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

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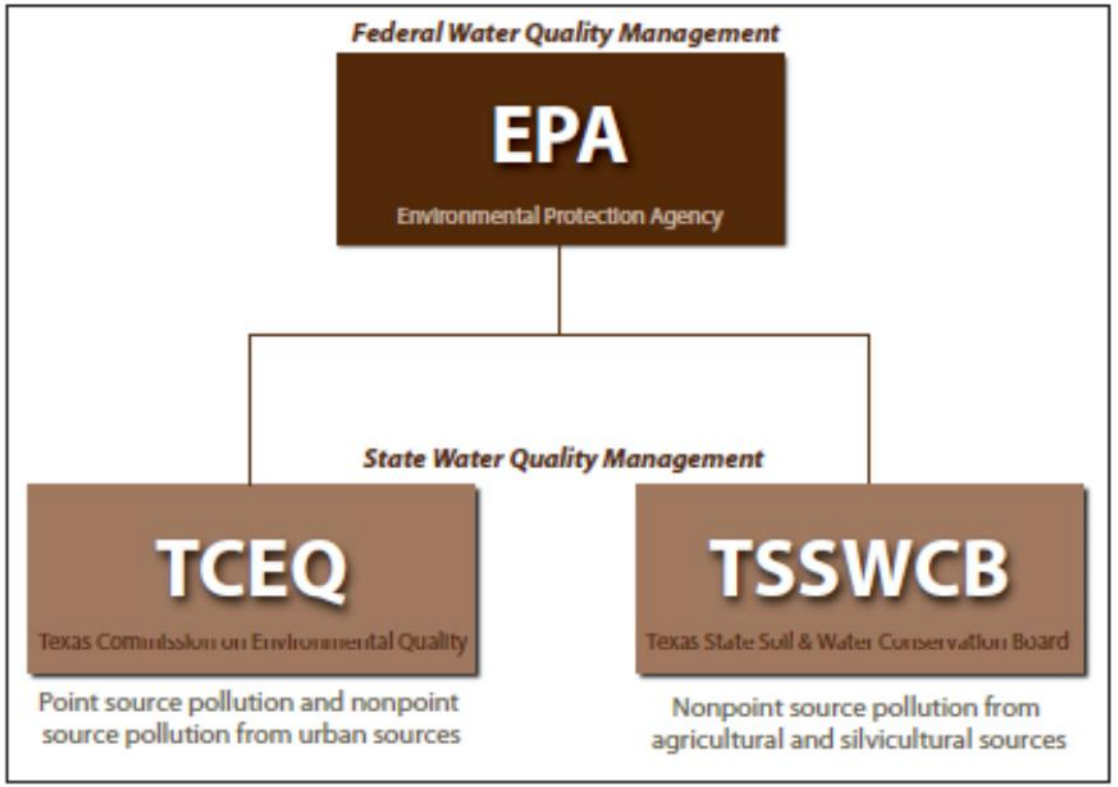
Water Quality Policy 101

- 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

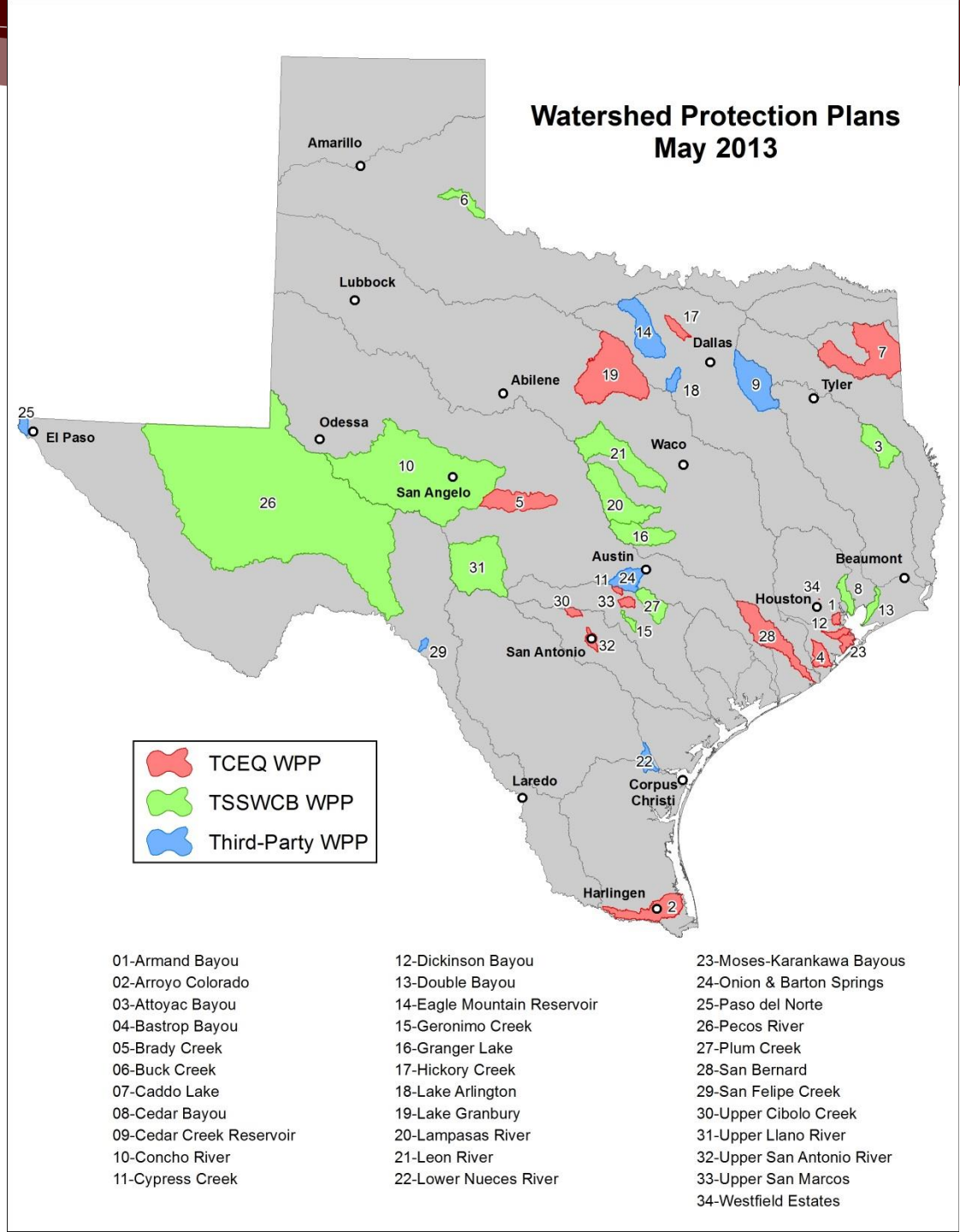
- Describes the status of ALL surface water bodies in the state that were evaluated, tested, and monitored over the last 5 years

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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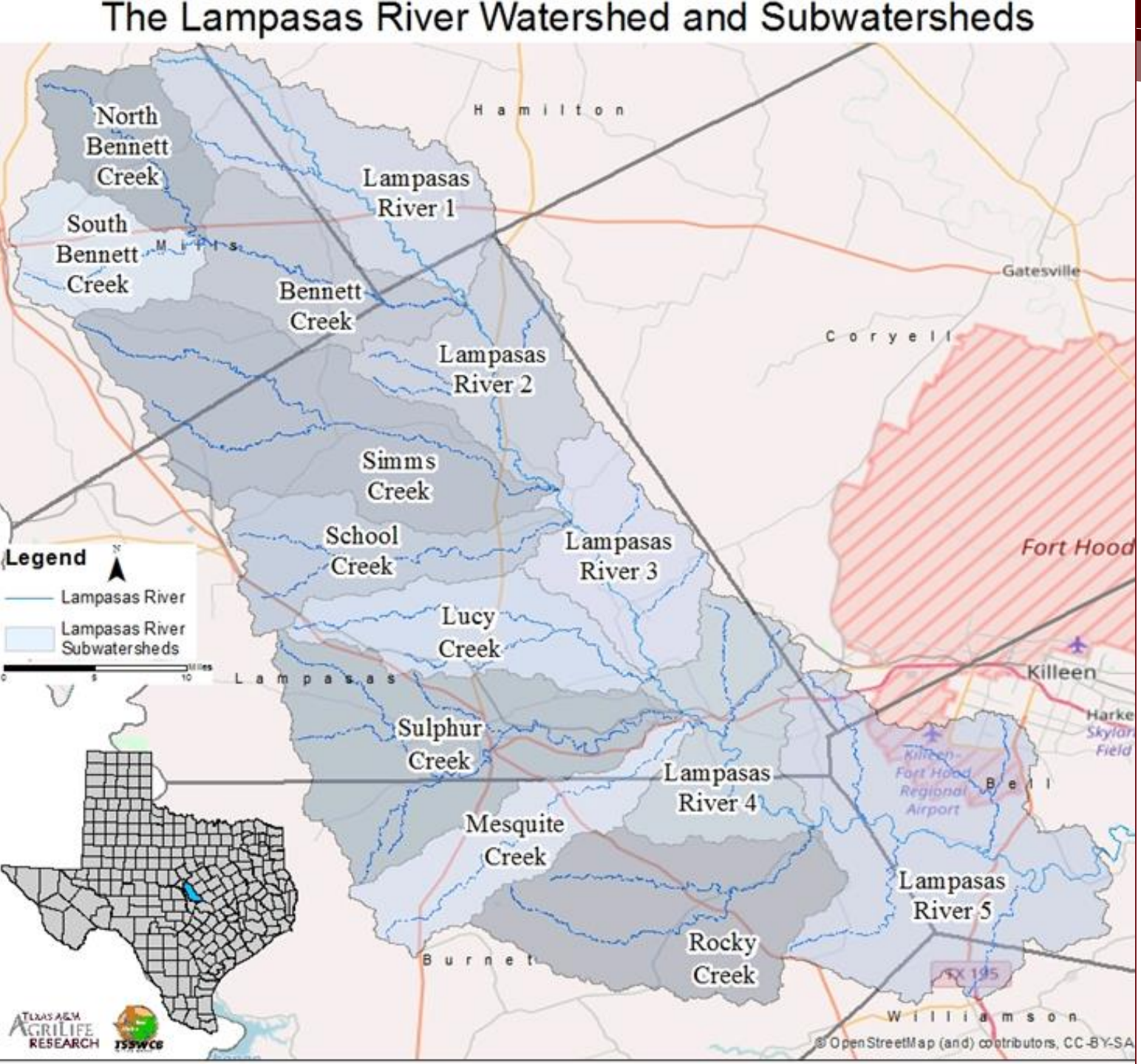

The Lampasas River Watershed

- 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

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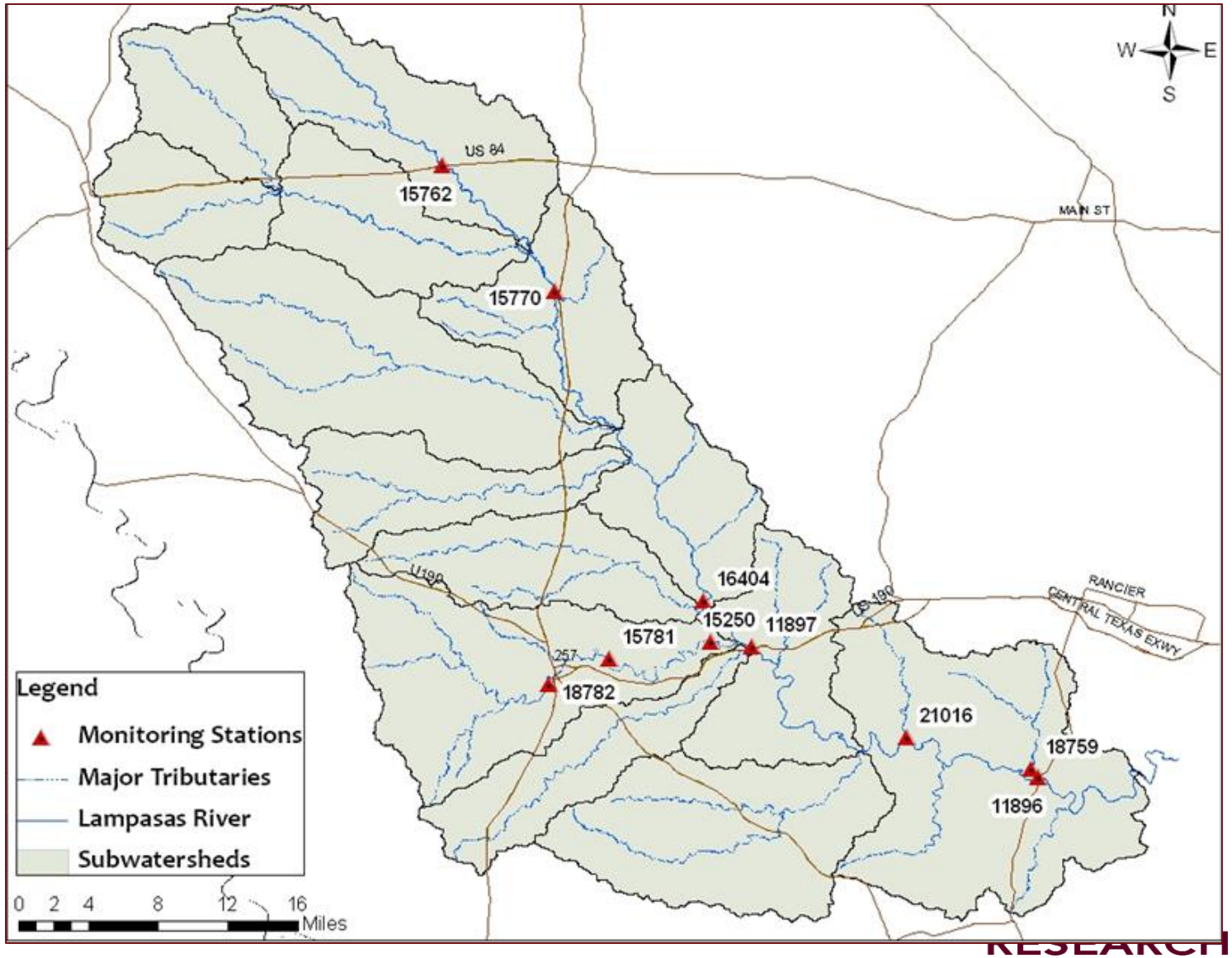
Implementation of WPP: Surface Water Monitoring

- 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

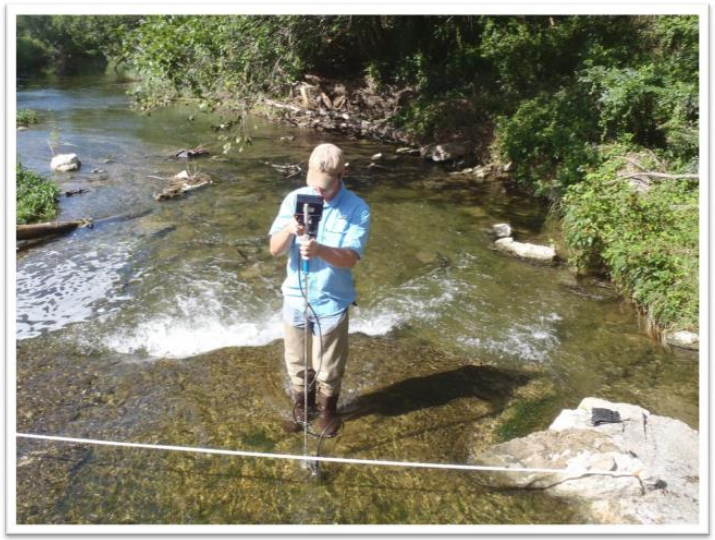
Parameters Measured

- 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.

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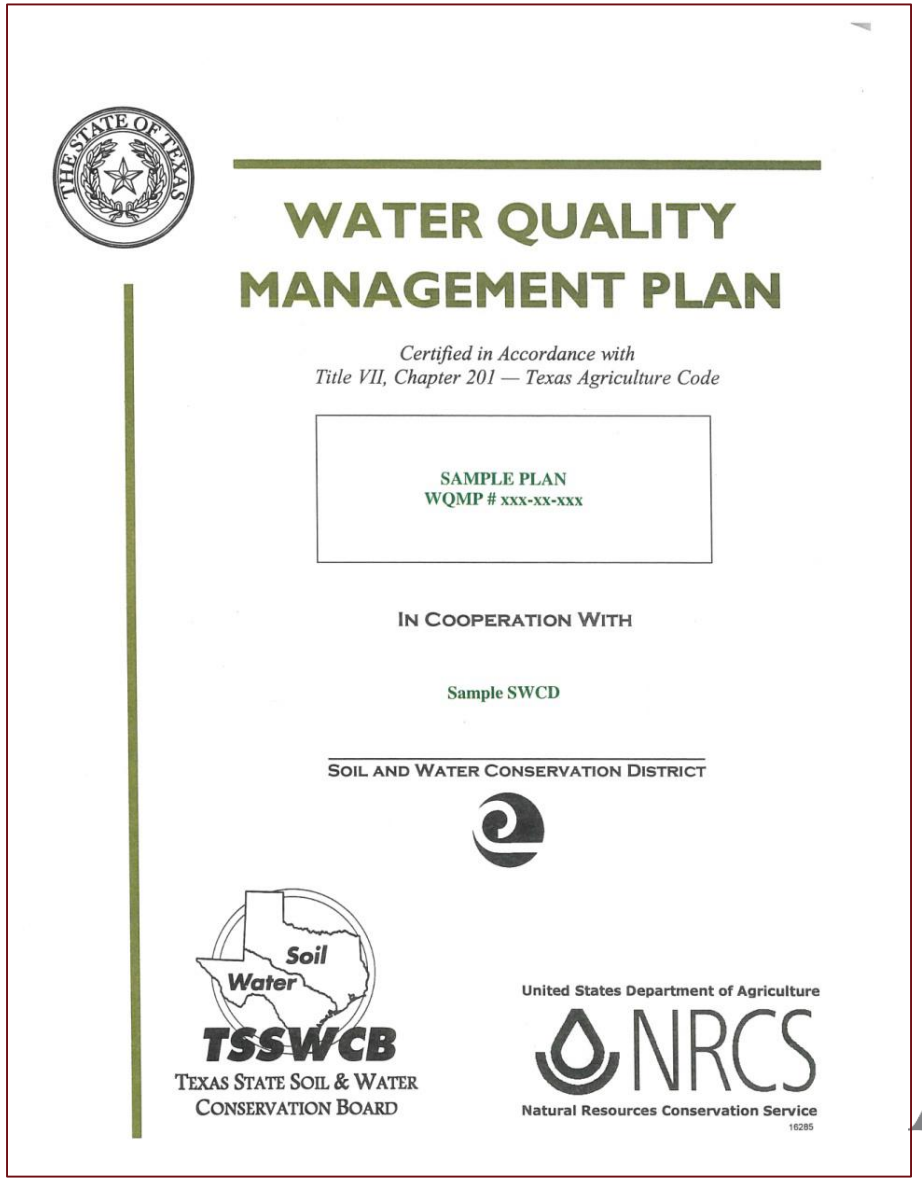
Implementation of WPP – Agricultural NPS

- What does a WQMP look like?
  - Plan of operations
  - List of practices
  - Maps
  - Administrative info
  - Schedule
  - Laws/Rules/Guidance
  - Record keeping



THE STATE OF TEXAS

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

Soil Water
TSSWCB
TEXAS STATE SOIL & WATER CONSERVATION BOARD

United States Department of Agriculture
NRCS
Natural Resources Conservation Service
16285

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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

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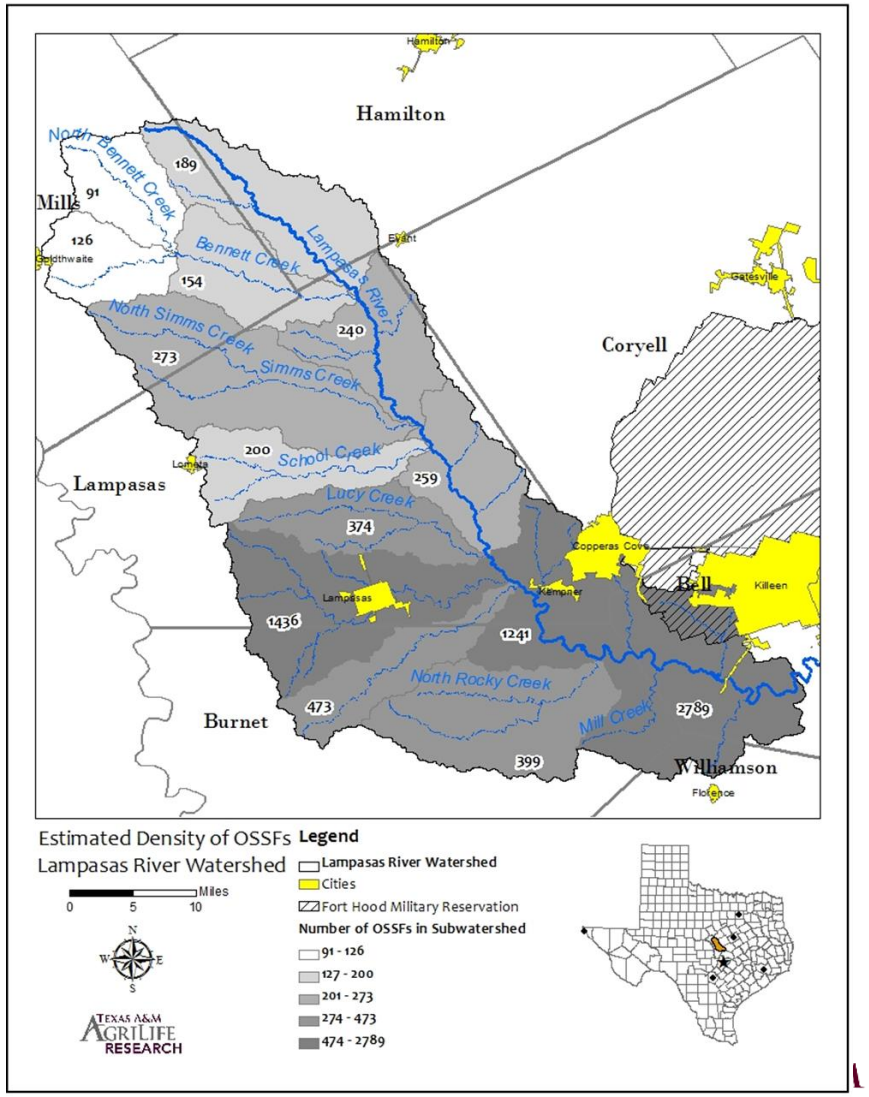
Implementation of WPP: On-Site Sewage Facility

- **Inventory and Mapping of OSSFs in the Lampasas River Watershed**
- The Lampasas 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



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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

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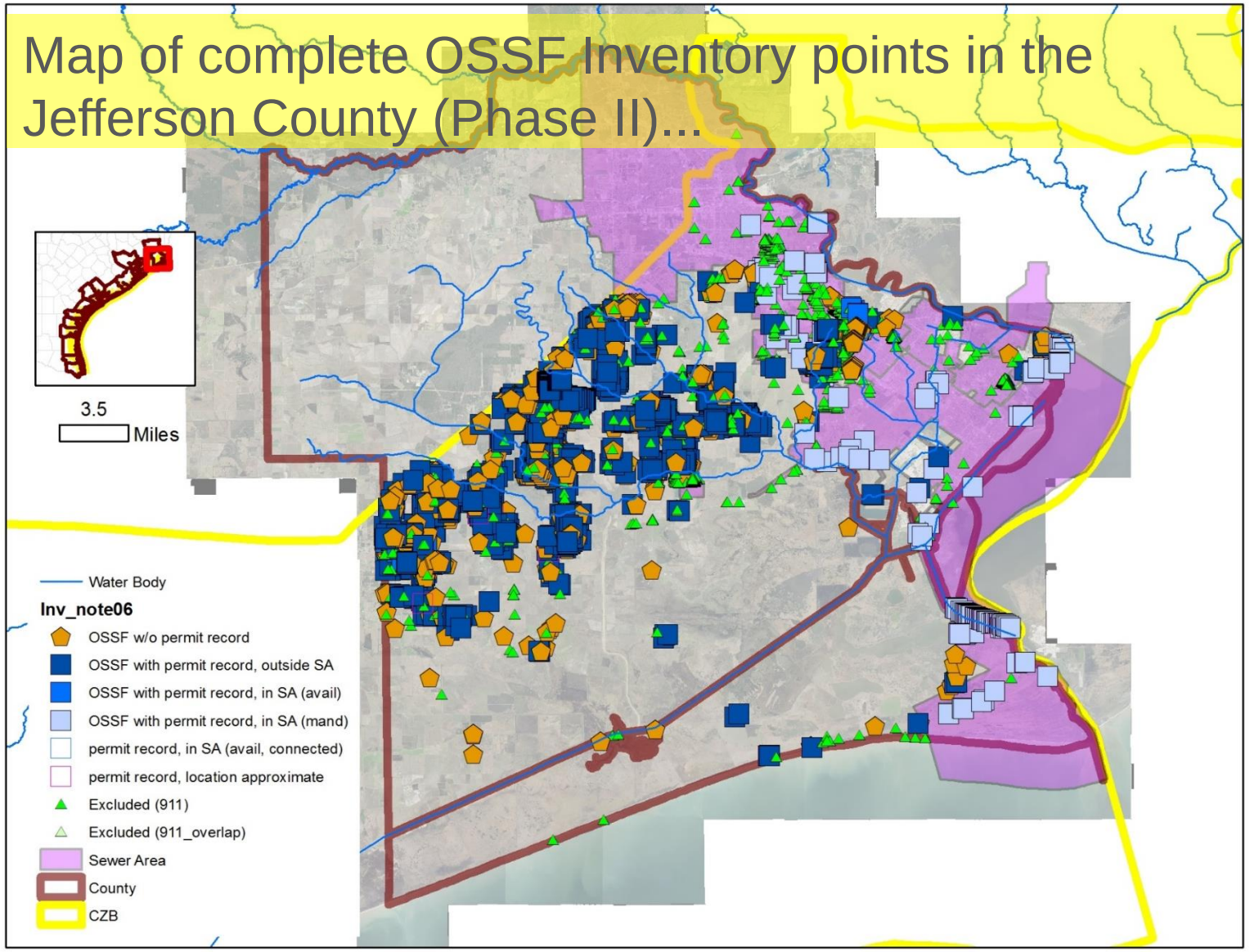
Implementation of WPP: On-Site Sewage Facility

- 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

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

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Status of Central Texas Streams

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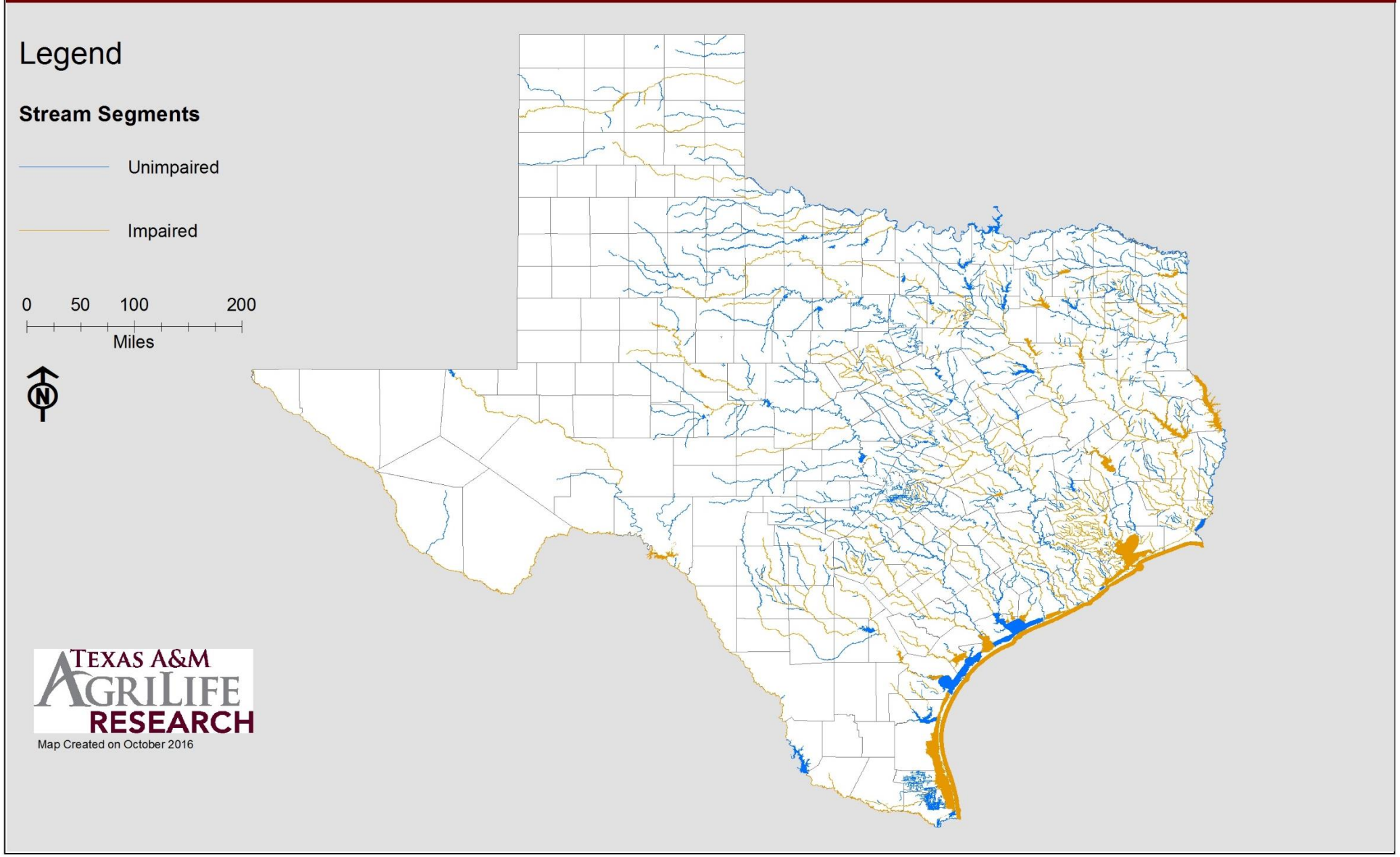
Texas Waterbodies Assessed on the 2014 Integrated Report



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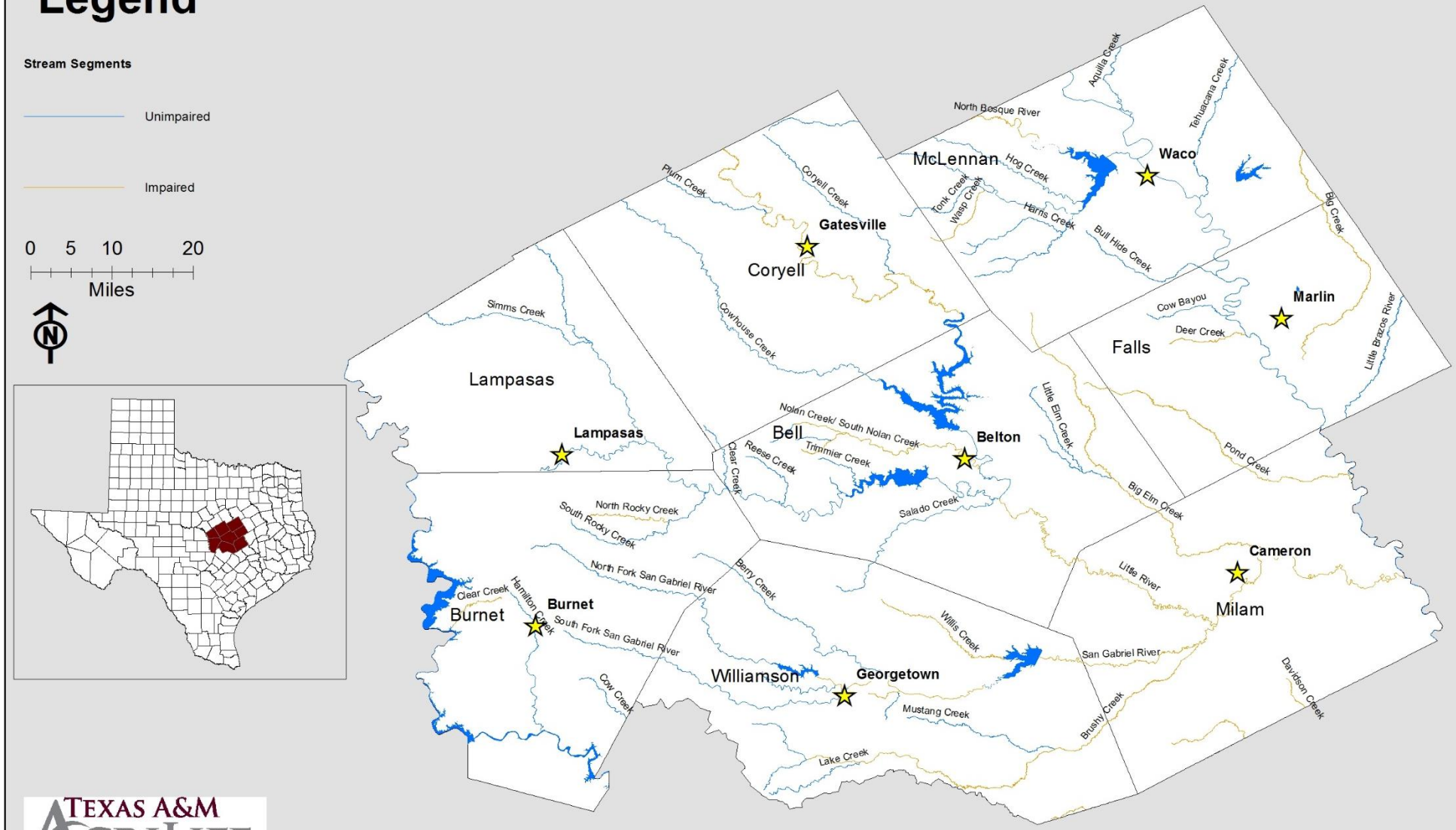
Central Texas Waterbodies on the 2014 Integrated Report



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Map Created on November 2016

Other Local Watershed Protection Plans

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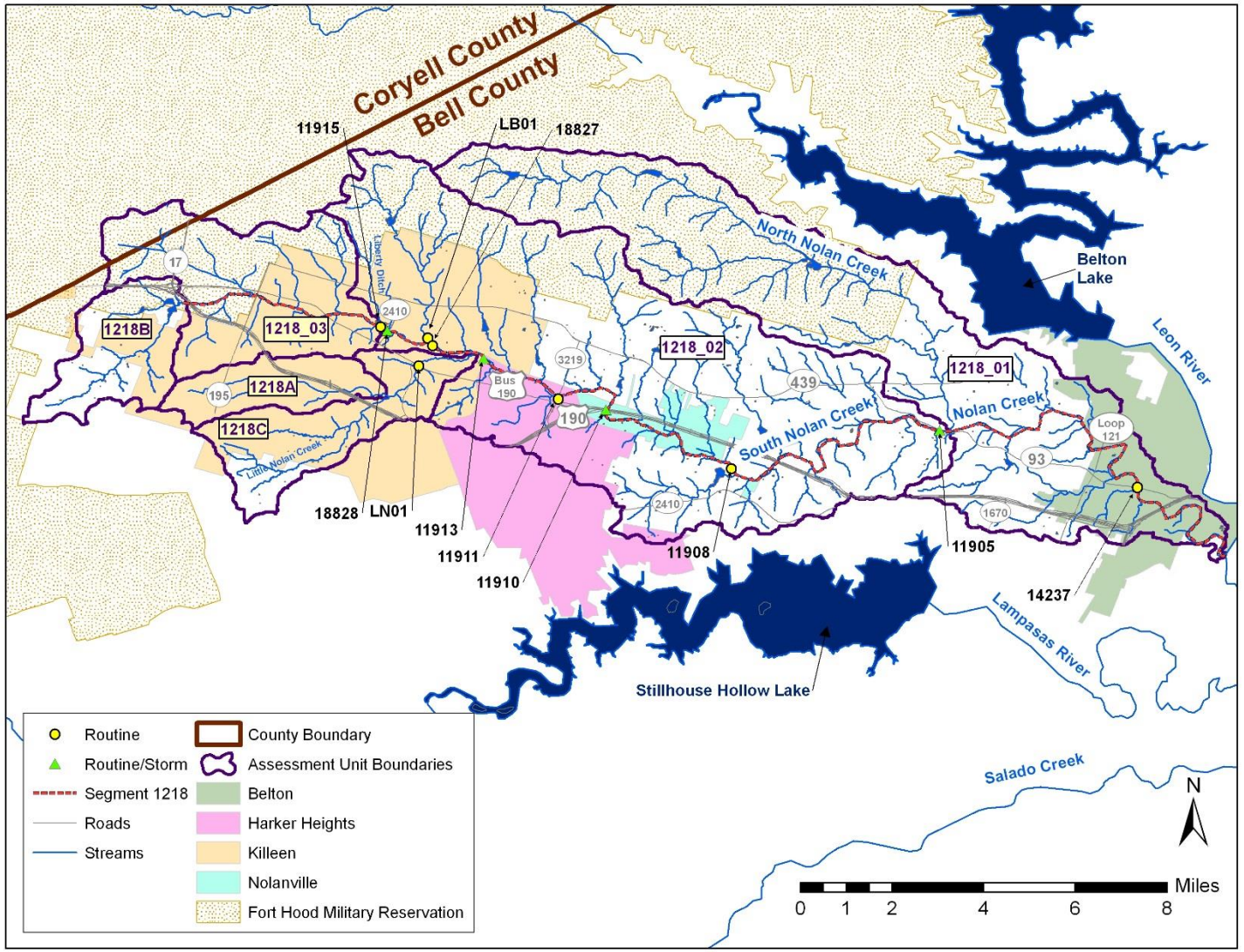
Nearby Watershed Planning Projects: Nolan Creek

- Project is administered by Texas Institute for Applied Environmental Science (Tarleton State University)
- For more information, please contact:

Leah Taylor
Public Outreach Coordinator, phone: (254) 968-0513
Email: ltaylor@tiaer.tarleton.edu

Webpage: http://www.killeentexas.gov/nolancreek watershed



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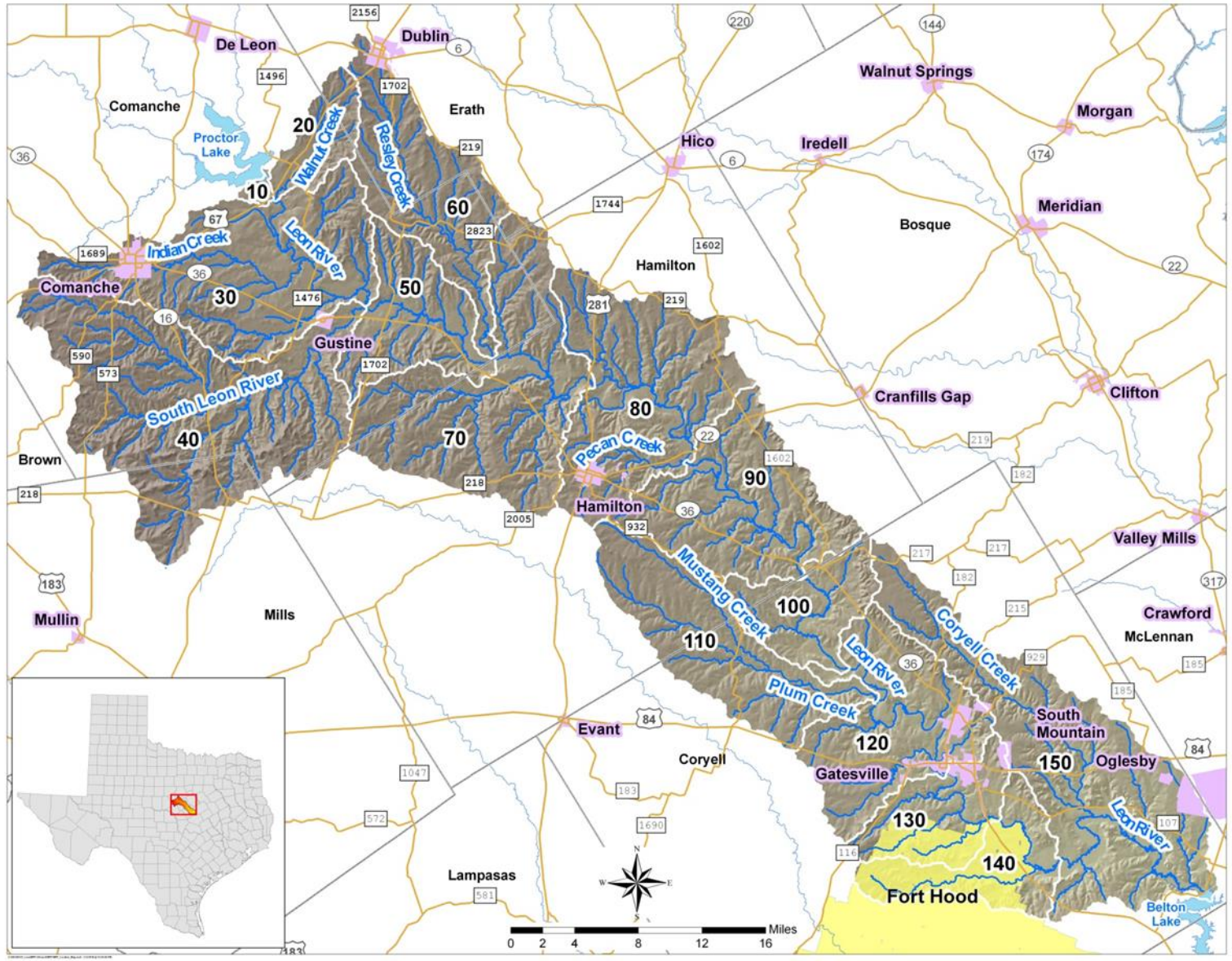
Nearby Watershed Planning Projects: Leon River

- Project is administered by Texas A&M Institute of Renewable Natural Resources
- For more information, please contact:

Andy James
Watershed Coordinator
Phone: (254) 865-2061
Email:leon.watershed@gmail.com
Webpage: http://leonriver.tamu.edu/



RESEARCH

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.

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Thank You