

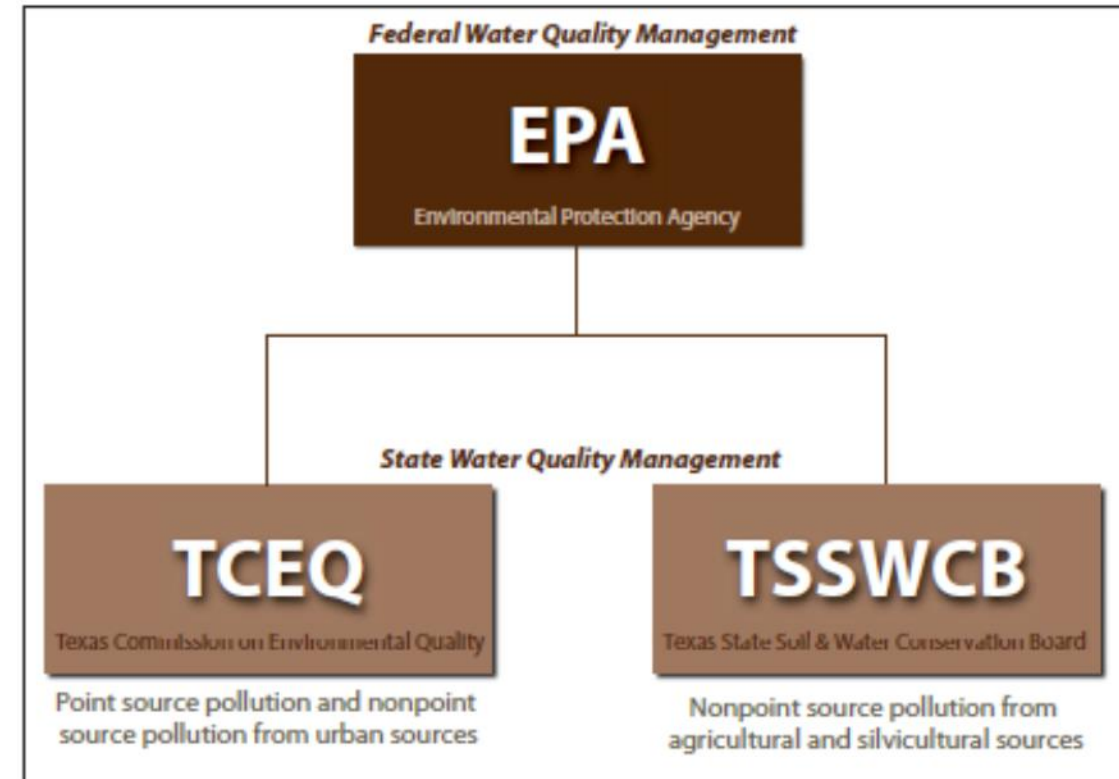
Lampasas River Watershed Partnership Update and the Status of Other Bell County Rivers and Streams

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Texas A&M AgriLife Research at
Blackland Research & Extension Center



Water Quality Policy 101

- ⦿ Federal Clean Water Act requires states to assess and monitor the health of its waterbodies
- ⦿ CWA is administered by two state agencies in Texas:
 - Texas Commission on Environmental Quality (TCEQ)
 - Texas State Soil and Water Conservation Board (TSSWCB)



Water Quality Policy 101

◉ Compliance with the CWA:

- ❑ Set water quality standards
- ❑ Assess surface water bodies
- ❑ Address pollution concerns for waterbodies identified as impaired

Texas Integrated
Report for Clean
Water Act,
Sections 305(b)
and 303(d)

Texas Integrated
Report

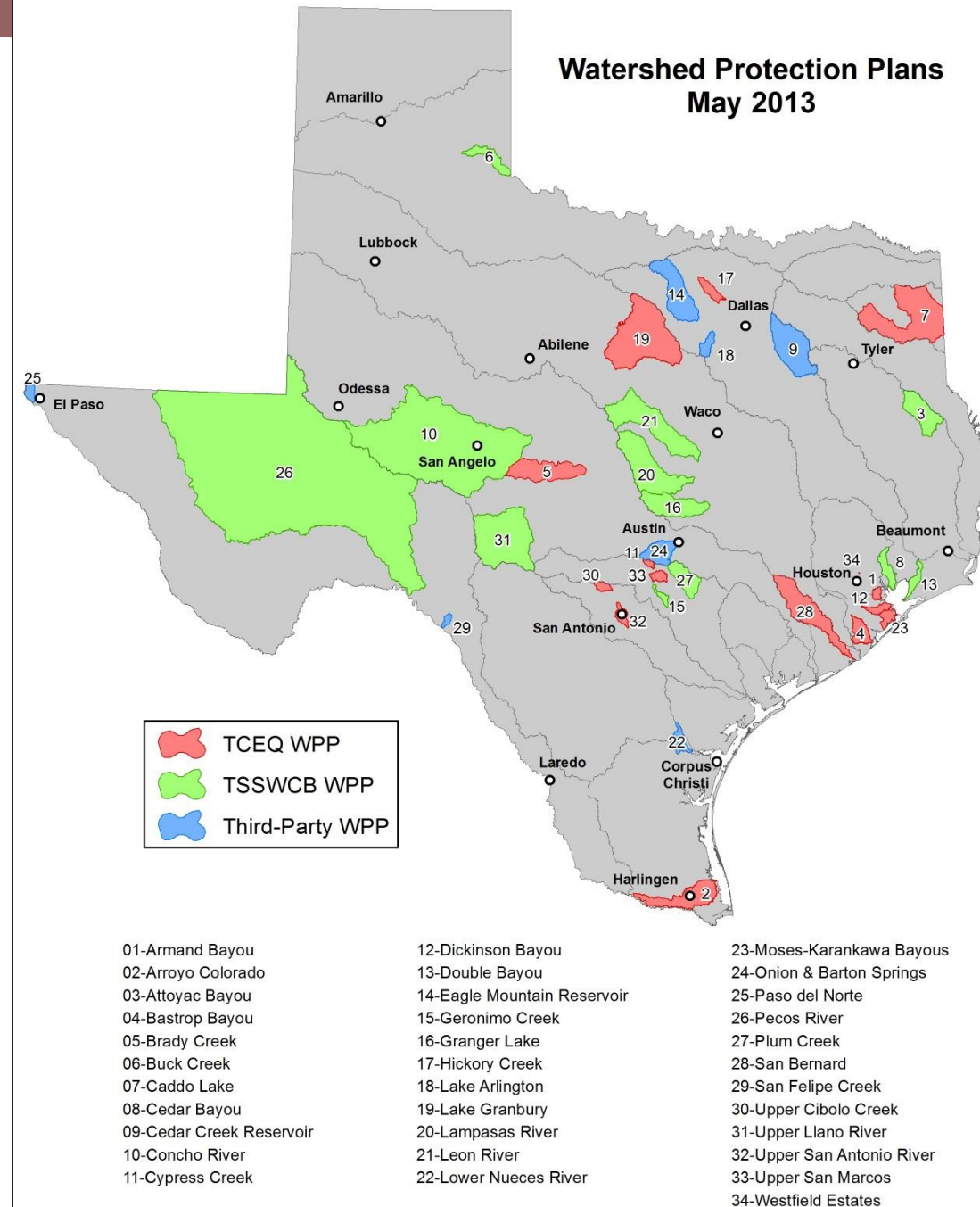
- Describes the status of ALL surface water bodies in the state that were evaluated, tested, and monitored over the last 5 years

CWA 303(d) List

- Identifies ALL “impaired” surface water bodies not meeting criteria for specified designated uses

Watershed Protection Plans

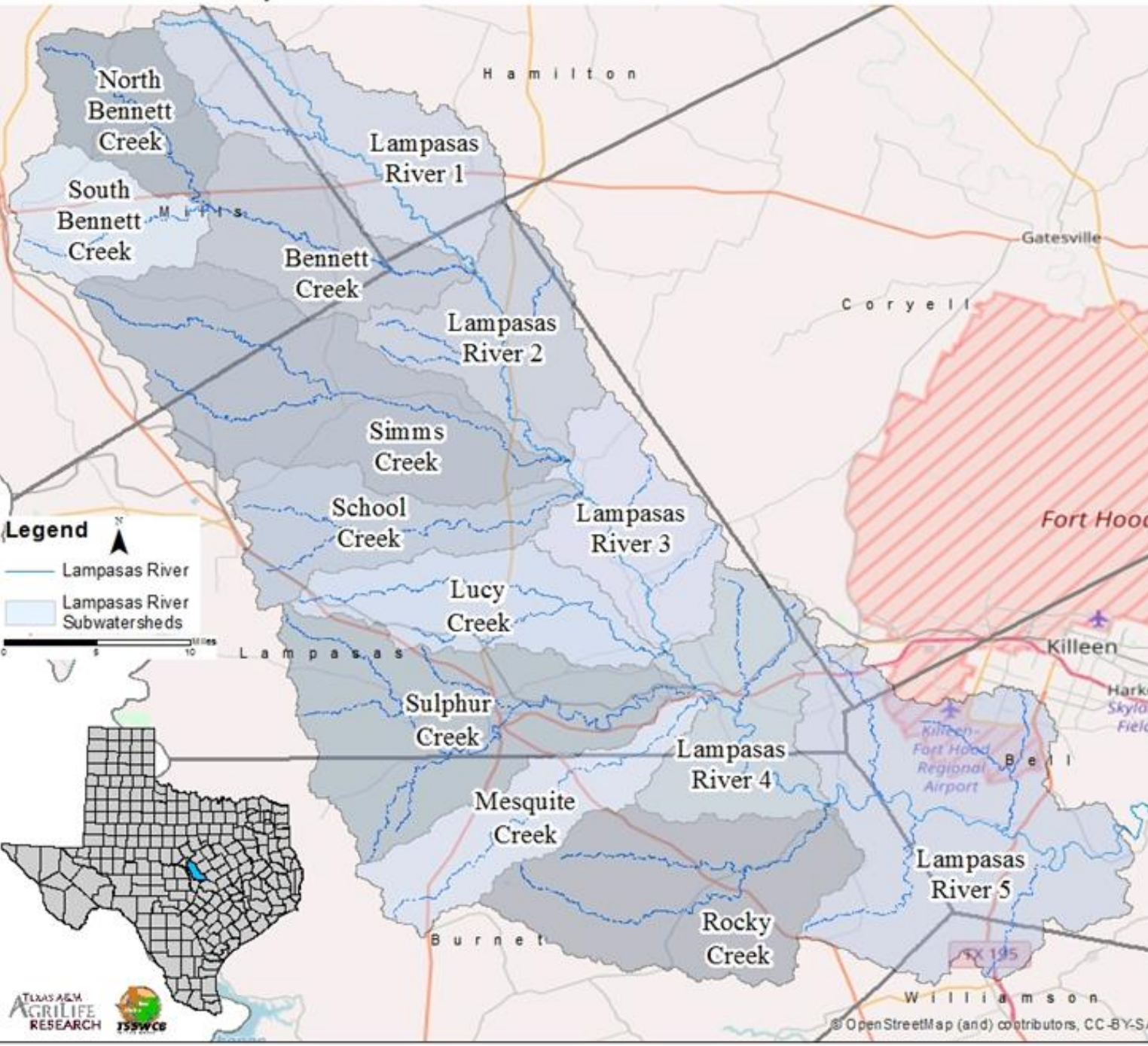
- ◉ A coordinated framework for implementing prioritized and integrated water quality protection and restoration strategies driven by environmental objectives
- ◉ Encourages stakeholders to develop WPPs that holistically address all of the sources and causes of impairments and threats to both surface and ground water resources within a watershed
- ◉ Define the **voluntary** actions that will be taken to reduce pollution or restore water quality



Update on The Lampasas River WPP

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The Lampasas River Watershed and Subwatersheds

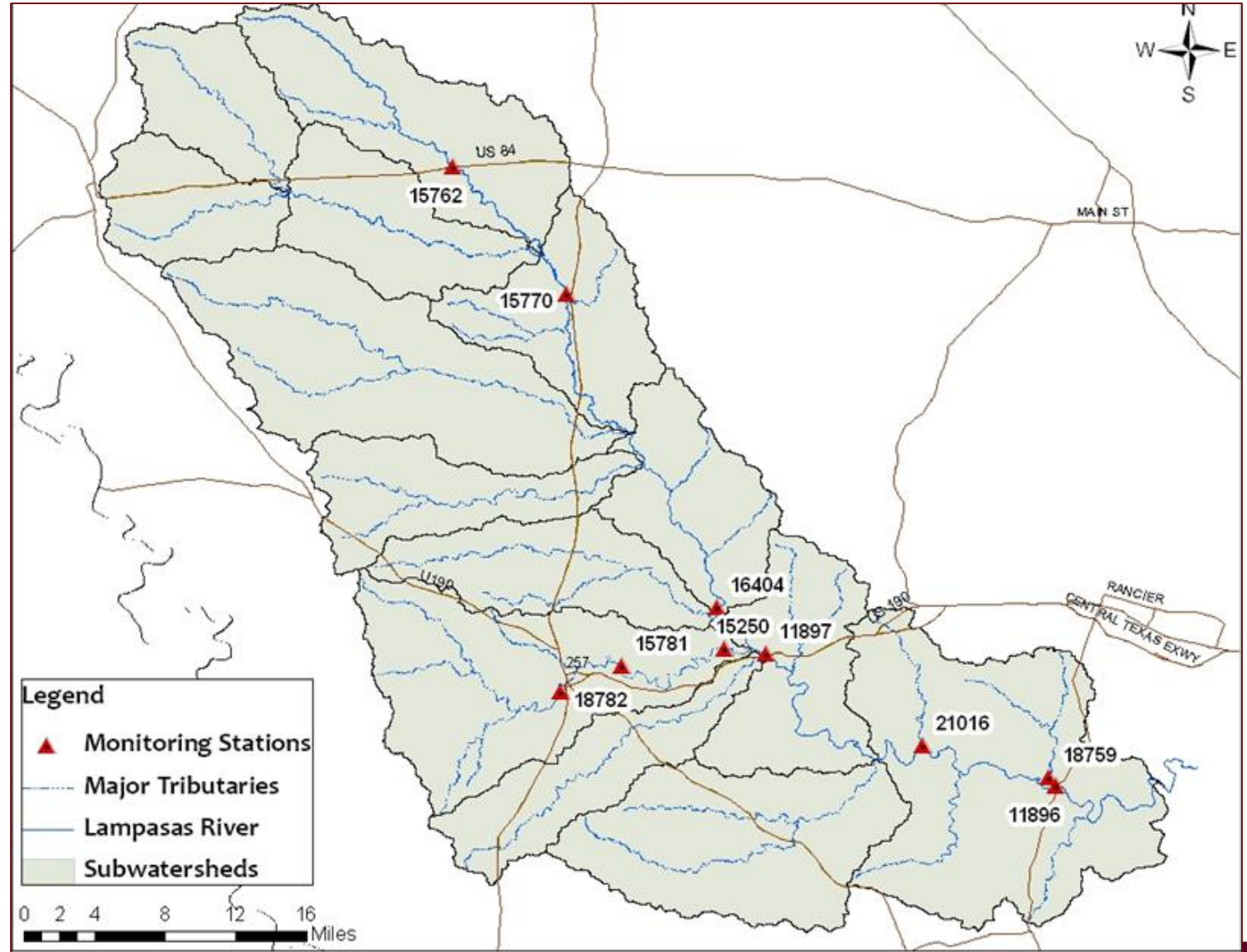


The Lampasas River Watershed

- Primarily rural and encompasses all of Lampasas and parts of Copperas Cove and Killeen
- Identified as impaired for bacteria in 2002
- Clean Water Act § 319(h) grant from TSSWCB and U.S. EPA to address the bacteria impairment and other pollutant concerns
- Began development of WPP in 2009
- WPP was approved by stakeholders and accepted by EPA in 2013
- Implementation of WPP has been ongoing since 2013

Implementation of WPP: Surface Water Monitoring

- ◉ Monitor surface water quality at 10 sites along mainstem and tributaries
- ◉ Monitored monthly from July 2014 – June 2016
- ◉ Began new sampling project in June 2017 – May 2019
- ◉ Subcontract with TIAER to collect samples
- ◉ Data will be used to detect trends in water quality over time



Implementation of WPP: Surface Water Monitoring

Parameters Measured

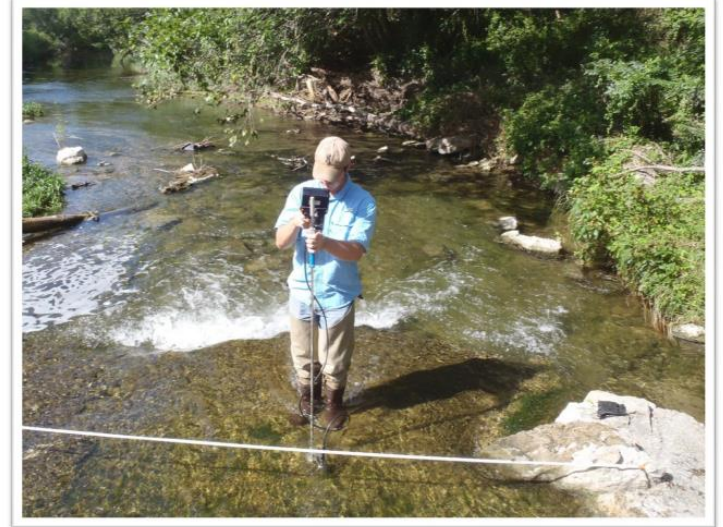
- ⊙ Flow collected by electric, mechanical or Doppler, including severity
- ⊙ Bacteria:
 - E. coli
- ⊙ Field parameters:
 - pH,
 - temperature,
 - conductivity,
 - dissolved oxygen
- ⊙ Conventional parameters:
 - total suspended solids,
 - turbidity,
 - nitrate + nitrite nitrogen,
 - Total Kjeldahl Nitrogen (TKN),
 - chlorophyll-a,
 - pheophytin,
 - total phosphorus (TP)



Implementation of WPP: Surface Water Monitoring

Conclusions in Final Report

- ⦿ Most stations saw an upward trend in pollutants with an increase in flow, which may occur in a watershed that is primarily rural, with few direct discharges to the system.
- ⦿ There was some concern early in the project about lack of flow at stations 15762 (Lampasas River at US HWY 84) and 15770 (Lampasas River at CR 2925).
 - After consulting with project partners the decision was made to not move any of the monitoring stations. Continued monitoring will create a robust dataset for these two sites.
- ⦿ In summary, TSSWCB Project 13-09 has been completed and was essential to the continued water quality monitoring for the Lampasas River WPP.
- ⦿ While implementation of WQMPs did not start until mid-2015, this water quality dataset provides the foundation for a robust dataset to monitor for trends and changes in water quality as we move forward.



SURFACE WATER QUALITY MONITORING TO
SUPPORT THE IMPLEMENTATION OF THE
LAMPASAS RIVER WATERSHED PROTECTION
PLAN

Final Report
TSSWCB Project # 13-09
Prepared by Texas A&M AgriLife Research

FUNDING PROVIDED THROUGH A CLEAN WATER ACT §319(H) NONPOINT SOURCE GRANT FROM
THE TEXAS STATE SOIL AND WATER CONSERVATION BOARD AND THE U.S. ENVIRONMENTAL
PROTECTION AGENCY

Implementation of WPP – Agricultural NPS

- ◎ Implementing Agricultural Nonpoint Source Components of the Lampasas River Watershed Protection Plan
 - Technical and financial assistance through local Soil and Water Conservation District
 - Develop voluntary **Water Quality Management Plans** (conservation plans) with producer's goals in mind
 - Provides authorization related to water quality, and may address water quantity and soil erosion on:
 - Small Animal Feeding Operations
 - Row Crop Operations
 - Grazing Operations / Pasture / Rangeland / Forest, etc.

Implementation of WPP – Agricultural NPS

⦿ What does a WQMP look like?

- ❑ Plan of operations
- ❑ List of practices
- ❑ Maps
- ❑ Administrative info
- ❑ Schedule
- ❑ Laws/Rules/Guidance
- ❑ Record keeping

The image shows the front cover of a Water Quality Management Plan (WQMP) document. At the top left is the official seal of the State of Texas. To its right, the title "WATER QUALITY MANAGEMENT PLAN" is printed in large, bold, green capital letters. Below the title, a line of text reads "Certified in Accordance with Title VII, Chapter 201 — Texas Agriculture Code". In the center, there is a rectangular box containing the text "SAMPLE PLAN" and "WQMP # xxx-xx-xxx". Below this box, it says "IN COOPERATION WITH" followed by "Sample SWCD". A horizontal line separates this from the text "SOIL AND WATER CONSERVATION DISTRICT". Below this line is a circular logo with a stylized 'e' shape. At the bottom left is the logo for the Texas State Soil & Water Conservation Board (TSSWCB), which includes a map of Texas and the words "Soil Water". At the bottom right is the logo for the Natural Resources Conservation Service (NRCS), which includes a stylized drop icon and the text "United States Department of Agriculture". The year "16285" is printed in small text at the bottom right of the NRCS logo.



**WATER QUALITY
MANAGEMENT PLAN**

*Certified in Accordance with
Title VII, Chapter 201 — Texas Agriculture Code*

SAMPLE PLAN
WQMP # xxx-xx-xxx

IN COOPERATION WITH

Sample SWCD

SOIL AND WATER CONSERVATION DISTRICT




TSSWCB
TEXAS STATE SOIL & WATER
CONSERVATION BOARD

United States Department of Agriculture
 **NRCS**
Natural Resources Conservation Service
16285

Implementation of WPP – Agricultural NPS

- ◎ What's the incentive to participate in this program?
 - ❑ \$15,000 toward a practice approved for cost-share funding, rates are typically 60% of cost, based on NRCS standards
- ◎ Most popular practices in the watershed?
 - ❑ Brush management(Ashe juniper, prickly pear, and mesquite)
 - ❑ Cross Fencing
 - ❑ Grass planting
 - ❑ Livestock water
 - ❑ etc.



Implementation of WPP – Agricultural NPS

◎ Who do I contact to get a WQMP?

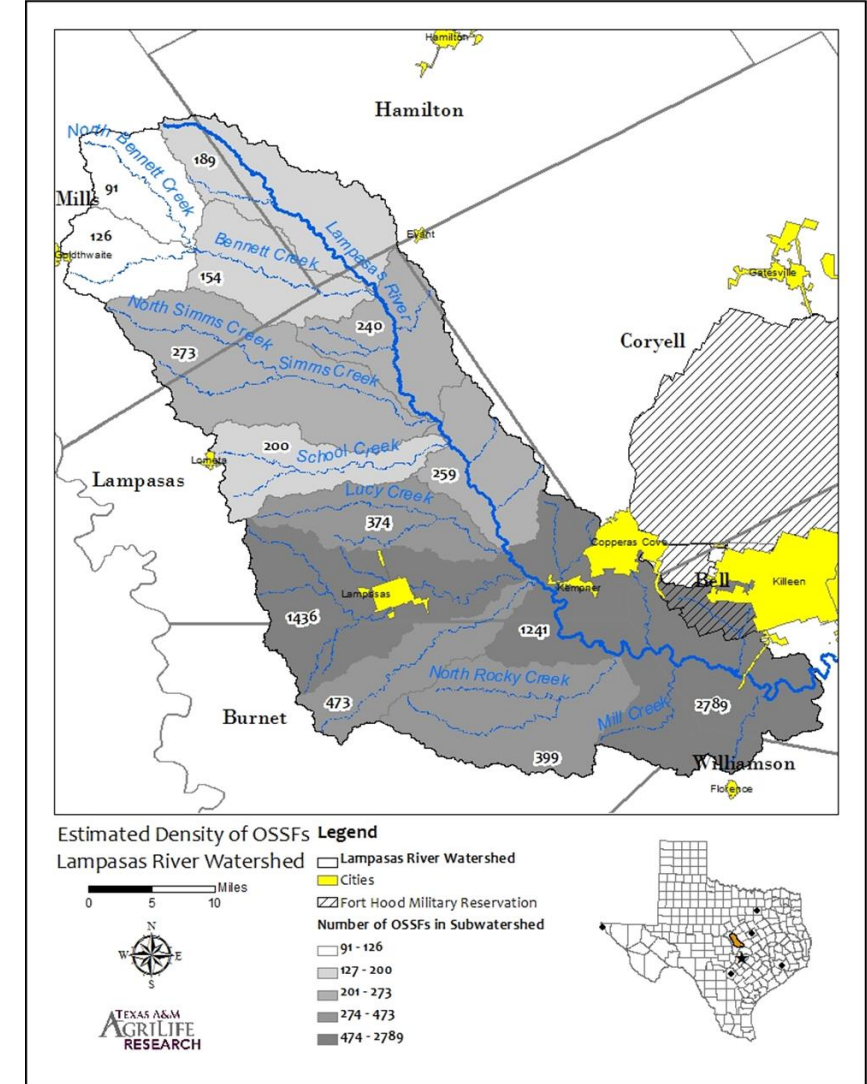
□ Hill Country Soil & Water Conservation District

□ 502 E. Key Ave, Ste. E, Lampasas, TX 76550, 512-556-5572 ext. 3



Implementation of WPP: On-Site Sewage Facility

- ◉ Inventory and Mapping of OSSFs in the Lamparas River Watershed
- ◉ The Lamparas OSSF Database project will be based on the methodology created for the 19 counties along the Texas Coastal Zone
- ◉ The inventory will be developed by AgriLife Research and the Texas A&M Biological & Agricultural Engineering Department with funding from a TCEQ Clean Water Act § 319(h) grant and U.S. EPA



Implementation of WPP: On-Site Sewage Facility

- ⦿ Approach: Estimating OSSF location and attributes

- 1) Sewage Service Boundaries

- Format: shape file or hard copy of boundaries or distribution network, spreadsheet with list of connected physical addresses, shapefile of city boundaries

- 2) 911 Address Points

- Format: shape file

- Attributes: Address, Owner, Type of structure

- 3) Appraisal Data

- Format: shape file of parcels and spreadsheet with additional attributes

- Attributes: Physical address, Owner, Building age and category code

- 4) OSSF Permits

- Format: shape file, spreadsheet or hard copy with list of connected physical addresses

- Attributes: Permit type (to operate/built, installation/inspection), Physical address, Date, System type (aerobic/conventional), Permit number, Owner, Brand

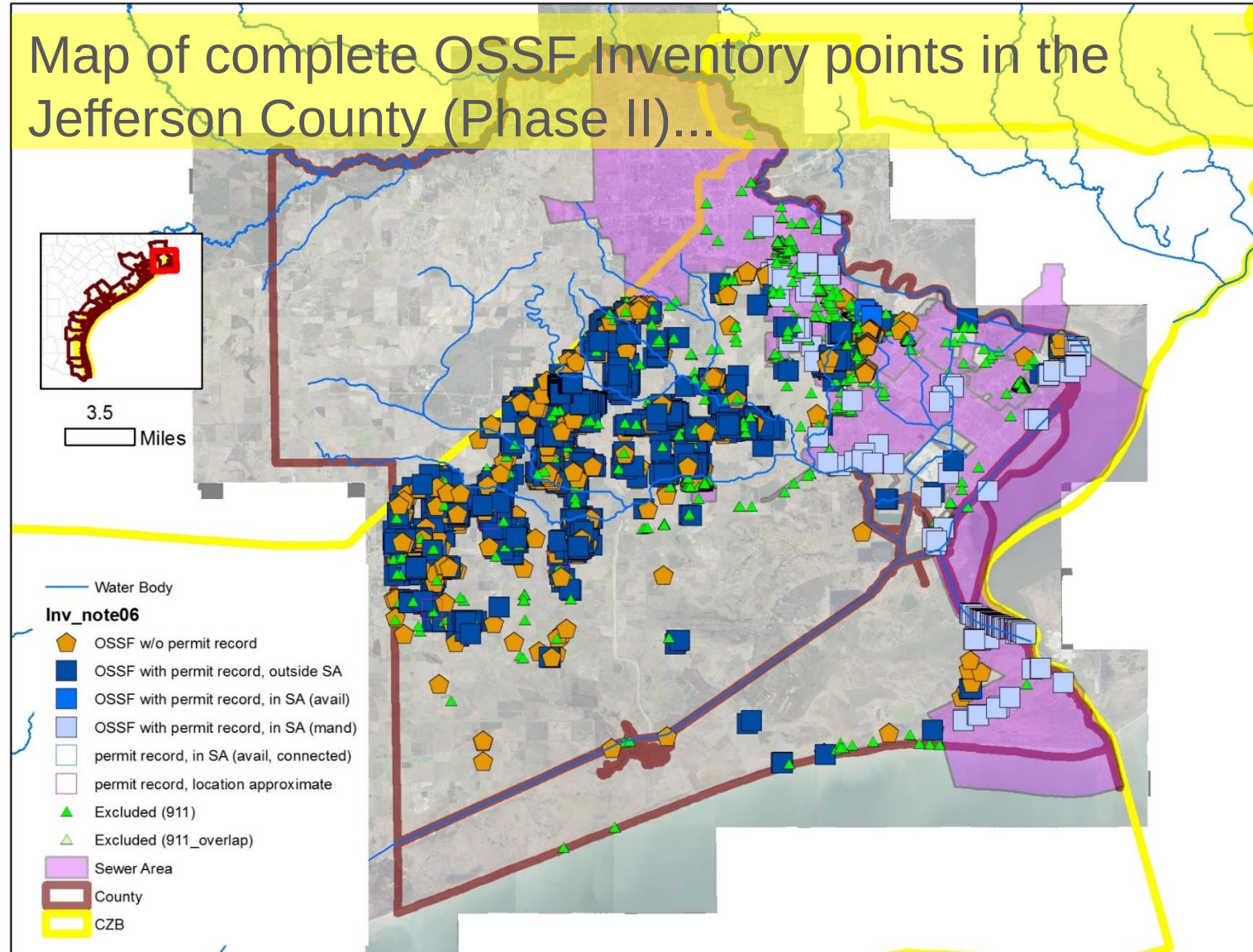
Implementation of WPP: On-Site Sewage Facility

Type of Information we need...

- ◉ Lampasas River Water Protection Plan (WPP)
- ◉ Council of Governments (COGs): 911 address points, roads centerlines
- ◉ Appraisal District: parcel information
- ◉ Authorized Agents (Health Department Designated Representative, River Authority, TCEQ Region, City): OSSF permits, AAs boundary
- ◉ Watershed boundary
- ◉ Sewer service providers: Sewer line, or boundary, or list of connected properties
- ◉ TNRIS: Aerial imagery, Hydrologic Units Code 12
- ◉ FEMA: 100 year floodplain
- ◉ USDA: SSURGO soil
- ◉ TCEQ: Stream segments and TCEQ Assessment Units

Implementation of WPP: On-Site Sewage Facility

- What will the completed product look like?
 - Jefferson County Example
- What will it be used for?
 - To allow more effective use of grant money for voluntary repair or replacement of OSSFs that may be affecting water quality in the watershed



Implementation of WPP: Education and Outreach

- ◉ Continued Coordinating Implementation of the Lampasas River Watershed Protection Plan
- ◉ Watershed Coordinator to seek and leverage funds for implementation and facilitate education and outreach opportunities



How do I know if my septic system is working properly?
If I ignore my septic system, will everything be all right?
Are there any other options?

Join us at a FREE workshop for answers!

Homeowner's Maintenance of Septic Systems

Monday, September 21, 2014

6:00 PM - 8:00 PM

Mills County State Bank

1101 Parker St

Goldthwaite, Texas

Please Pre-Register to:

254-774-6008 or lprcin@brc.tamug.edu



This course provides a basic understanding of the operational and maintenance activities of septic systems and explains how your day to day activities impact your septic system. Presentations cover the treatment processes, health and safety considerations, and how to maintain your system. This course also provides answers to the most frequently asked septic system questions, including when to pump out a tank and what can or cannot go down the drain.

For More Information Contact:

Lisa Prcin, Watershed Coordinator
254-774-6008 | lprcin@brc.tamug.edu
<http://www.lampasasriver.org/>
<http://ossf.tamug.edu/>

Brought to you in support of:

Lampasas River Watershed Protection Plan
BY:
The Lampasas River Watershed Partnership,
Texas A&M AgriLife Research &
Texas A&M AgriLife Extension Service

LONE STAR HEALTHY STREAMS

<http://lshs.tamu.edu>



The Lone Star Healthy Streams program educates Texas livestock producers and landowners on how to best protect Texas waterways from bacterial contributions associated with livestock production and feral hogs. There is no cost to attend.

July 29, 2015: 10:00am-3:00pm

Copperas Cove ISD Board Room
703 W. Avenue D
Copperas Cove, TX

3 General CEUs available for pesticide applicators



Workshop presentations will focus on the Lampasas River Watershed and will discuss 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.

Pre-register for the workshop by going to:
<http://lshs.tamu.edu/workshops>.



RIPARIAN AREA MANAGEMENT WORKSHOP



Parrie Haynes Ranch
2419 Gann Branch Road
Killeen, Texas
June 11, 2015

RSVP by June 9
to Lampasas River
Watershed Partnership
(254) 774-6008 or
lprcin@brc.tamug.edu

FREE one-day course consists of both classroom and field portion.

The workshop will focus on:

- The Function of Riparian Areas
- The Role of Riparian Vegetation
- Assessment of Riparian health
- Assistance for Improving or Restoring Impaired Sites

8:00 - 8:30	Sign-In
8:30 - 12:00	Classroom
12:00 - 1:00	Lunch (provided)
1:00 - 3:30	Field

3 TDA Pesticide Applicators License CEUs are available through Texas A&M AgriLife Extension Service - Bell County

Detailed agenda and additional maps may be found at
www.lampasasriver.org



MARCH 10, 2016 SAVING FOR A RAINY DAY RAINWATER HARVESTING FOR THE HOMEOWNER WORKSHOP

Rainwater Harvesting

Rainwater harvesting is a viable alternative water resource for irrigation, wildlife, livestock and indoor use. You can harvest 660 gallons of rainwater from a 2000 square foot roof with 1 inch of rain. Learn more about how to effectively harvest rainwater and its benefits by joining us for this workshop.



6:00 PM TO 8:00 PM

COPPERAS COVE PUBLIC
LIBRARY
501 SOUTH MAIN,
COPPERAS COVE, TX

CLASS IS FREE
BUILD AND TAKE HOME
YOUR OWN RAIN BARREL
FOR \$50

THE FIRST 25 RAIN
BARRELS RESERVED WILL
BE \$25 OFF, SPONSORED BY
KEEP COPPERAS COVE
BEAUTIFUL

PRE-REGISTER TO LISA
PRCIN AT 254.774.6008 OR
lprcin@brc.tamug.edu

Hosted by
The Lampasas River
Watershed Partnership
&
Keep Copperas Cove
Beautiful
&
Texas A&M AgriLife
Research & Extension

Implementation of WPP:

- ◎ Enhancing Feral Hog Management Through Statewide Delivery of Lone Star Healthy Streams
 - Provide feral hog management education through watershed based trainings
 - Provide best management practices for feral hog reduction
 - <http://feralhogs.tamu.edu>



Status of Central Texas Streams

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Texas Waterbodies Assessed on the 2014 Integrated Report

Legend

Stream Segments

— Unimpaired

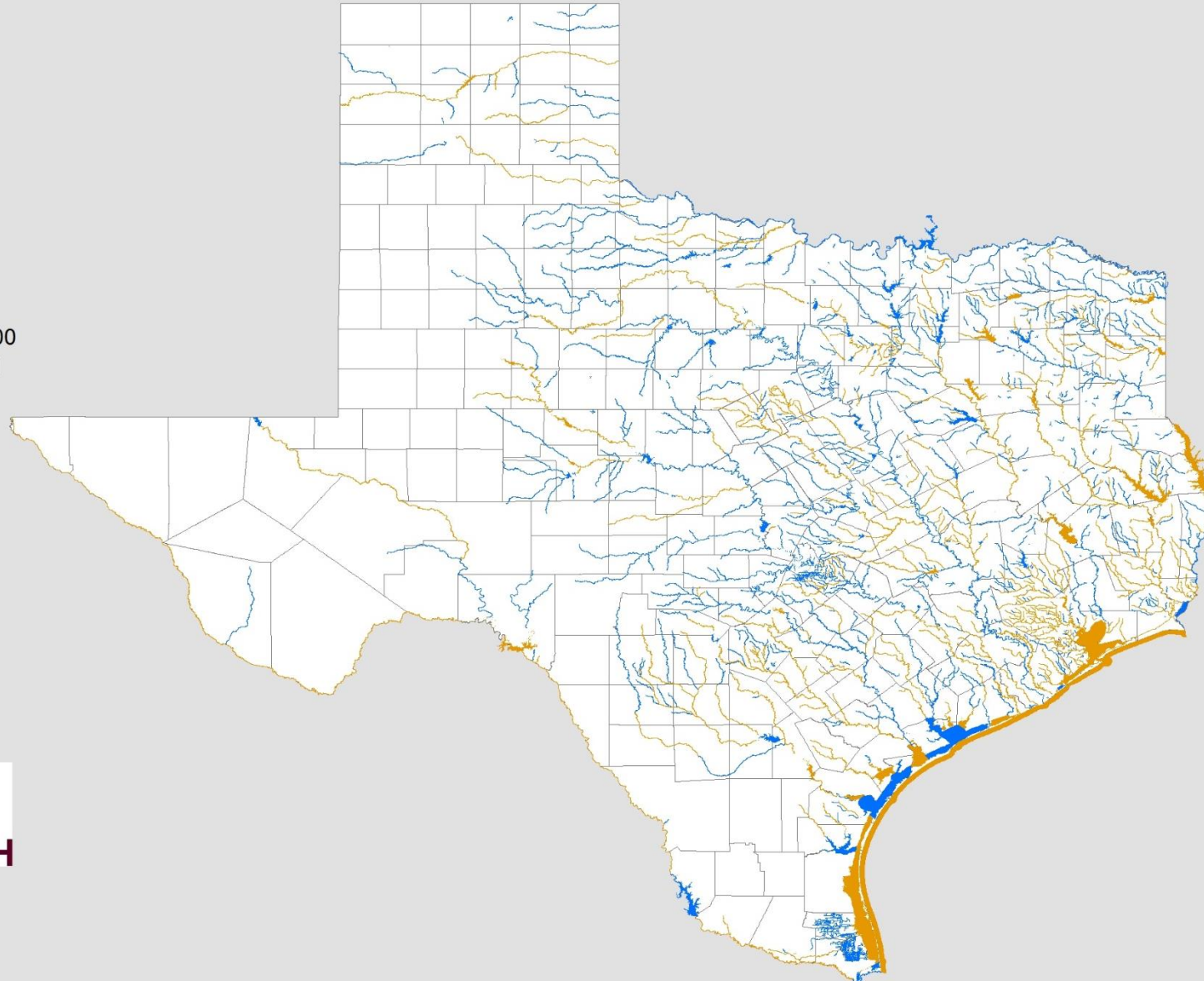
— Impaired

0 50 100 200
Miles



TEXAS A&M
AGRILIFE
RESEARCH

Map Created on October 2016



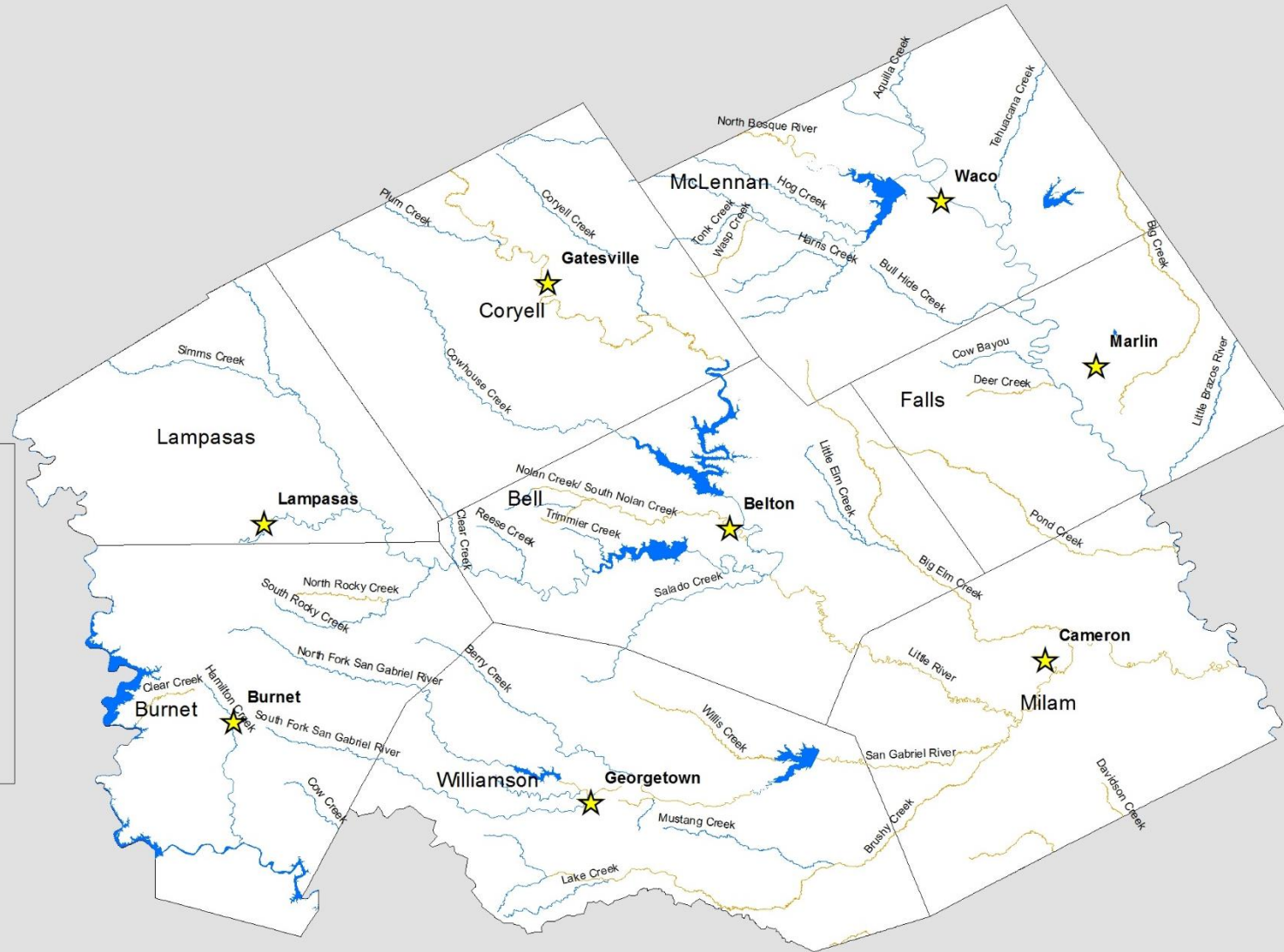
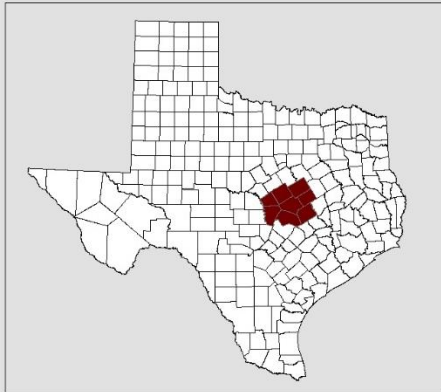
Central Texas Waterbodies on the 2014 Integrated Report

Legend

Stream Segments

- Unimpaired
- Impaired

0 5 10 20
Miles



TEXAS A&M
AGRI LIFE
RESEARCH

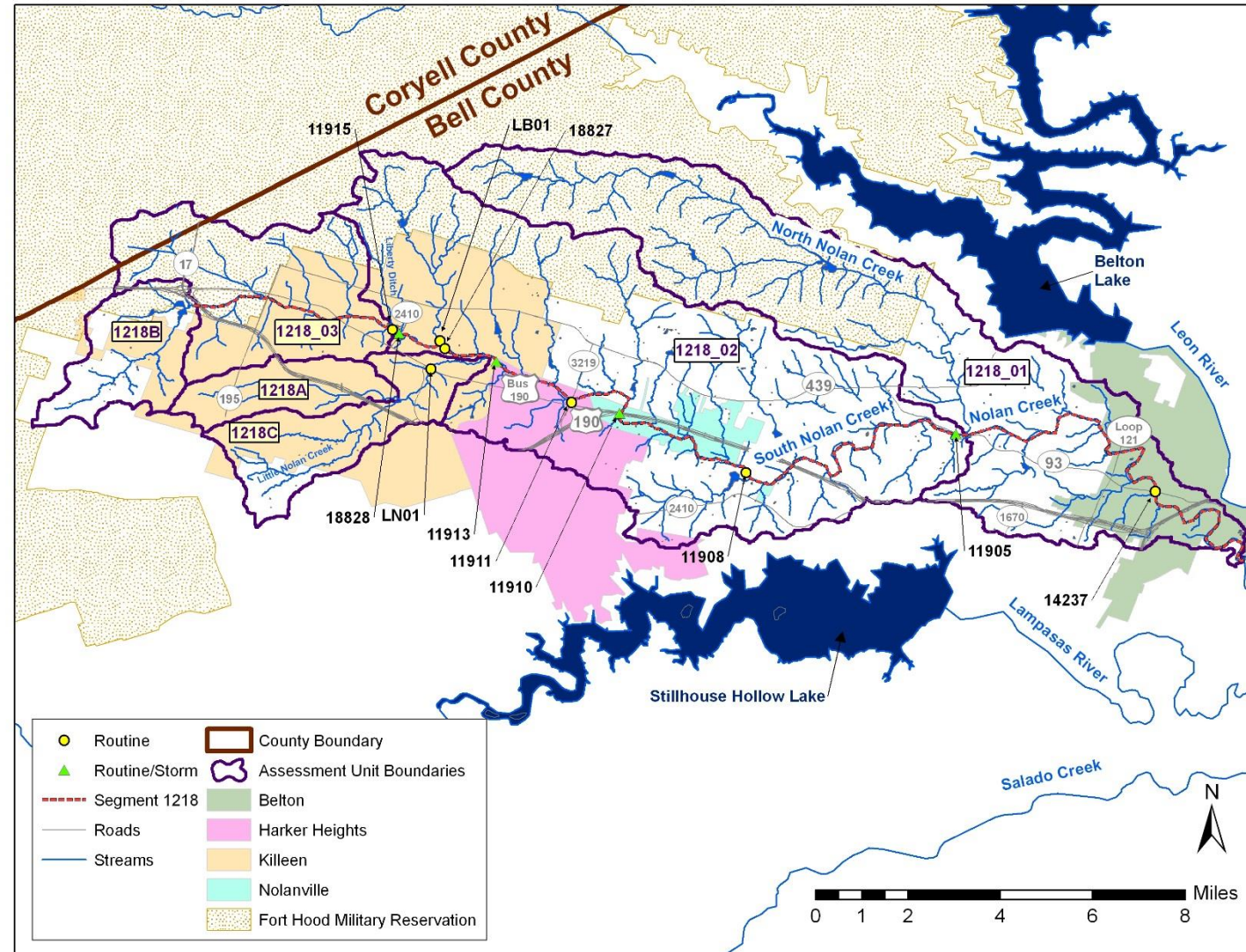
Map Created on November 2016

Other Local Watershed Protection Plans

TEXAS A&M
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RESEARCH

Nearby Watershed Planning Projects: Nolan Creek

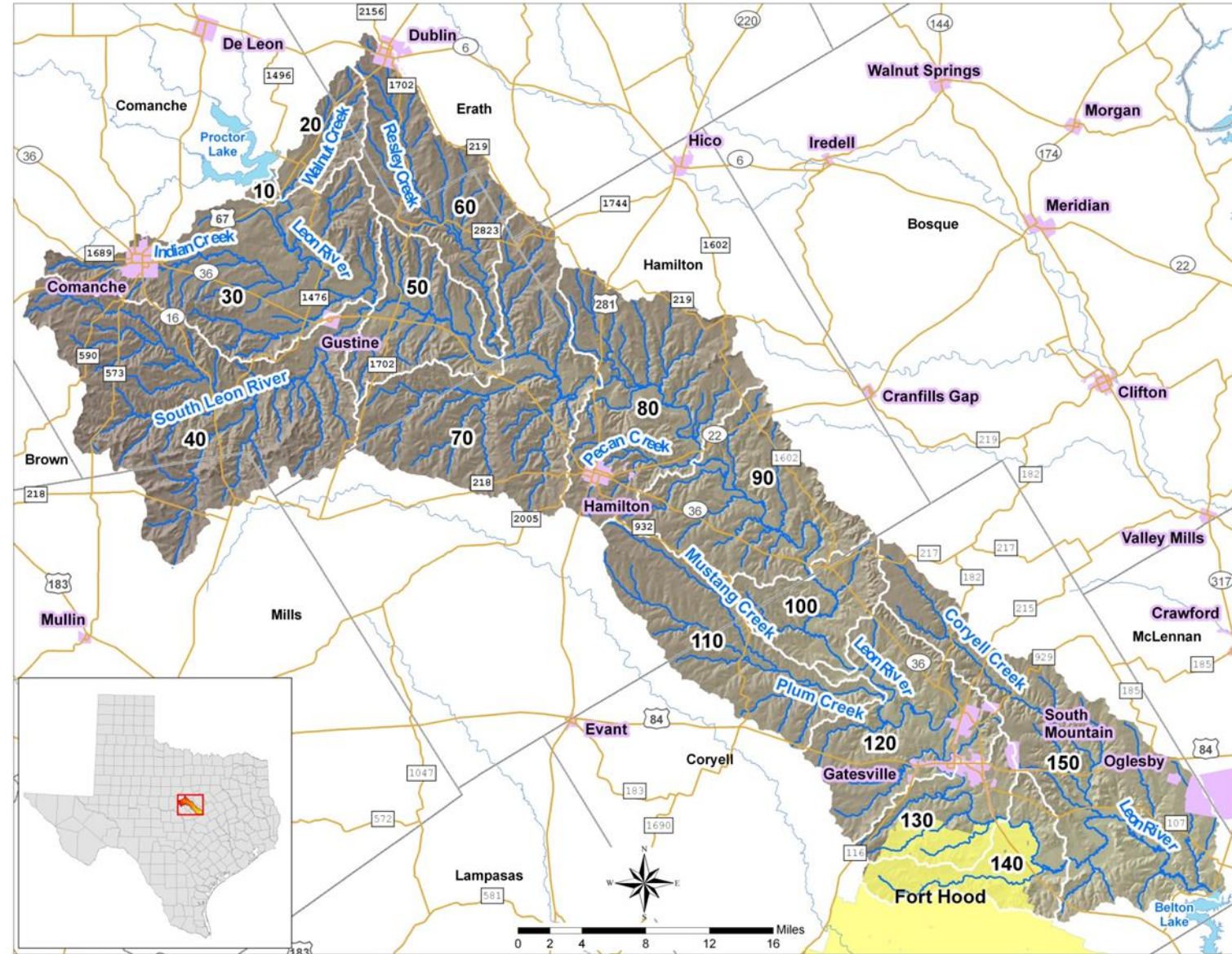
- Project is administered by Texas Institute for Applied Environmental Science (Tarleton State University)
- The goal of this project is to provide watershed information, please contact: ltaylor@tiaer.tarleton.edu with enough information to determine how to address these bacteria impairments
- Public Outreach Coordinator, phone: (254) 968-0513
- Webpage: <http://www.killeentexas.gov/nolancreekwatershed>

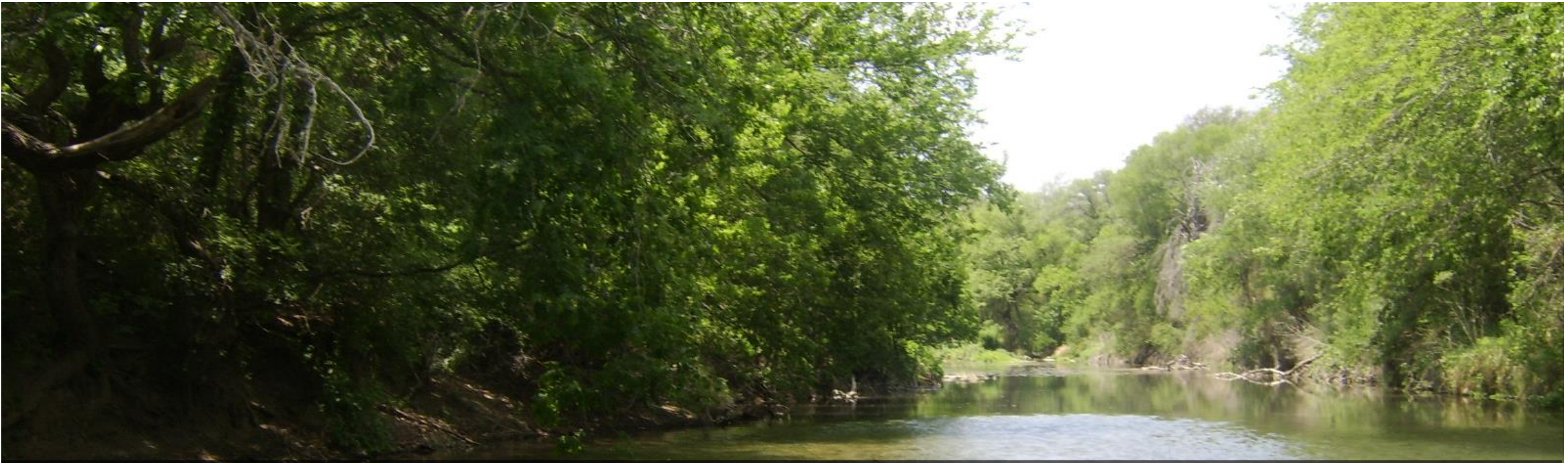


Nearby Watershed Planning Projects:

Leon River

- Project is administered by Texas A&M Institute of Renewable Natural Resources
 - To restore and maintain water quality on the Leon River
- For more information, please contact:
- Andy James
Watershed Coordinator
Phone: (254) 865-2061
Email: leon.watershed@gmail.com
Web page: <http://leonriver.tamu.edu/>
- resources with little risk to their health.





The facilitation of the Lampasas River Watershed Partnership and development of the watershed protection plan is funded by the Texas State Soil and Water Conservation Board through a Clean Water Act §319(h) grant from the U.S. Environmental Protection Agency.

Lisa Prcin

Texas A&M AgriLife Research

720 E Blackland Rd, Temple, TX 76502

(254) 774-6008 • lprcin@brc.tamus.edu • www.lampasasriver.org

Thank You