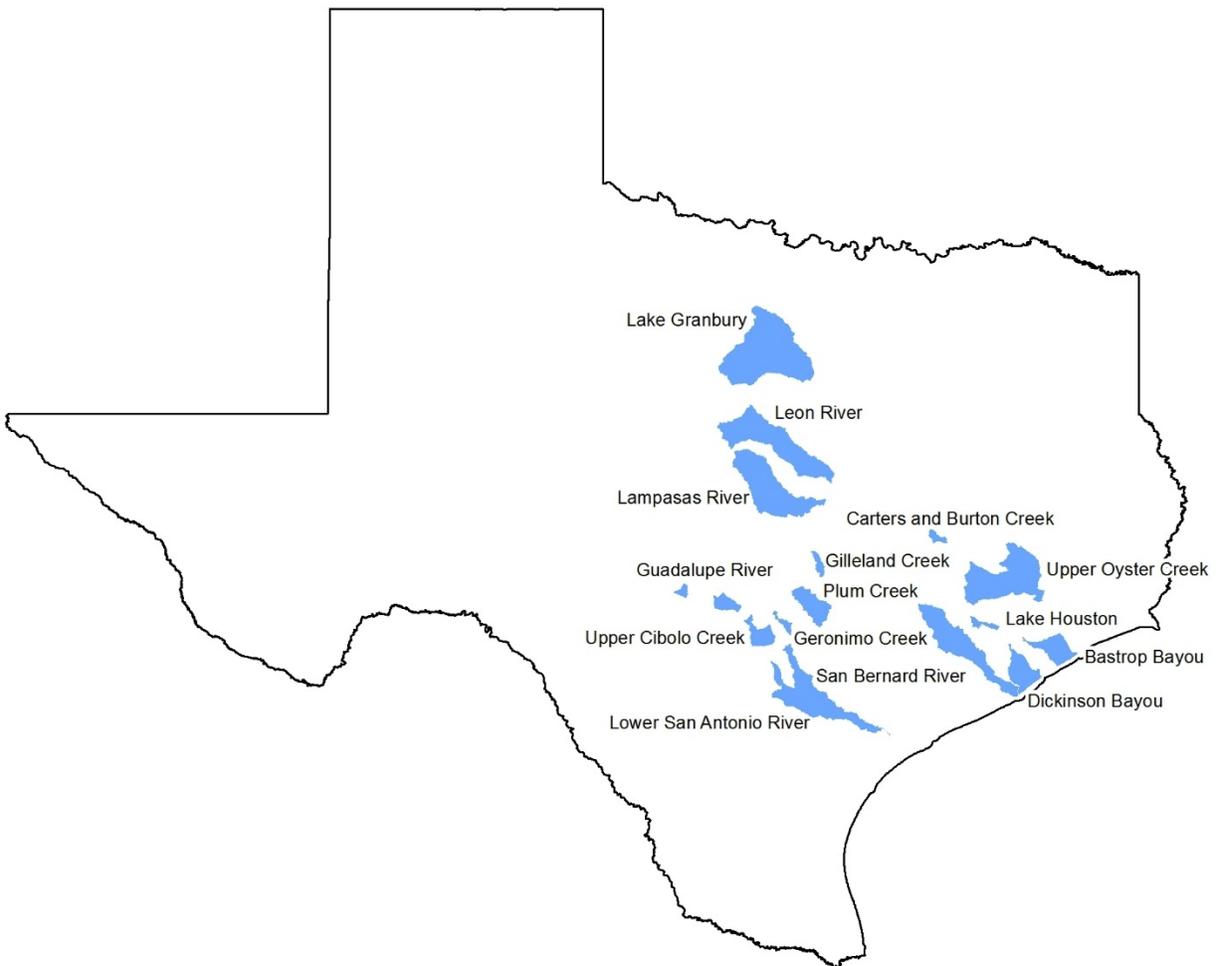
Project Narrative

General Project Description (Include Project Location Map)

This project will enhance statewide implementation of the feral hog management education program by conducting watershed-based trainings in selected watersheds initiated by TSSWCB project 12-06, *Statewide Delivery of Lone Star Healthy Streams Feral Hog Component and Providing Technical Assistance on Feral Hog Management in Priority Watersheds*. Priority watersheds will be selected in collaboration with TSSWCB and primarily represent those developing or in implementation phases of WPPs or TMDLs. Other watersheds may be selected based on need and in response to collaborations with other groups and organizations, including river authorities, SWCDs, local citizen groups/watershed associations, etc. Watersheds will be selected consistent with the State's implementation of the *Texas NPS Management Program* and specific CWA §319(h)-funded projects.

Priority watersheds selected for feral hog education trainings will be identified for water quality impairments resulting from high feral hog activity. Watershed-based feral hog education trainings will be tailored as much as possible to the watershed to convey biology, best management practices removal techniques and laws and regulations associated with managing populations of this invasive species. Priority watersheds will include, but are not limited to, Plum Creek, Leon River, Geronimo Creek, Dickinson Bayou, Gilleland Creek, Lake Granbury, Lower San Antonio River, Bastrop Bayou, Upper Oyster Creek, Lampasas River, San Bernard River, the Bacteria Implementation Group (BIG), Burton and Carter Creeks, and the Guadalupe River above Canyon Lake. Efforts can be expanded to watersheds with emerging needs (e.g. north eastern Texas).

Watershed-Based Feral Hog Educational Trainings. The watershed-based trainings will be delivered as 4-hour training events or a 1-hour presentation at county Extension programs, focusing on biology, removal techniques, laws and regulations associated with feral hog management that will help improve watershed impairments. Extension will work in concert with state organizations and County Extension Agents to select and schedule locations for the watershed-based feral hog education training events. Priority will be given to locations currently involved in WPP or TMDL processes and those planning future watershed efforts. Preliminary focal areas include: 1) Upper Cibolo Creek, Plum, Geronimo, Gilleland, Lower San Antonio River, Guadalupe River above Canyon Lake, 2) Leon, Lampasas, Granbury, and 3) Lake Houston, Dickinson, Bastrop Bayou, Upper Oyster, San Bernard, and Carters and Burton Creeks. A minimum of four, 4-hour workshops and six, 1-hour county programs will be conducted annually in selected watersheds. Continuing Education Unit credits, as approved by the Texas Department of Agriculture, will be made available to participants who hold Pesticide Applicators Licenses.



Development of AgriLife Communication News Releases. News releases will be developed with assistance from AgriLife Communications to announce educational events and schedules, new extension articles and other pertinent information.

Development of Extension Educational Publications. At least 3 new extension articles regarding feral hog management will be produced (1/yr).

Development of Extension Educational Videos. At least 6 new extension web-videos will be produced and posted on the Wildlife and Fisheries Extension Unit's YouTube channel.

Development of Extension Lone Star Healthy Streams Feral Hog Website. This new website will serve as the location for all feral hog materials (eg. publications, videos) produced. Using one website will eliminate confusion for watershed coordinators and the need for separate pages on individual watershed websites devoted to feral hog management. Additionally, this website will be the new location for the current statewide feral hog reporting system.

Connection with Extension Social Media. Educational materials will be linked via internet resources taking advantage of outlets, such as Facebook, Twitter, YouTube and others. Connectivity among websites for Extension, TSSWCB, natural resource NGOs and other state agencies is a must to gain greater impact of educational resources. When appropriate, materials developed here will be incorporated into a separate, ongoing educational Extension outlet at the national level. The Feral Hog Community of Practice hosted by eXtension.org represents a group of experts from 24 states involved in feral hog research and education outreach. This group is led by Extension WFSC and the site that houses over 100 Frequently Asked Questions, 50 Educational Articles, Webinars and a set of Ask the Expert questions.

Evaluation and Assessment. Both 4-hour and 1-hour educational programs will include an evaluation component to assess program effectiveness by assessing knowledge gained, dollars saved and plans to adopt damage abatement practices. An evaluation instrument has already been developed and is in use by Extension-WFSC. This instrument must be used to maintain the integrity of a long-term data set. Descriptive, correlative, and analysis of variance statistical procedures will be utilized in this evaluation. Results will be summarized in a project final report and shared at the local level with the County Extension Agent.

This project will support 1 Extension Associate and 1 Extension Assistant and 1 part-time Software Assistant who will collaborate with existing Extension-WFSC members to educate landowners on strategies to reduce and manage feral hog populations. These Extension employees will be under the direction of the PI in WFSC-Extension. Landowners will be encouraged to remove and report the number of feral hogs in their watershed to abate the potential for environmental damage and degradation of water quality. Additionally, 1 Professors/Extension Wildlife Specialists and 1 Extension Program Specialist will assist with the development and delivery of feral hog educational workshops in their geographic area of responsibility.

This team will be a vital contact point with the community, disseminating educational materials, promoting feral hog management strategies, and fostering communication and partnership between landowners and stakeholders in general.

Tasks, Objectives and Schedules						
Task 1	Project Administration					
Costs	Federal	\$49,492	Non-Federal	\$31,973	Total	\$81,465
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	Extension 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 January, April, July and October. QPRs shall be distributed to all Project Partners.					
	Start Date	Month 1		Completion Date	Month 36	
Subtask 1.2	Extension 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. Extension will develop lists of action items needed following each project coordination meeting and distribute to project personnel.					
	Start Date	Month 1		Completion Date	Month 36	
Subtask 1.3	Extension will perform accounting functions for project funds and will submit appropriate Reimbursement Forms to TSSWCB at least quarterly.					
	Start Date	Month 1		Completion Date	Month 36	
Subtask 1.4	Extension will develop a Final Report that summarizes activities completed and conclusions reached during the project and discuss the extent to which project goals and measures of success have been achieved.					
	Start Date	Month 1		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	Coordinate and deliver watershed-based feral hog educational trainings in selected watersheds throughout Texas					
Costs	Federal	\$345,000	Non-Federal	\$235,000	Total	\$580,000
Objective	Facilitate statewide delivery of feral hog education programs to increase understanding of the adverse impact feral hogs can have on habitats and water resources, and to provide understanding of biology, best management practices, reduction techniques and laws and regulations in abatement processes.					
Subtask 2.1	Extension will employ 1 Extension Associate and 1 Extension Assistant. One Extension Associate will serve as the field contact and be responsible for the general oversight and coordination of project activities, as well as servicing multiple watersheds in South and South East Texas, , and the Extension Assistant will service watersheds in North Central and Central Texas. As appropriate these employees will provide local landowners with on-site general technical guidance on feral hog management.					
	Start Date	Month 1		Completion Date	Month 3	

Subtask 2.2	Extension will work in concert with state, local organizations and County Extension Agents to select locations for the watershed-based feral hog education training events. Extension will coordinate efforts with state agencies and organizations already involved in WPP/TMDL processes or who are planning future WPP/TMDL processes in specific watersheds. Programming will focus on watershed areas such as 1) Plum, Geronimo, Gilleland, Lower San Antonio River, Guadalupe River above Canyon Lake, 2) Leon, Lampasas, Granbury, and 3) Lake Houston, Dickinson, San Bernard, Carters and Burton Creek.			
	Start Date	Month 1	Completion Date	Month 36
Subtask 2.3	Extension will actively market watershed-based feral hog education trainings through news releases (AgriLife Communications), internet postings, newsletter announcements, public/conference presentations, flyers, etc. TSSWCB must review and approve all project-related content in any materials prior to distribution.			
	Start Date	Month 1	Completion Date	Month 36
Subtask 2.4	Extension will deliver at least four, 4-hour and six, 1-hour feral hog education training events in selected watersheds, annually. Extension will be working closely with our colleagues conducting Lone Star Healthy Streams (LSHS) and share educational resources for delivery to constituents. Resources will be incorporated with LSHS Resource Manuals.			
	Start Date	Month 1	Completion Date	Month 36
Subtask 2.5	At least 3 new extension articles (hardcopy and electronic) and 6 new videos will be produced and made available to the public through social media outlets commonly used in extension programming.			
	Start Date	Month 1	Completion Date	Month 36
Subtask 2.6	At least 1 Extension Associate will attend and participate in prioritized meetings, as appropriate, in order to communicate project goals, activities and accomplishments to affected parties. Such meetings may include, but are not limited to, Clean Rivers Program Basin Steering Committees, the Texas Watershed Planning Short Course, Texas Watershed Coordinator Roundtables, the TSSWCB Regional Watershed Coordination Steering Committee, and the annual meeting of Texas Soil and Water Conservation District Directors.			
	Start Date	Month 1	Completion Date	Month 36
Deliverables	<ul style="list-style-type: none"> • List of specific watersheds where feral hog trainings have been implemented • Schedules, agendas, meeting materials, and attendance lists for feral hog education trainings • Press releases, newspaper articles, newsletters, public information statements, etc., as developed and disseminated • Summary of landowner management efforts in priority watersheds included in each QPR and in Final Report 			

Tasks, Objectives and Schedules						
Task 3	Initiation and creation of statewide Lone Star Healthy Streams Feral Hog Website					
Costs	Federal	\$63,518	Non-Federal	\$40,000	Total	\$103,518
Objective	To serve as a resource for watersheds statewide providing feral hog educational materials, eliminating the need for multiple watershed based websites.					
Subtask 3.1	Extension will create a statewide feral hog website that will be used to distribute educational materials to WPPs/TMDLs, eliminating the need for multiple websites in different locations. WPPs/TMDLs will have the capability of linking to this new website. Links to the WFSC Extension YouTube, eXtension.org Feral Hogs Community of Practice, and other pertinent sites will be included as identified.					
	Start Date	Month 1		Completion Date	Month 36	
Subtask 3.2	Extension will relocate, promote, and utilize the public online reporting system as developed through TSSWCB project 08-07 <i>Implementing Agricultural Nonpoint Source Components of the Plum Creek Watershed Protection Plan</i> to document sightings of feral hog activities and/or damage, and expanded for statewide use through TSSWCB project 12-06, <i>Statewide Delivery of Lone Star Healthy Streams Feral Hog Component and Providing Technical Assistance on Feral Hog Management in Priority Watersheds</i> . The new public online reporting system will be located on the new statewide website. Extension will track feral hog management activities conducted by cooperating landowners in priority areas as identified in the WPP and with guidance from the online reporting system.					
	Start Date	Month 1		Completion Date	Month 36	
Deliverables	<ul style="list-style-type: none"> • Creation of new Lone Star Healthy Streams Feral Hog Website. • Activity assessment for website included in each QPR and Final Report. • Activity assessment for online reporting system included in each QPR and in Final Report. 					

Tasks, Objectives and Schedules						
Task 4	Evaluate the effectiveness of the watershed-based feral hog education trainings.					
Costs	Federal	\$60,000	Non-Federal	\$39,000	Total	\$99,000
Objective	To measure both knowledge gained and plans for practice adoption of individuals participating in the program.					
Subtask 4.1	Extension will administer a post-test retrospective evaluation instrument to evaluate increased knowledge gained, dollars saved and plans for practice adoption by individuals within the selected watersheds to evaluate participant satisfaction with the program, and to evaluate participant's intentions to adopt abatement practices.					
	Start Date	Month 1		Completion Date	Month 36	
Subtask 4.2	Extension will analyze results obtained from evaluations using standard statistical procedures. Results will be incorporated into the Final Report and shared with County Extension Agents.					
	Start Date	Month 1		Completion Date	Month 36	
Deliverables	<ul style="list-style-type: none"> • Post-test retrospective evaluations for feral hog educational trainings. • Results from evaluations included in the final report. 					

Tasks, Objectives and Schedules						
Task 5	Distribute and manage extension education social media					
Costs	Federal	\$40,000	Non-Federal	\$31,000	Total	\$71,000
Objective	To use social media and web-based outlets to convey feral hog management information to clientele.					
Subtask 5.1	Extension will use web-sites like Wild Wonderings Blog, WFSC Extension YouTube, Feral Hogs CoP Facebook, Trinity Waters, Lone Star Healthy Streams and others to distribute promotional material, news releases, videos, and extension articles. Extension social media outlets are assessed with Google Analytics or similar features. Extension will report metrics such as the number of unique visitors, page views, video views, and reads that indicate use by clientele.					
	Start Date	Month 1		Completion Date	Month 36	
Subtask 5.2	Extension will incorporate new materials into the eXtension.org Feral Hogs Community of Practice in these ways: 1) FAQs, 2) articles, 3) Ask the Expert questions answered, and 4) Webinars. The number of each item added to the community of practice will be reported.					
	Start Date	Month 1		Completion Date	Month 36	
Deliverables	<ul style="list-style-type: none"> Names, URLs and supporting web-metrics showing reach and amplifications of feral hog educational materials A list of FAQ, articles, and Ask the Expert questions delivered through eXtension.org Feral Hog Community of Practice 					

Project Goals (Expand from Summary Page)

- Facilitate statewide feral hog damage management education through watershed-based group trainings. Increase stakeholder involvement in abatement of feral hogs and their damage to aid WPP and/or TMDL implementation or development processes by educating local citizens.
- Promote healthy watersheds by increasing citizen awareness, understanding, and knowledge about the potential impairments caused by non-native invasive feral hogs and the abatement practices to reduce their numbers that should minimize NPS pollution.
- Enhance watershed education across the State as it relates to the reduction of feral hog damage in Texas. Enhance learning opportunities for watershed education across the state and establish a larger, more well-informed citizen base.
- Empower individuals and communities to find creative solutions to improve watershed health by properly managing populations of the non-native invasive feral hog.

Measures of Success (Expand from Summary Page)

- Deliver a minimum of 10 watershed-based feral hog education trainings annually in selected watersheds (Four 4-hour and six 1-hour programs per year)
- Numbers of citizens participating in watershed-based feral hog education trainings
- Increased knowledge gained and plans to adopt abatement practices by individuals participating in the program, as measured by post-test retrospective evaluations
- Creation of new Extension Lone Star Healthy Streams Feral Hog website
- Utilize social media outlets to convey feral hog education materials and events

2012 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
 LTG: To protect and restore water quality from NPS pollution through assessment, implementation and education

1. Focus NPS abatement efforts ...and available resources in watersheds identified as impacted by NPS pollution.
2. Support the implementation of state, regional, and local programs to prevent NPS pollution through assessment ...and education.
3. Develop partnerships, [and] relationships ...to facilitate collective, cooperative approaches to manage NPS pollution.
4. Increase overall public awareness of NPS issues and prevention activities.

STG 3– Education: Conduct education and technology transfer activities to help increase awareness of NPS pollution and prevention activities contributing to the degradation of waterbodies... by NPS.

- 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 F – Implement public outreach and education to maintain and restore water quality in water bodies impacted by NPS pollution.

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

Component 3 – Balanced approach that emphasizes both statewide NPS programs and on-the-ground management of individual watersheds

EPA State Categorical Program Grants – Workplan Essential Elements

FY 2011-2015 EPA Strategic Plan Reference

Strategic Plan Goal – Goal 2 Protecting America’s Waters

Strategic Plan Objective – Objective 2.2 Protect and Restore Watersheds and Aquatic Ecosystems

Part III – Financial Information

Budget Summary				
Federal	\$	558,010	% of total project	60%
Non-Federal	\$	376,973	% of total project	40%
Total	\$	934,983	Total	100%
Category		Federal	Non-Federal	Total
Personnel	\$	287,357	\$ 205,213	\$ 492,570
Fringe Benefits	\$	105,116	\$ 51,612	\$ 156,728
Travel	\$	44,961	\$ 0	\$ 44,961
Equipment	\$	0	\$ 0	\$ 0
Supplies	\$	16,022	\$ 0	\$ 16,022
Contractual	\$	0	\$ 0	\$ 0
Construction	\$	0	\$ 0	\$ 0
Other	\$	31,770	\$ 0	\$ 31,770
Total Direct Costs	\$	485,226	\$ 256,825	\$ 742,051
Indirect Costs (≤ 15%)	\$	72,784		\$ 72,784
Indirect Costs (26%)	\$	0	\$ 66,774	\$ 66,774
Unrecovered	\$	0	\$ 53,374	\$ 53,374
Total Project Costs	\$	558,010	\$ 376,973	\$ 934,983

Budget Justification (Federal)		
Category	Total Amount	Justification
Personnel	\$ 287,357	Extension Wildlife Specialist – James Cathey: \$16,389 (7.5% for yrs 1-2) Extension Associate – Mark Tyson: \$123,636 (100% for 3 yrs) Extension Assistant – Dan Gaskins: \$111,332 (100% for 3 yrs) Part-Time Software Assistant: \$36,000 (50% for 3 yrs)
Fringe Benefits	\$ 105,116	Fringe benefits for Faculty/Staff are calculated at a rate 17.7% of salary to cover FICA, UCI, WCI, and retirement. An additional amount of \$591/mo/FTE is calculated for group health Insurance.
Travel	\$ 44,961	30 Watershed based Feral Hog Trainings: \$31,916.10 (\$1,063.87 per Training; Per Diem: \$280; Lodging: \$340; Mileage: \$443.87) 12 Site Visits: \$11,886.60 (\$990.55 per Site Visit; Lodging: \$340; Per diem: \$280; Mileage: \$370.55) Wildlife Society Annual Meeting: \$1,158.30 (Lodging: \$744; Mileage: \$212.15; Per diem: \$202.15) (Estimated actual cost for up to 3 people, up to 4 nights in a state rate hotel with hotel taxes and per diem rates per person per travel destination)
Supplies	\$ 16,022	Office supplies: \$1,000; Toner cartridges: \$1,800; Paper: \$376; Name tags: \$200; Plastic bins: \$200; DVD's: \$300; Flash drives: \$400; Certificates: \$450; Video equipment: 2 Video Cameras: \$2,000; 2 Microphones: \$300; 2 Batteries for Cameras: \$200; 1 Computer for Video Production: \$2,950; Software: \$500; Program Supplies: \$5,346 (ie. publication handouts, scroll banner, flyers, pencils, pens, etc.)
Contractual*	\$ 0	N/A
Construction	\$ 0	N/A
Other	\$ 31,770	Facility Rentals: \$8,500 Advertising and Postage: \$1,000 Design, Editing and Printing for at least 3 Extension Publications: \$21,750 (\$150/hr. (copy and design) X 10 hrs. = \$1,500; (\$4.50 X 1,500 copies= \$6,750 X 3 = \$20,250)) Conference to Wildlife Society Annual Meeting-Registration \$520
Indirect	\$ 72,784	15% of total federal direct costs

Budget Justification (Non-Federal)		
Category	Total Amount	Justification
Personnel	\$ 205,213	Extension Wildlife Specialist – James Cathey: \$92,020 (42.11% for yrs 1-2) Extension Wildlife Specialist – Billy Higginbotham: \$52,301 (21.7% for yrs 1-2) Program Specialist III – Kenneth Cearley: \$60,892 (44% for yrs 1-2)
Fringe Benefits	\$ 51,612	Fringe benefits for Faculty/Staff are calculated at a rate 17.7% of salary to cover FICA, UCI, WCI, and retirement. An additional amount of \$591/mo/FTE is calculated for group health Insurance.
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	\$ 66,774	26% of Modified Total Direct Costs
Indirect Unrecovered	\$ 53,374	11% Unrecovered