Continued Coordinating Implementation of the Leon River Watershed Protection Plan

Texas Water Resources Institute TR-499
March 2017

Texas Water Resources Institute
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TEXAS A&M IRNR
Institute of Renewable Natural Resources

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Continued Coordinating Implementation of the Leon River Watershed Protection Plan

STATE NONPOINT SOURCE GRANT PROGRAM

TSSWCB PROJECT 14-04

Prepared for:

TEXAS STATE SOIL AND WATER CONSERVATION BOARD

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MARCH 2017

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Funding provided through a Clean Water Act Section 319(h) Nonpoint Source Grant from the Texas State Soil & Water Board and the U. S. Environmental Protection Agency

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Acronyms

BMP – Best Management Practice
BRA – Brazos River Authority
USEPA – United States Environmental Protection Agency
IRNR – Institute of Renewable Natural Resources
LSHS – Lone Star Healthy Streams
NRCS – Natural Resources Conservation Service
OSSF – On-Site Sewage Facility
QPR – Quarterly Progress Report
SWCD – Soil & Water Conservation District
TCEQ – Texas Commission on Environmental Quality
TSSWCB – Texas State Soil & Water Conservation Board
TWON – Texas Well Owner's Network
TWRI – Texas Water Research Institute
TMDL – Total Maximum Daily Load
WQMP – Water Quality Management Plan
WC – Watershed Coordinator
WPP – Watershed Protection Plan
WSC – Watershed Steering Committee

Executive Summary

A watershed protection plan (WPP) for the Leon River below Proctor Lake and above Belton Lake was developed with funding from the Teas State Soil and Water Conservation Board (TSSWCB) and the United States Environmental Protection Agency (USEPA). The WPP received final acceptance from the EPA in 2015. A full-time watershed coordinator position was considered critical in initiating and carrying out the implementation process by the watershed steering committee. The watershed coordinator has provided technical assistance to stakeholders, acquired additional funding for implementation strategies, coordinated outreach and education efforts, and assessed the most up to date water quality data to identify if implementation efforts have been successful. Over the last two years the watershed coordinator has acquired $137,500 in grant funds and submitted proposals for an additional $723,174 that could be awarded in the next few months directly related to implementation efforts of the Leon River WPP. Education and Outreach efforts over the last two years included 24 workshops, field days, and presentations that reached more than 1,500 individuals. Implementation efforts have proven successful with four stream segments, including the South Leon, being delisted in the latest integrated report published by the Texas Commission on Environmental Quality (TCEQ).

Introduction

Project Background

Segment 1221 of the Leon River (Figure 1) is bound by Proctor Lake upstream and Belton Lake downstream. It is roughly 190 miles long and its watershed covers approximately 1,375 square miles including portions of Comanche, Bell, Erath, Hamilton, Coryell, and Mills Counties. The watershed is located in the Brazos River Basin and is a predominantly rural, agricultural watershed dominated by rangeland with some cropland. Forests cover a sizable portion of the watershed and significant dairy production exists in the northern portion of the watershed.

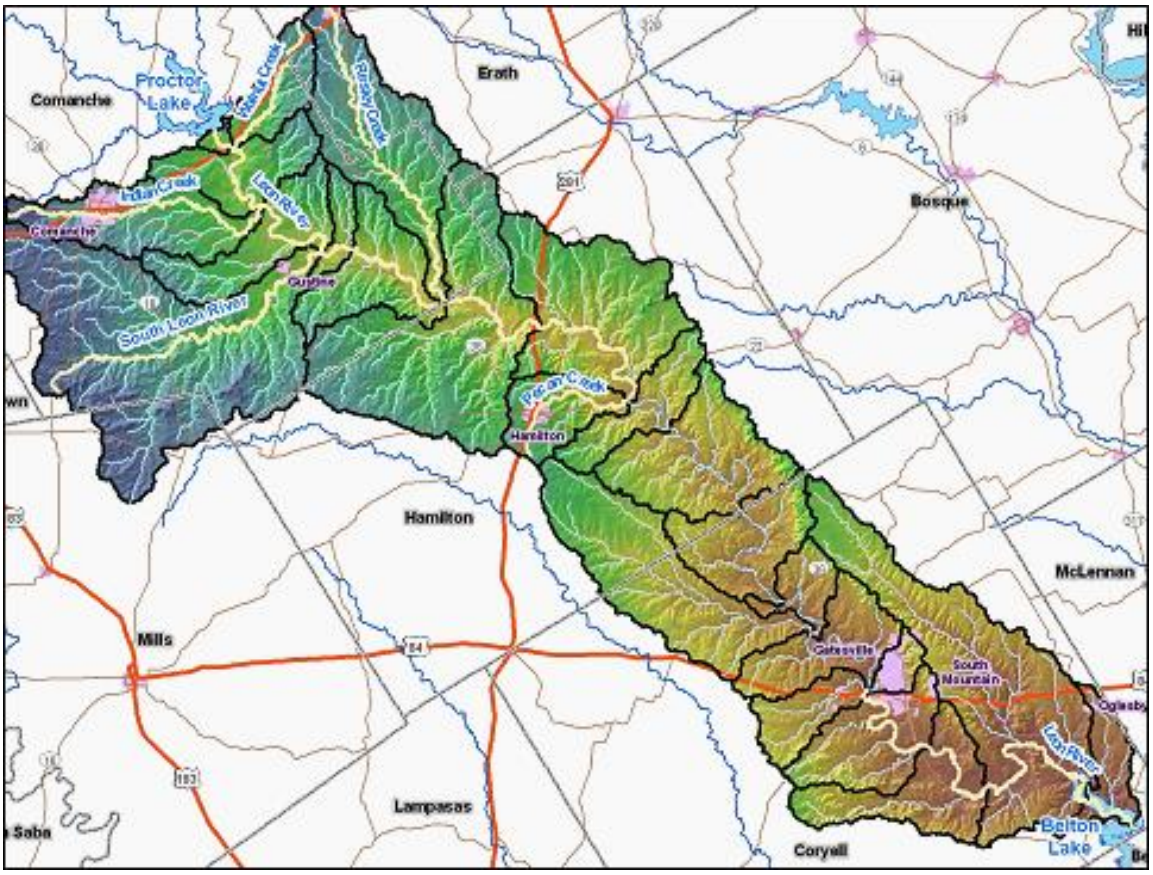

Figure 1. Map showing watershed and sub watershed boundaries associated with Segment 1221.

In 1996, Segment 1221 was placed on the Texas *303(d) List* of impaired waters for bacteria levels "Not Supporting Contact Recreation Use." The 2008 *303(d) List* identified all but two of the segment's assessment units as impaired or having a concern for near non-attainment resulting from elevated *E. coli* levels. Additionally, five tributaries of the Leon River have been listed as impaired for bacteria (1221A – Resley Creek, 1221B – South Leon River, 1221C – Pecan Creek,

1221D – Indian Creek, and 1221F – Walnut Creek); however, 1221C – Pecan Creek was delisted on the 2010 Integrated Report as it now meets the water quality standard for bacteria. Placement of the Leon River on the §303(d) List caused the Texas Commission on Environmental Quality (TCEQ) to initiate development of a total maximum daily load (TMDL). A draft TMDL was published by TCEQ in 2008 that indicated a 21% bacteria load reduction would be needed to restore water quality in the Leon River. Sources of bacteria identified in the Leon River watershed included as wastewater treatment facility discharges, storm water runoff, failing on-site sewage facilities (OSSFs), wildlife and feral animals, as well as fecal deposition from livestock and pets.

In the midst of the TMDL development process, stakeholders sought to initiate the development of a voluntary watershed protection plan (WPP) for the Leon River. Through Texas State Soil and Water Board (TSSWCB) project 06-12, *Leon River Watershed Protection Plan Project*, the WPP for the Leon River below Proctor Lake and Above Belton Lake was completed in fall 2011. Similar to the draft TMDL, sources of bacteria identified in the Leon River WPP include wastewater treatment facilities, sanitary sewer overflows, direct deposition from feral hogs, deer, and dead animals, and storm water runoff from forestland, rangeland, cropland, residential commercial and industrial areas, and dairy waste application fields. The final WPP identified needed implementation measures and milestones, estimated financial costs for individual management measures and outreach and education activities, responsible parties, and load reductions expected from full implementation of all management measures.

Measures implemented to control bacteria from agricultural nonpoint sources include providing: 1) technical assistance to agricultural producers for development and implementation of Water Quality Management Plans (WQMPs) reducing bacteria loading from livestock operations; 2) financial incentives to agricultural producers for implementing best management practices prescribed in the WQMPs which will achieve bacteria load reductions; and 3) allocating Environmental Quality Incentives Program funds by the USDA Natural Resources Conservation Service (NRCS). Funding for development and implementation of WQMPs (1 and 2 above) was provided during FY2009-2013 through the NRCS Agricultural Water Enhancement Program project entitled *Water Quality Improvement Project for the Leon River*.

Management measures implemented to reduce impacts from invasive species in the watershed include aerial control of feral hogs in Coryell County using County funds. TSSWCB has also funded a feral hog extension position that conducts feral hog education programs in priority watersheds including the Leon River watershed.

Measures implemented to address bacteria loading from wastewater include: 1) wastewater treatment facility improvements by the cities of Comanche and Hamilton, as well as the Upper Leon River Municipal Water District; 2) identification and inspection of on-site sewage facilities

(OSSFs) in Hamilton County; and 3) provision of technical and financial assistance to homeowners for the repair, replacement, or removal of OSSFs in Hamilton County. Funding for OSSF inspection and technical and financial assistance (2 and 3 above) has been provided through Clean Water Act Section 319 (h) funs through the TSSWCB and TCEQ projects in Hamilton and Coryell counties.

The Brazos River Authority (BRA) served as the watershed coordinator (WC) through the development of the WPP. Since June 2013, the Texas Water Resources Institute (TWRI) and Texas A&M Institute of Renewable Natural Resources (IRNR) has served as watershed coordinator via subcontract with the Central Texas Council of Governments and now direct contract with the TSSWCB. The WPP identifies the need for a full-time watershed coordinator position stating, "Establishing a full-time watershed coordinator position is considered a critical building block of the infrastructure needed by the watershed stakeholders to accelerate implementation of management strategies identified in the WPP." This position provides technical assistance to the Watershed Steering Committee (WSC) and stakeholders, promotes water quality improvements and implementation, seeks funding for implementation of the WPP, coordinates outreach and education efforts, assesses water quality data in relation to achieving load reductions, and evaluates progress toward achieving milestones established in the WPP.

Through a local presence in watershed, the watershed coordinator serves as the primary conduit for interaction with landowners, citizens, and entities to facilitate the implementation of the WPP. The watershed coordinator coordinates meetings with the Leon River WSC and stakeholders, to update them, seek their input and recommendations on needed activities, and continue to support and facilitate implementation efforts of the plan. The watershed coordinator assists cities, counties, local boards and businesses with acquiring resources to enable WPP implementation. The watershed coordinator works with state and federal agencies, as needed, to bring technical and financial assistance to the watershed.

As part of an adaptive management approach embraced by stakeholders, the watershed coordinator evaluates progress toward achieving milestones established in the WPP and assesses water quality data in relation to achieving load reductions.

Coordination of outreach and education efforts by the watershed coordinator facilitates and supports participation by private individuals and local officials in the implementation of the Leon River WPP. The watershed coordinator develops publications, such as semi-annual newsletters, factsheets, and website content to promote and communicate watershed efforts. Additionally, the watershed coordinator coordinates and conducts educational outreach efforts across the watershed by organizing training programs such as Lone Star Healthy Streams (feral hog, grazing cattle, horse, and dairy cattle components), Riparian Workshops for Landowners, and Texas Watershed Stewards workshop.

Project Goals

1) Facilitate the continued implementation of the Leon River WPP and foster coordinated assistance activities between the cities, counties, TSSWCB, local SWCDs, NRCS, and members of the Leon River WSC by providing a local presence in the Leon River watershed.

2) Conduct Leon River WSC meetings to provide updates on progress, seek stakeholder input and recommendations on needed activities, and encourage citizen participation.

3) Support and facilitate the Leon River WSC in developing proposals to acquire funding for implementation of management measures, managing and tracking implementation projects, and facilitating education programs to encourage best management practice (BMP) adoption.

4) Work with state and federal agencies, as appropriate, to bring technical and financial resources to the Leon River watershed.

5) Track and document implementation efforts to assess progress toward achieving milestones established in the WPP.

6) Coordinate and conduct water resources and related environmental outreach/education efforts across the watershed, by developing publications and website content to promote and communicate watershed efforts, organizing training programs, and participating in local community clean up events.

Tasks & Accomplishments

Task 1 – Project Administration

The Leon River WC prepared electronic quarterly progress reports (QPR) and hosted various meetings and conference calls throughout the project. Project meetings discussed project activities, project schedule, communication needs, deliverables, and other issues.

Task 2 – Support and Facilitation of WPP Implementation

The Leon River WC worked continuously with local SWCDs, NRCS offices, County Commissioners, Extension Agents, Texas Parks and Wildlife Biologists, and many others to facilitate the implementation of the Leon River WPP. The WC regularly attended SWCD and Commissioner Court meetings to give updates on the Leon River WPP. The Leon River WC also hosted Leon Watershed Stakeholder meetings in Hamilton to give an updates on the status of the accepted Leon River WPP.

Acquisition of Financial and Technical Resources

The WC worked with various governmental and non-governmental organizations in the Leon River watershed to identify and acquire financial and technical resources for WPP implementation as follows:

- 2015 TDA CHOMP Grant – WC assisted Coryell County in writing the grant to assist with feral hog abatement efforts. Coryell County was awarded $20,000. These funds were used to purchase traps and supplies including a Boar Buster.
- The WC worked with Coryell County to implement an OSSF grant program funded by TCEQ to replace failing septic systems. The $100,000 grant allowed IRNR and Coryell County to identify high priority areas with potential failing systems, conduct educational septic system programs, and replace 5 failing systems.
- The WC assisted the Hamilton-Coryell SWCD with the writing and implementation of a technical assistance grant through the TSSWCB. This grant allowed the SWCD to hire a full time technician to develop WQMPs throughout the Leon River watershed.
- 2016 TDA CHOMP Grant – WC assisted Coryell County in writing the grant to continue feral hog abatement efforts. Coryell County was awarded $17,500 allowing additional traps and smart gates to be purchased and distributed to landowners in the county.
- The WC was successful in securing a short-term grant through the TSSWCB to extend the Leon River WC position through September 2017.
- The WC wrote and submitted a proposal to TSSWCB to extend the Leon WC position for another 3 years. If funded, the WC will be supported through September 2020.

- The WC wrote and submitted a proposal to TSSWCB to extend the current WQMP Watershed Technician position for the Hamilton-Coryell SWCD. If funded, it will support a technician for an additional 3 years and provide funding to implement WQMPs within the watershed.

Website, Newsletters, & Social Media

IRNR constructed and launched the watershed website (http://leonriver.tamu.edu) on June 6, 2013. The website serves as a public clearinghouse for project- and watershed-related information. Meeting announcements, agendas, presentations, documents, and results are posted to this website along with press releases, newsletters, and links to social media outlets and YouTube channel.

The Leon River Watershed also has an active Facebook page with 86 "Likes" and Twitter account with 114 followers. Water news, as well as education and outreach opportunities throughout the state, are highlighted through these social media platforms. Much of the water news shared with stakeholders can also be found on the Leon Watershed Scoop It page. Scoop It allows for archiving of news relevant to a few key words….in this case housing news relevant to surface water quality in Texas, particularly central-Texas.

Finally, an electronic newsletter is distributed bi-monthly, highlighting water news and workshops in Texas, as well as any policy relevant to water quality and/or quantity.

Trainings and Professional Development

Texas Watershed Coordinator Roundtables are held biannually to provide a forum for establishing and maintaining dialogue between watershed coordinators, facilitate interactive solutions to common watershed issues faced throughout the state, and add to the fundamental knowledge conveyed at the short courses. The WC attended each of the last four roundtable meetings in Temple, Dallas, and College Station.

The *James G. Teer Conservation Leadership Institute's* mission is to ensure a future legacy of well-trained conservation leaders by providing professional training in leadership skills and contemporary conservation issues for today's wildlife biologists and conservation professionals. The Leon WC was one of ten young professionals chosen to participate in the second cohort. The cohort's primary project was identifying alternative funding for wildlife and natural resources at the state and federal levels. Many of the lessons learned from the project and leadership institute will be valuable in assisting with the implementation of the Leon River WPP.

Task 3 – Outreach, Education, and Community Support

Lone Star Healthy Streams

The goal of the Lone Star Healthy Streams (LSHS) program is the protection of Texas waterways from bacteria from livestock operations and feral hogs. To achieve this important goal, the program's objective is the education of Texas landowners about proper grazing, feral hog management, and riparian area protection to reduce the levels of bacteria in streams and rivers. The framework for the LSHS program is five resource manuals that focus on bacterial runoff management for beef cattle, dairy cattle, horses, poultry, and feral hogs. As part of this educational program, both conventional and novel BMPs are discussed to provide important information on BMP effectiveness relative to implementation costs and load reductions. Through enhanced education on riparian protection and vegetation management on grazing lands, LSHS works to protect Texas waterways from sediment, nutrient, and bacteria runoff with the concomitant loss of water and topsoil. LSHS workshops delivered in the watershed include:

- Feral Hogs – May 21, 2015 in Hamilton, Texas.
- Feral Hogs – November 19, 2015 in Mound, Texas. 60 attendees.
- Feral Hogs – November 15, 2016 in Hamilton, Texas. 12 attendees.
- Grazing Cattle – November 15, 2016 in Hamilton, Texas. 12 attendees.
- Horses – November 15, 2016 in Hamilton, Texas. 12 attendees.

Riparian Area Management Workshops for landowners and land managers

A free riparian workshop was held in Hamilton, Texas on March 12, 2015. Presentations focused on how streams function and the role of riparian vegetation in stream-system function and included speakers from TWRI, Texas A&M AgriLife Extension Service (AgriLife Extension), Texas Parks and Wildlife Department, and NRCS. Updates on the implementation of the Leon River WPP and feral hog abatement strategies in Coryell County were also discussed along with feral hog biology and abatement and NRCS landowner incentive programs. The riparian workshop was delivered by TWRI and made possible by a Clean Water Act section 319 (h) grant provided by TSSWCB and U.S. Environmental Protection Agency (EPA). There were 40 attendees at this event representing both landowners and agency personnel.

Texas Watershed Stewards

A Texas Watershed Steward (TWS) program was held in Dublin, Texas. There were 42 attendees, including many dairy operators because Dairy Outreach Program Area (DOPA) credits were offered. The TWS program is a statewide one-day educational program designed to improve the quality of Texas' water resources by educating and informing local stakeholders about their watershed, potential impairments, and steps that can be taken to help improve and protect water quality in their watershed. The program is sponsored by AgriLife Extension and TSSWCB and made possible through a Clean Water Act §319(h) grant from the TSSWCB and the EPA.

The goals of the TWS program include:

1. *Promoting healthy watersheds by increasing citizen awareness, understanding, and knowledge about the nature and function of watersheds, potential impairments, and watershed protection strategies to minimize nonpoint source pollution*
2. *Enhancing interactive learning opportunities for watershed education across Texas and establish a larger, more well-informed citizen base*
3. *Empowering individuals to take leadership roles involving community and watershed-level water resource issues*
4. *Facilitating local efforts and activities to implement practices to improve water quality*
5. *Increasing stakeholder involvement in watershed protection and management efforts including development and implementation of Watershed Protection Plans (WPPs) and Total Maximum Daily Loads (TMDLs) by educating and organizing local citizens.*

Texas Well Owner Network

A Texas Well Owner Network (TWON) training was held in Gatesville on March 30, 2016. There were approximately 50 participants in the workshop. TWON trains Texans, who depending on private wells for their drinking water, on water quality and BMPs for protecting their wells and surface waters thus helping avert off-site transport of contaminants to surface waters, prevent contamination of underlying aquifers, and safeguard the health of landowners and their families. It is offered by AgriLife Extension in cooperation with the TSSWCB and other partner agencies and organizations. TWON delivers a science-based, community-responsive education curriculum focused on protecting ground water quality, aquifer integrity, and complements the TWS program by emphasizing BMPs. AgriLife Extension offers voluntary private water well screening events in conjunction with TWON trainings. As a result, participants have a better understanding of the relationships between practices in or near wells and the quality of water available for drinking and irrigation.

Rain Water Harvesting & Small Acreage Landowner Workshop

AgriLife Extension and IRNR hosted a workshop for 37 area residents interested in land and water stewardship in the Leon River watershed on May 26, 2016. The workshop was held in Jonesboro and residents from Coryell, Hamilton, and surrounding counties were invited to participate. Two hours of General Continuing Education Units (CEU's) were offered for completion of the workshop. The workshop included presentations on rainwater harvesting, pond management, wildlife management, feral hog abatement strategies, and the use of new technology such as drones and smart phone apps in agriculture and natural resources.

OSSF Workshops for Homeowners

Several OSSF workshops were held in Hamilton and Coryell Counties over the past 2 years, including on April 28, 2015, July 24, 2015, and November 9, 2016. This course provides a basic understanding of the operation and maintenance of conventional OSSFs and explains how

activities in the home impact OSSFs. Presentations cover treatment processes, health and safety considerations, and how to inspect and maintain OSSFs. The course also provides answers to frequently asked questions on septic systems including when to pump out a tank and what can or cannot go down the drain.

Other Workshops and Educational Opportunities

Numerous other workshops and educational programs were supported by the WC including:

- South 40 Expo – Waco, Texas, March 28 and 29, 2015. The WC setup a Leon River booth and gave two short seminar presentations on Texas Land Trends and the potential impacts of land conversion on water quality and wildlife.
- Healthy Soils Field Day – Coryell County, May 29, 2015. A presentation on *The Five Principles of Soil Health, Soil Health and Water Quality* and a rainfall simulator demonstration were provided.
- Wildlife Field Day – Lampasas County, June 23, 2015. Presentations covered topics such as riparian areas, water quality, and wildlife management techniques.
- Private Land Stewardship Workshop – Brown County, September 25, 2015. Participants, including county tax appraisers from Comanche County, learned about BMPs that benefit the landscape in general and water quality.
- Kids Cows and More – Coryell County. Local Ag day for 5th graders at Gatesville and Copperas Cove. Spoke to more than 700 students.
- Southwest Dairy Workshop – Dublin, Texas, October 22, 2015. Leon River Watershed Booth.
- Mock Stakeholders Session – University of Texas School of Public Policy in Austin, Texas. Session focused on the initial drafting of the original Leon River WPP.
- Texas Wildlife Association Webinar – December 17, 2015. Managing lands for both game and non-game wildlife.
- Last Chance for CEU Training – Coryell County, February 12, 2016. WC gave a presentation titled “Using Leopold’s 5 Tools to Manage Pests”.
- Feral Hog Workshop – Burnet, Texas, February 24, 2016. WC delivered a presentation on the *Loss of Working Lands and the Rise of Feral Hogs in Texas* to over 30 attendees.
- Coryell County Range Camp – July 14, 2016. WC worked with students on plant identification skills and range evaluation.
- Wildlife Conservation Camp – July 18-20, 2016. Topics included history and description of riparian areas, game bird management, using grazing exclusions to monitor range health, and introduction to radio telemetry.
- Rural Appraiser and Farm Manager Field Day – Coryell County, October 21, 2016. The WC provided information about the field day site and discussed BMPs on upland sites to improve water quality.
- Career Day – Gatesville, Texas, November 18, 2016. Delivered a presentation on Careers in Natural Resources to 6th grade students.

Future Leon River Watershed Activities

The Leon River WC will continue to reach out to affected parties and engage the public in the implementation process. The WC will continue to attend SWCD meetings regularly, coordinate and market OSSF cost share programs, obtain external funding to support watershed activities, maintain website and social media platforms, and generally support all Leon River watershed implementation efforts by holding a variety of outreach and education events throughout the watershed.

The WC will continue to maintain and expand a database of watershed stakeholders and affected parties for use in engaging the public in the watershed planning process.

The WC will develop, publish, and distribute semi-annual e-newsletters designed to keep landowners and entities informed of ongoing WPP implementation activities, including water quality data collection and progress toward achieving milestones in the WPP. The newsletter will continue to be distributed, as most appropriate, to individual landowners and entities in the watershed.

Appendices

Leon River Watershed Workshop Agendas, Press Releases, & Flyers

Leon River Watershed Public Meeting

AGENDA

November 10, 2015

6:00-8:00 P.M.

Lee Conference Center: Hamilton, TX

- Adjournment
- Welcome and Introduction
  - Mike Marshall
- A Brief History of the Leon WPP effort
- Commissioner Dickie Clary
- Watershed Coordinator Update
  - Mike Marshall
- District Water Technician
  - Boone Herring
- Feral Hog Outreach and Technical Assistance
  - Josh Helcel
- Question and Answers
  - Speaker panel
- Adjournment

Texas A&M AgriLife Extension Service
Hamilton County
P.O. Box 472
Hamilton, TX 76531
(254) 386-3919

Feral Hog Management Workshop

May 21st, 2015

Pre-registration: Required

Cost: None*

3 Hours TDA CEU's for Commercial, Non-Commercial & Private Applicators

(3 hours General)

7:45 a.m.	Registration
8:00 a.m.	Welcome and Introductions – Bruce Boyd, Hamilton County Extension Agent
8:15 a.m.	Land Change and Feral Hogs: Implications for Water Quality – Mike Marshall, Leon River Watershed Coordinator
8:45 a.m.	Basic Biology of Feral Hogs and Feral Hog Damage in Watersheds – Josh Helcel, Wildlife Extension Associate
10:00 a.m.	Feral Hog Safety and Disease Concerns – Dr. Pete Fincher, D.V.M.
11:00 a.m.	Feral Hog Control Options – Adam Henry, Wildlife Services - APHIS
12:00 p.m.	(Lunch)
1:00 p.m.	Feral Hog Trap Demonstration – Josh Helcel, Wildlife Extension Associate
1:30 p.m.	Evaluation
2:00 p.m.	Adjourn

Please **PRE-REGISTER** by 5:00 PM on Friday, May 15th with the Hamilton County Extension Office at P.O. Box 472 Hamilton, TX 76531 or call (254) 386-3919 to ensure an accurate count for the handouts. Individuals with disabilities are encouraged to contact the Extension office two days prior to the event so accommodations can be made.

***This event provided at no cost through a Clean Water Act §319(h) non-point source grant from the Texas State Soil and Water Conservation Board and the U.S. Environmental Protection Agency**

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LONE STAR HEALTHY STREAMS: LEON RIVER

AGENDA

TUESDAY – NOVEMBER 15TH, 2016

101 E HENRY STREET

HAMILTON COUNTY EXTENSION CONFERENCE ROOM

HAMILTON, TX 76531

9:30 a.m. – 10:00 a.m.	*Sign-In/Registration*
10:00 a.m. – 10:50 a.m.	*Lone Star Healthy Streams* What is a Watershed?
10:50 a.m. - 11:00 a.m.	*BREAK*
11:00 a.m. – 11:50 a.m.	*Best Management Practices to Reduce Bacteria Contamination from Beef Cattle*
11:50 a.m. – noon	*Questions*
Noon – 12:45 p.m.	*LUNCH BREAK, Lunch Provided*
12:45 p.m. – 1:30 p.m.	*Best Management Practices to Reduce Bacteria Contamination from Horses*
1:30 p.m. – 2:30 p.m.	*Best Management Practices to Reduce Bacteria Contamination from Wild Pig*
2:30 p.m. – 2:45 p.m.	*Questions/Discussion*
2:45 p.m. – 3:00 p.m.	*Evaluations*

Speakers: Dr. Dennis Sigler: Extension Horse Specialist, Texas A&M AgriLife Extension Service

Dr. John Tomecek: Extension Wildlife Specialist, Texas A&M AgriLife Extension Service

Matt Brown: Extension Program Specialist, Texas A&M AgriLife Extension Service

The Lone Star Healthy Streams program is funded through a Clean Water Act Section 319(h) grant from the Texas State Soil and Water Conservation Board and the EPA

Lone Star Healthy Streams workshop set Nov. 15 in Hamilton.

Writer: Kay Ledbetter, 806-677-5608, skledbetter@ag.tamu.edu
Contact: Matt Brown, 979-862-8072, matthew.brown@ag.tamu.edu

Hamilton - A Lone Star Healthy Streams workshop is set for Nov. 15 at the Hamilton County Extension Conference Room, 101 E Henry Street in Hamilton.

The workshop will begin at 10 a.m. and end at 2:45 p.m. A catered lunch will be provided for $10 but there is no cost to attend. An RSVP is requested by November 12.

Workshop presentations will focus on basic watershed function, water quality and specific best management practices that can be implemented to help minimize bacterial contamination originating from beef cattle, horses and feral hogs, said Matt Brown, Texas A&M AgriLife Extension Service program specialist in College Station.

Three general continuing education credits will be provided for certified pesticide applicators through the Texas Department of Agriculture, Brown said.

The goal of the Lone Star Healthy Streams program is to educate Texas livestock producers and land managers on how to best protect Texas waterways from bacterial contributions associated with livestock production and feral hogs, said Bruce Boyd, AgriLife Extension agriculture and natural resources agent in Hamilton County.

The Lone Star Healthy Streams program is a great program for land managers who are concerned with maximizing livestock production and maintaining a healthy landscape, said Andy James, Leon River watershed Coordinator. The program highlights key practices that will improve resource utilization, support herd health, decrease operational costs overtime and produce clean water from the property.

Currently, about 300 Texas water bodies do not comply with state water quality standards established for E. coli bacteria, James said. By participating in this workshop, livestock producers and landowners can learn about specific conservation practices that can be utilized to help improve and protect the quality of Texas' water bodies.

For more information and to RSVP for the workshop, contact the Matt Brown at 979-862-8072, or visit http://lshs.tamu.edu/workshops/.

The Lone Star Healthy Streams program is funded through a Clean Water Act nonpoint source grant from the Texas State Soil and Water Conservation Board and the EPA

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Texas Riparian & Stream Ecosystem Education

Leon River Agenda

8:00 Meeting Registration
8:30 Workshop Introductions
8:35 Program Overview, Watershed Management and Water Quality
- Nikki Dictson, Texas Water Resources Institute

9:00 Riparian and Watershed Management Principles
- Steve Nelle, Retired USDA Natural Resources Conservation Service

9:45 Stream Processes and Hydrology
- Melissa Parker, Texas Parks and Wildlife Department

10:30 Break
10:45 Riparian Vegetation and Hindrances to Healthy Riparian Areas
- Steve Nelle, Retired USDA Natural Resources Conservation Service

11:30 Management Practices and Local Resources
- Nikki Dictson, Texas Water Resources Institute

12:00 Lunch
12:30 Lunch time Presentation: Leon Watershed Protection Plan Overview
- Mike Marshall, Institute of Renewable Natural Resources

1:15 Questions and Complete Post Survey
1:30 Trip to the River for Stream Walk (Split into 2 or more groups)
- Lane's Balance Demonstration Activity
- Agricultural Nonpoint Source Incentive Programs: Wright & Castro, NRCS
- Feral Hog Education: Josh Helcel, Texas A&M AgriLife Extension
- Photo Monitoring of stream locations: Dictson, TWRI

4:00 Wrap up and Head for Home!

http://texasriparian.org/ and
https://www.facebook.com/TexasRiparianAssociation

HAMILTON--The Texas Water Resources Institute's Texas Riparian and Stream Ecosystem Education Program will host a workshop from 8 a.m.-4 p.m. March 12 in Hamilton for area residents interested in land and water stewardship in the Leon River watershed.

The free workshop is co-hosted by the Texas A&M Institute of Renewable Natural Resources.

The morning session will be at the First United Methodist Church, 215 W. Main St., and the afternoon session will include an outdoor stream walk along the river and presentations.

Mike Marshall, the Leon River watershed coordinator, said the entire Leon River below Lake Proctor was listed in 1998 as "impaired" on the Texas Clean Water Act Section 303(d) List for having bacteria concentrations that exceeded the state's water quality standards.

He said that water quality testing conducted showed that sections of the river contain high levels of bacteria making it unsuitable for contact recreation activities. A study by the Texas Commission on Environmental Quality indicated that bacteria loading needs to be reduced by 21 percent to meet current recreation and water quality standards.

"In 2006, local stakeholders expressed an interest in developing management strategies to reduce these bacteria loadings by developing a watershed protection plan," Marshall said.

Marshall said the mission of the plan is to restore and maintain water quality of the Leon River to the maximum extent possible to meet water quality standards so that citizens may enjoy the water resources with little risk to their health. The Leon River watershed encompasses approximately 2,600 square miles in Hamilton, Coryell, Comanche, Erath and Mills counties.

"The vision of the coordinated effort for the Leon River Watershed Protection Plan is to have local stakeholders developing and implementing management strategies to reduce bacteria in the watershed resulting in an ecologically sound Leon River," he said. For more information on the Leon River Watershed Protection Plan Program please visit: http://leonriver.tamu.edu/.

Nikki Dictson, Texas Water Resources Institute Extension program specialist and coordinator of the program, said trainings will focus on the nature and function of stream and riparian zones as well as the benefits and economic impacts from proper functioning riparian systems. A riparian zone is the land area adjacent to the bank of a stream, creek, bayou or river.

Dictson said workshop topics will include riparian and watershed management principles, water quality, riparian vegetation, hindrances to healthy riparian areas, stream processes, management practices and local resources.

Workshop presentations will be given by representatives of the Texas Water Resources Institute, USDA's Natural Resources Conservation Service, Texas Parks and Wildlife Department, Texas A&M Forest Service, AgriLife Extension and the Leon River Watershed Protection Plan Program.

“The goal is for participants to better understand riparian and watershed processes, see the benefits of healthy riparian areas and know what resources are available to prevent degradation while improving water quality,” Dictson said.

A catered lunch will be provided for a cost of $10, and the program will include a lunchtime presentation. Attendees may bring their own lunch if they prefer. Attendees must RSVP by March 9 to Dictson at 979-458-5915 or n-dictson@tamu.edu, or online at http://texasriparian.org/trainings/upcoming-training-locations/.

Participants will receive a certificate of completion and appropriate continuing education unit certificates at the conclusion of the training.

The workshop offers over five types of continuing education units including: one unit from the Texas Water Resources Institute, four and a half hours for Society of American Foresters, six hours for the Texas Forestry Association and six hours for Texas Nutrient Management Planning specialists. The program may also be used for continuing education units for professional engineers and the Texas Board of Architectural Examiners.

The riparian education program is managed by the Texas Water Resources Institute, part of Texas A&M AgriLife Research, AgriLife Extension and the College of Agriculture and Life Sciences at Texas A&M University. It is funded through a Clean Water Act grant provided by the Texas State Soil and Water Conservation Board and U.S. Environmental Protection Agency.

For more information, contact Dictson or visit texasriparian.org https://www.facebook.com/TexasRiparianAssociation.

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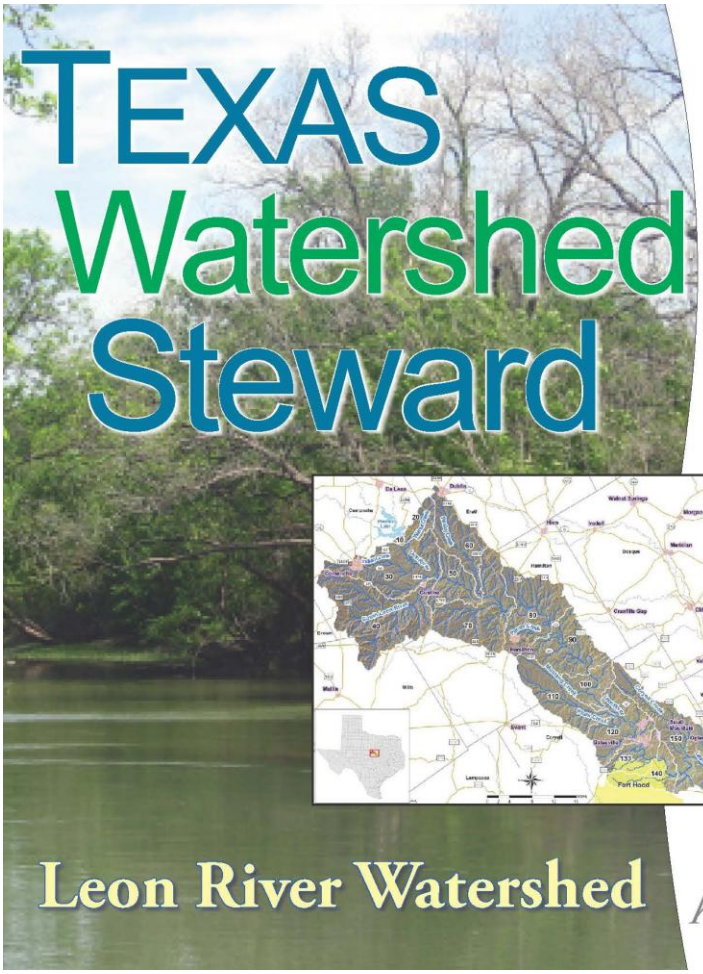

TEXAS Watershed Steward

The Texas Watershed Steward program is a free, one-day educational workshop designed to help watershed residents improve and protect their water resources by getting involved in local watershed protection and management activities.

March 25, 2015:
1:00 pm - 5:00 pm

Rotary Building
126 E Blackjack Street
Dublin, TX 76446

The workshop will provide an overview of water quality and watershed management in Texas. It will primarily focus on water quality issues in the Leon River watershed as well as efforts by the Texas Water Resources Institute, Brazos River Authority, Texas State Soil and Water Conservation Board, and area residents to help improve water resources and the health of the surrounding watersheds. For information visit: http://tws.tamu.edu

Pre-register for the workshop by going to:
http://tws.tamu.edu/workshops/registration
or call 979.862.4457

Texas A&M AgriLife Extension · TSSWCB · Texas Water Resources Institute · Texas A&M Institute of Renewable Natural Resources

AGENDA

March 30, 2016 - Gatesville, TX
1:00 p.m. – 5:00 p.m.

Sign-In/Pre-test/Water Samples

Program Introduction: Introductions (of speakers and participants)

Leon River Watershed Protection Program

Aquifers in Texas: The Basics
Water in the World
Functions of an Aquifer
Aquifers of Texas

Middle Trinity Groundwater Conservation District – *Joe B. Cooper, General Manager*
Middle Trinity GCD
Regional /State Water Planning
Water for a Growing Texas

Private Water Well Basics
Existing Information About Your Well
Well Siting Regulations
Well Construction
Water Supply System Failure and Maintenance

BREAK

Onsite Wastewater Treatment
What is an On Site Sewage Facility?
Evolution of Onsite Wastewater Treatment
Function of a Septic System
When Should a Septic Tank be Pumped?
How to Live with a Septic

BREAK

Water Quality and Testing
Drinking Water Standards
Common Contaminants
Testing: Why? When? What?

Water Treatment Options
Treating Bacteria
Filtration
Ion Exchange
Treatment Options from Symptoms

Protecting Your Water Supply
Homeowner/ Well Owner tips
Abandoned Water Wells

Questions, Discussions, Post-Test and Evaluations

Texas Well Owner Network

Leon River Watershed

The Texas Well Owner Network (TWON) program is a free, educational training for Texas residents who depend on household wells for their water needs. TWON is for private well owners who want to become familiar with groundwater resources, septic system maintenance, well maintenance, water quality and water treatment. Private well owners are independently responsible for monitoring the quality of their wells. Essentially, they are the operators of their own water system and are responsible for ensuring that their water is safe.

Bring your well water samples:

Well owners may bring water samples to the training to be screened for nitrate, total dissolved solids (TDS) and fecal coliform bacteria for $10. Pick up approved sample containers with instructions at the Coryell and Hamilton County Texas A&M AgriLife Extension offices. Bring your samples and payment of $10 to the training on March 30, 2016.

Each participant will receive a free *Well Owner's Guide to Water Supply* Handbook.

Pre-register for the workshop:
twon.tamu.edu/training
or call 979.845.1461

TWON TEXAS Well Owner NETWORK

Texas A&M AgriLife Extension

mtgcd

Texas Water Resources Institute
make every drop count

Texas A&M IRNR
Institute of Renewable Natural Resources

Soil Water TSSWCB

Rainwater Harvesting & Other Management Opportunities For Small Acreage Land Owner's Workshop

May 26th, 2016

Pre-registration: Required

Program Cost & Catered Lunch: $5

2 Hours TDA CEU's for Commercial, Non-Commercial & Private Applicators

(2 hours General)

9:00 a.m.	Registration
9:15 a.m.	Welcome and Introductions – Pasquale Swarner & Bruce Boyd, County Extension Agents
9:30 a.m.	Rainwater Harvesting – Dotty Woodson, Texas A&M Agrilife Extension
10:30 a.m.	Pond Management Strategies – John Tibbs, Texas Parks & Wildlife
11:15 a.m.	Managing Wildlife on small to medium size properties – Erin Wehland, Texas Parks & Wildlife Biologist
12:00 p.m.	(Lunch)
1:00 p.m.	Feral Hog Management on Small Acreage Properties – Josh Helcel, Wildlife Extension Associate
1:45 pm	Using Technology in Ag & Natural Resources – Andy James, Texas A&M Project Coordinator
2:30 p.m.	Evaluation
2:45 p.m.	Adjourn

Please **PRE-REGISTER** by 5:00 PM on Tuesday, May 24th at your local county extension office (Hamilton – 254-386-3919 or Coryell – 254-865-2414) or with the Texas A&M Institute of Renewable Natural Resources (IRNR) at 2005 East Main, Gatesville, TX 76528 or call (254) 223-3056 to ensure an accurate count for the handouts. Individuals with disabilities are encouraged to contact us prior to the event so accommodations can be made. This event will be held at the Jonesboro Community Center, Jonesboro, TX 76538.

***This event provided at no cost through a Clean Water Act §319(h) non-point source grant from the Texas State Soil and Water Conservation Board and the U.S. Environmental Protection Agency**

Small Acreage Land Owner Workshop set for May 26 in Jonesboro

Contacts:

Andy James, 254-223-3056, Andy.James@tamu.edu

Pasquale Swaner, 254-865-2414, Pasquale.Swaner@ag.tamu.edu

Bruce Boyd, 254-386-3919, Bruce.Boyd@ag.tamu.edu

Texas A&M AgriLife Extension Service and the Institute of Renewable Natural Resources are hosting a workshop for area residents interested in land and water stewardship in the Leon River Watershed, May 26 from 9 a.m. – 4 p.m. The workshop will be held in Jonesboro at the Community Center and all residents from Coryell, Hamilton, and other surrounding counties are invited to participate. Program cost which includes a catered meal will be $5. Two hours of General CEU's will be offered for completion of the workshop.

The workshop will include presentations about rainwater harvesting, pond management, wildlife management, feral hog abatement strategies, and the use of technology in agriculture and natural resources. There will also be a presentation about new technology available to landowners, such as the use of drones and smart phone apps.

"The workshop will provide a great opportunity to learn about several current topics, that many landowners have expressed interest in learning more about. As water resources have become more limited, alternative conservation strategies, such as rainwater harvesting, are becoming more popular and gaining interest across the state", stated Andy James, the Leon River Watershed Coordinator.

A catered lunch will be provided for $5 but attendees may also bring their own lunch if they prefer. Attendees must pre-register by 5 p.m., Tuesday, May 24th at the Hamilton (254-386-3919) or Coryell (254-865-2414) County Extension Offices or contact Andy James by phone (254-223-3056) or email (Andy.James@tamu.edu).