What's New in the Lampasas River Watershed Partnership and the Status of Other Bell County Rivers and Streams

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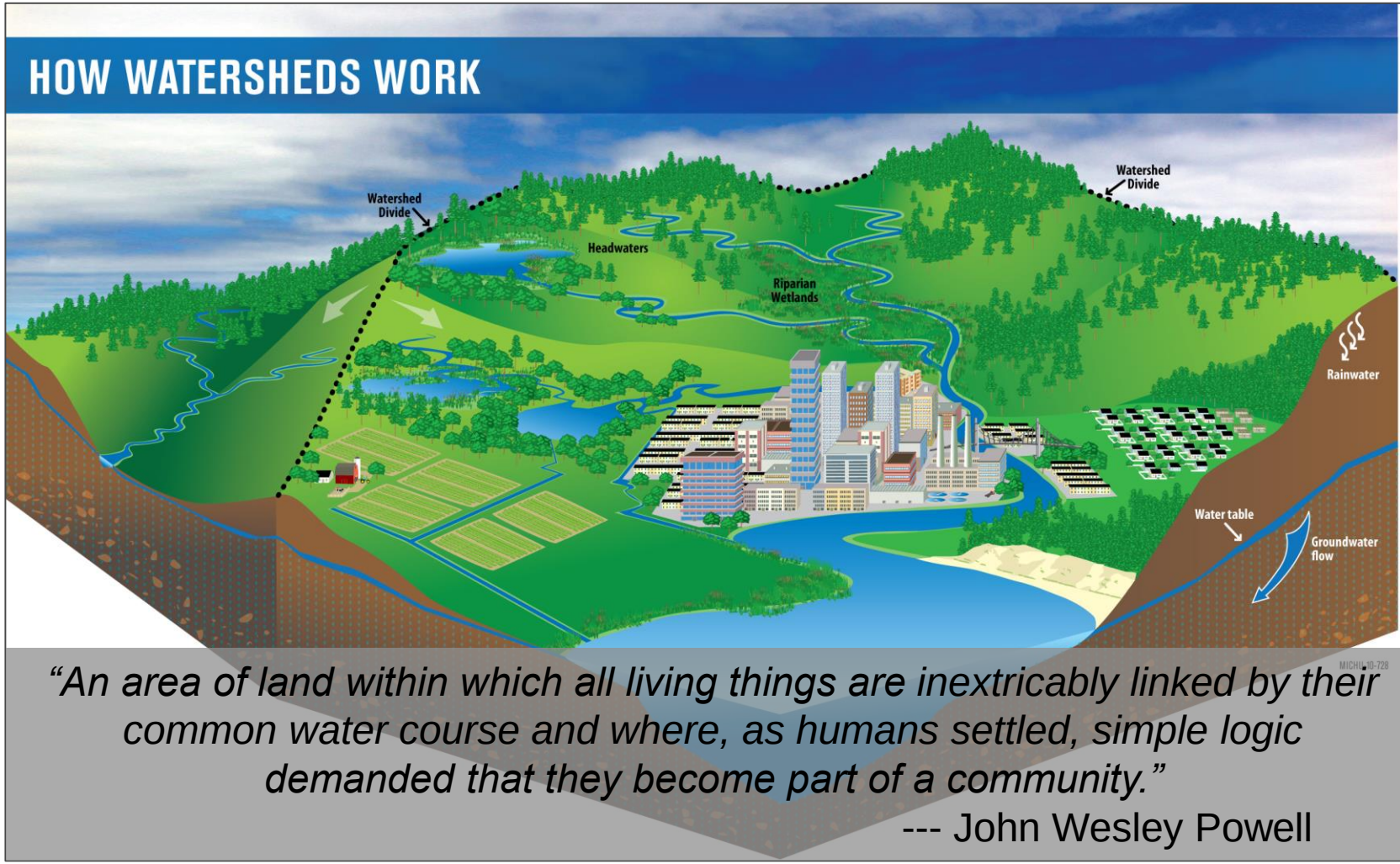
Surface Water Quality Policy

Background

- Watershed:
  - The geographic area that drains to a common body of water
- Point source pollution:
  - Can be traced to a specific location, such as an industrial operation or a wastewater treatment facility
- Nonpoint source pollution:
  - Originates from multiple locations, carried primarily by rainfall runoff.



"An area of land within which all living things are inextricably linked by their common water course and where, as humans settled, simple logic demanded that they become part of a community."

--- John Wesley Powell

Federal Water Pollution Control Act
aka the Clean Water Act (CWA)

- Spurred by the burning rivers and growing public concern for water pollution

- Enacted to restore and maintain the chemical, physical, and biological characteristics of the nation's waters

CLEVELAND PLAIN DEALER

CLEVELAND, SUNDAY MORNING, NOVEMBER 2, 1952

OIL SLICK FIRE RUINS FLATS SHIPYARD

Surly Ohio Pen Rebels Fed at Gunpoint

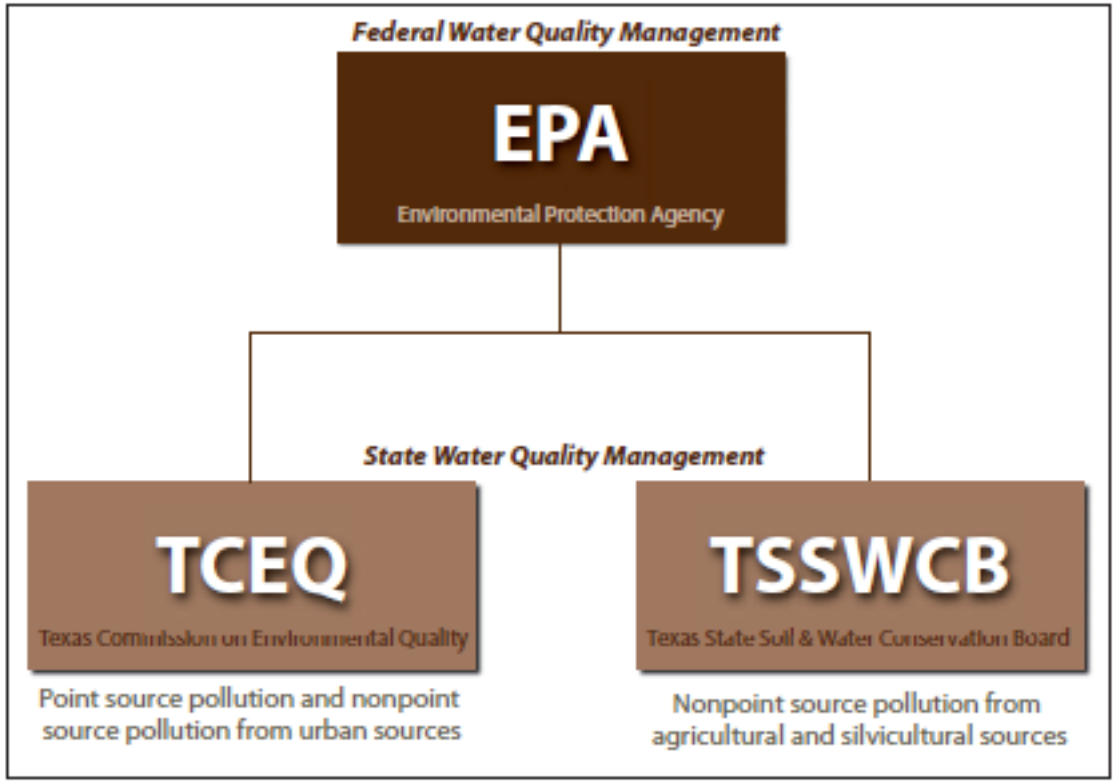
PRISON GETS FIRST QUIET AFTER RIOTS

1948 CASTS A VEIL OVER 'IKE TO WIN'

FLAMES HIT DRY DOCKS, THREE TUGS

CWA at Work in Texas

- The Texas Commission on Environmental Quality (TCEQ) is the primary water quality agency and responsible for:
  - Establishing water quality standards
  - Determining how water quality will be managed
  - Issuing permits for point source dischargers
  - Reducing all types of nonpoint source pollution, except those from agricultural and silvicultural (forestry) sources
- The Texas State Soil and Water Conservation Board (TSSWCB) is responsible for:
  - Administering the state's soil and water conservation law
  - Managing programs to prevent and reduce nonpoint source pollution from agriculture and forestry



Courtesy of Texas A&M AgriLife Extension

Compliance with the CWA: Set water quality standards

- Texas Surface Water Quality Standards
  - Written by the TCEQ with guidance from the Surface Water Quality Standards Advisory Work Group (SWQSAWG)
- Classifies stream segments
- TSWQS identify appropriate (designated) uses for the state's surface waters:

Designated Use	Designed to:
Aquatic life use	Protect plant and animal species that live in and around the water.
Recreational Contact	Ensure that water is safe for swimming or other water sports that involve direct contact with the water, especially with the possibility of ingesting it.
Public water supply	Protect public drinking water sources. The presence of high concentrations of pesticides, some metals, and dissolved minerals such as sulfate or chloride may indicate whether the water body is suitable as a source for drinking water.
Fish consumption	Protect people from eating fish or shellfish that may be contaminated.
General Uses	Protect multiple uses and aesthetic conditions; Basic uses such as navigation, agricultural water supply, and industrial water supply

Compliance with the CWA: Assess surface water bodies

- 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

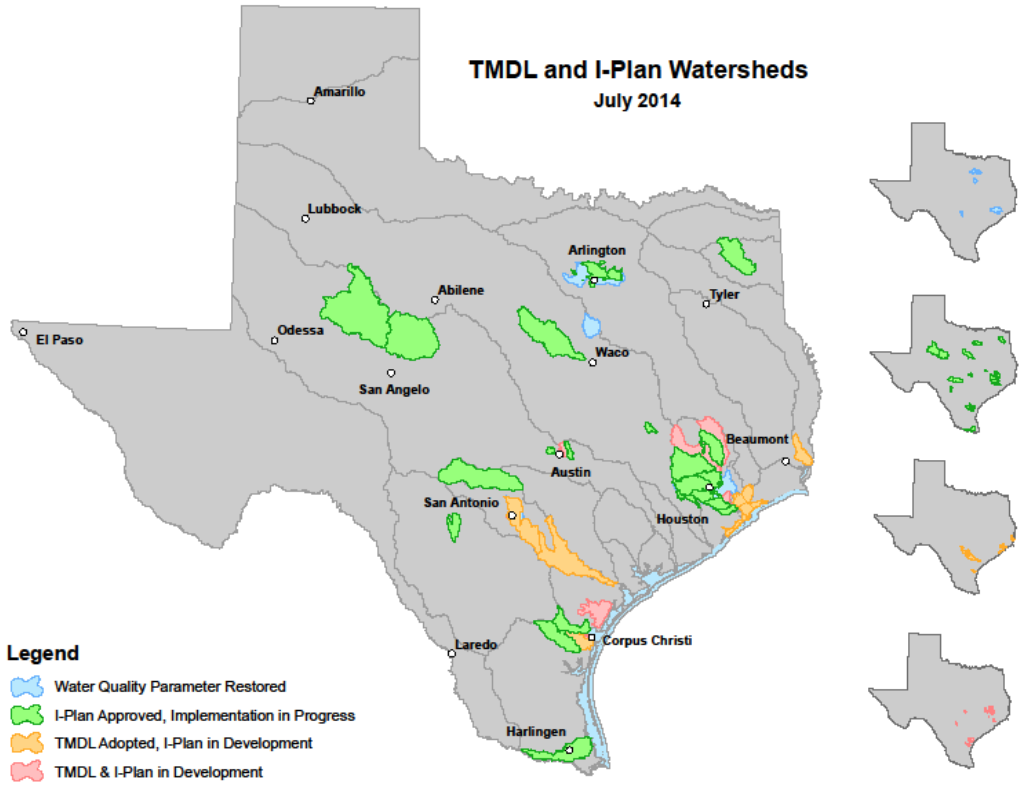
Steps After Impairment

- CWA requires states to address pollution concerns once a water body is placed on the 303(d) list
- Texas uses several strategies to accomplish this:
  - Analysis of standards
  - Targeted for additional monitoring and Assessment
  - TMDLs / I Plan or WPP

- If there is reason to believe that one or more of the assigned standards may be inappropriate because of local conditions.
- Used when there is insufficient information to determine the best course of action for an impaired segment.
- Waters in this category are slated for a review of their standards, called a use attainability analysis, or UAA.
- Additional data and information are collected to determine the next course of action.
- Total Maximum Daily Load and Implementation Plan
- Watershed Protection Plan
- Waterbodies in this category support the diverse aquatic community and fishery even though some components of their overall water quality are not superior under natural conditions.

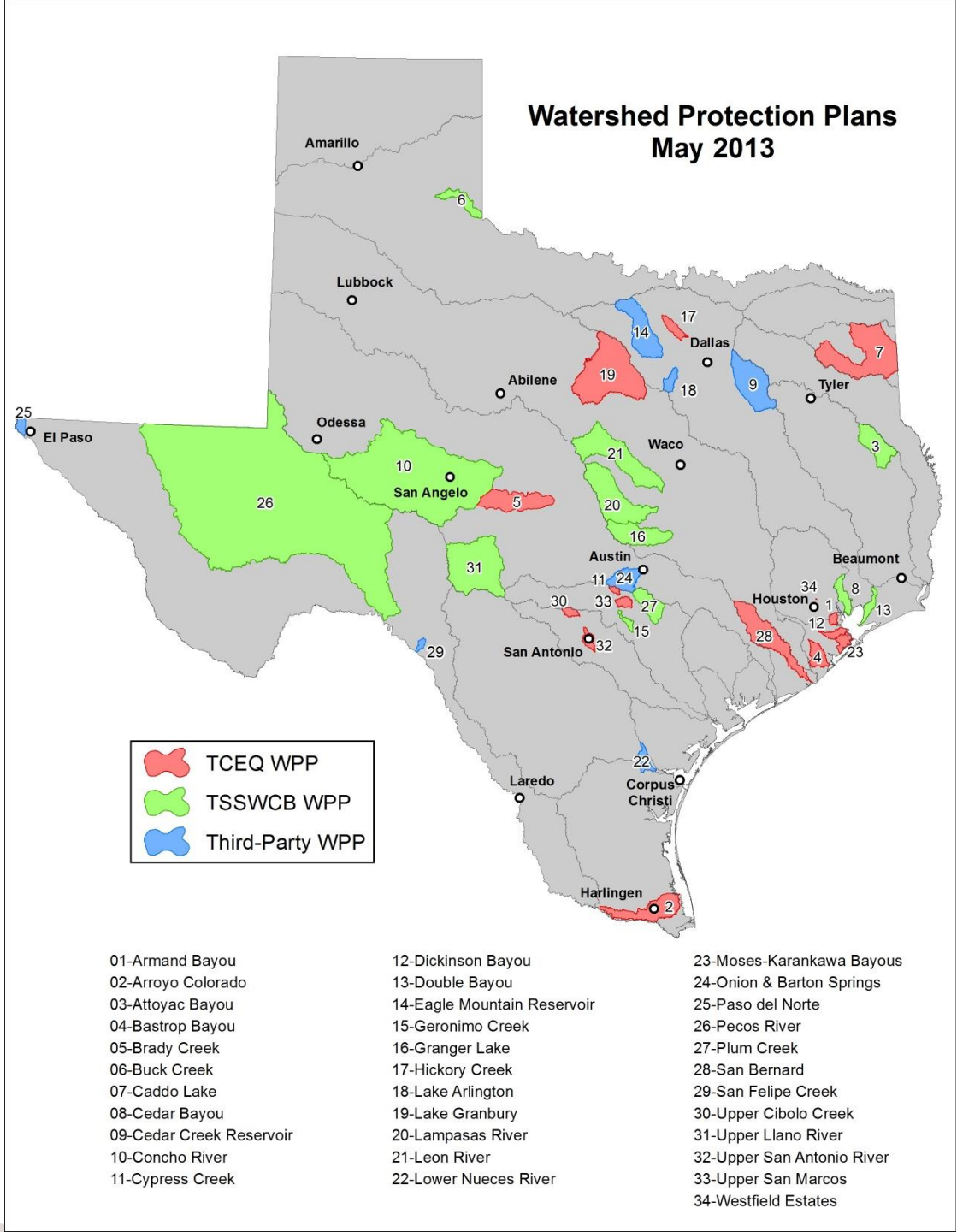
Total Maximum Daily Loads and Implementation Plans

- Determines the maximum amount of a pollutant that a segment can receive and still both attain and maintain its water quality standards; and
- Allocates this allowable amount (load) to point and nonpoint sources in the watershed.



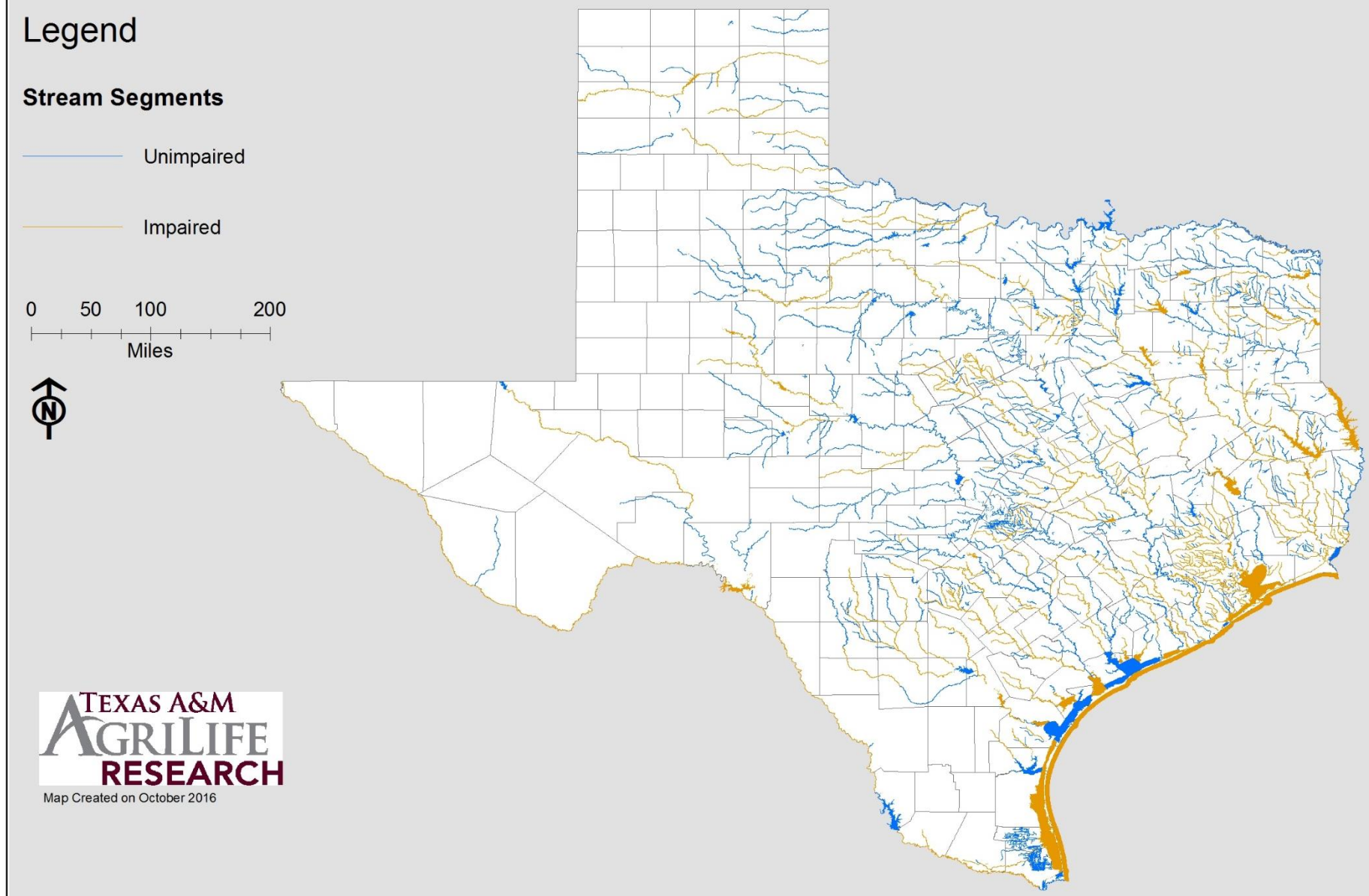
Watershed Protection Plans

- 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

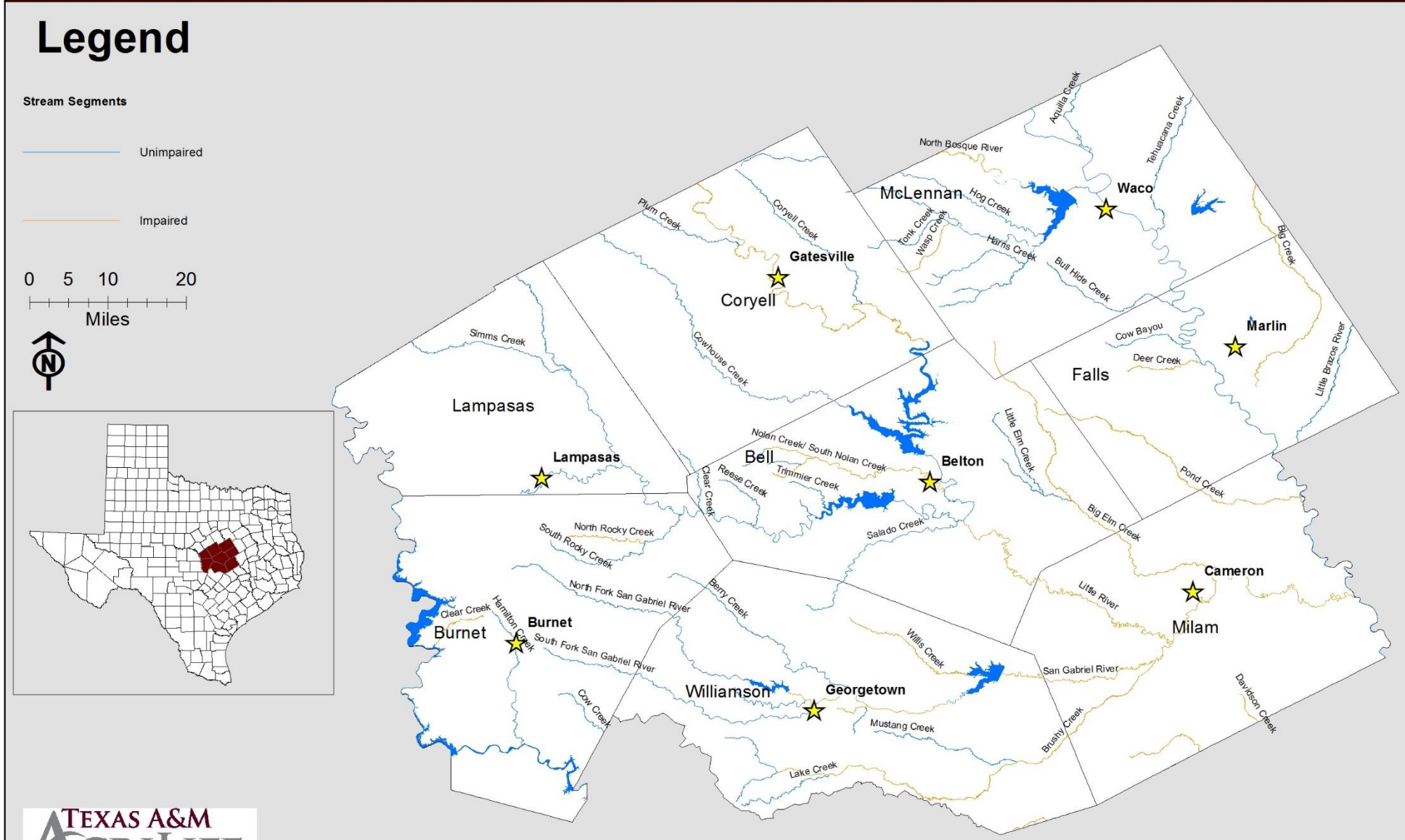


Status of Central Texas Streams

Texas Waterbodies Assessed on the 2014 Integrated Report



Central Texas Waterbodies on the 2014 Integrated Report



TEXAS A&M AGRILIFE RESEARCH

Map Created on November 2016

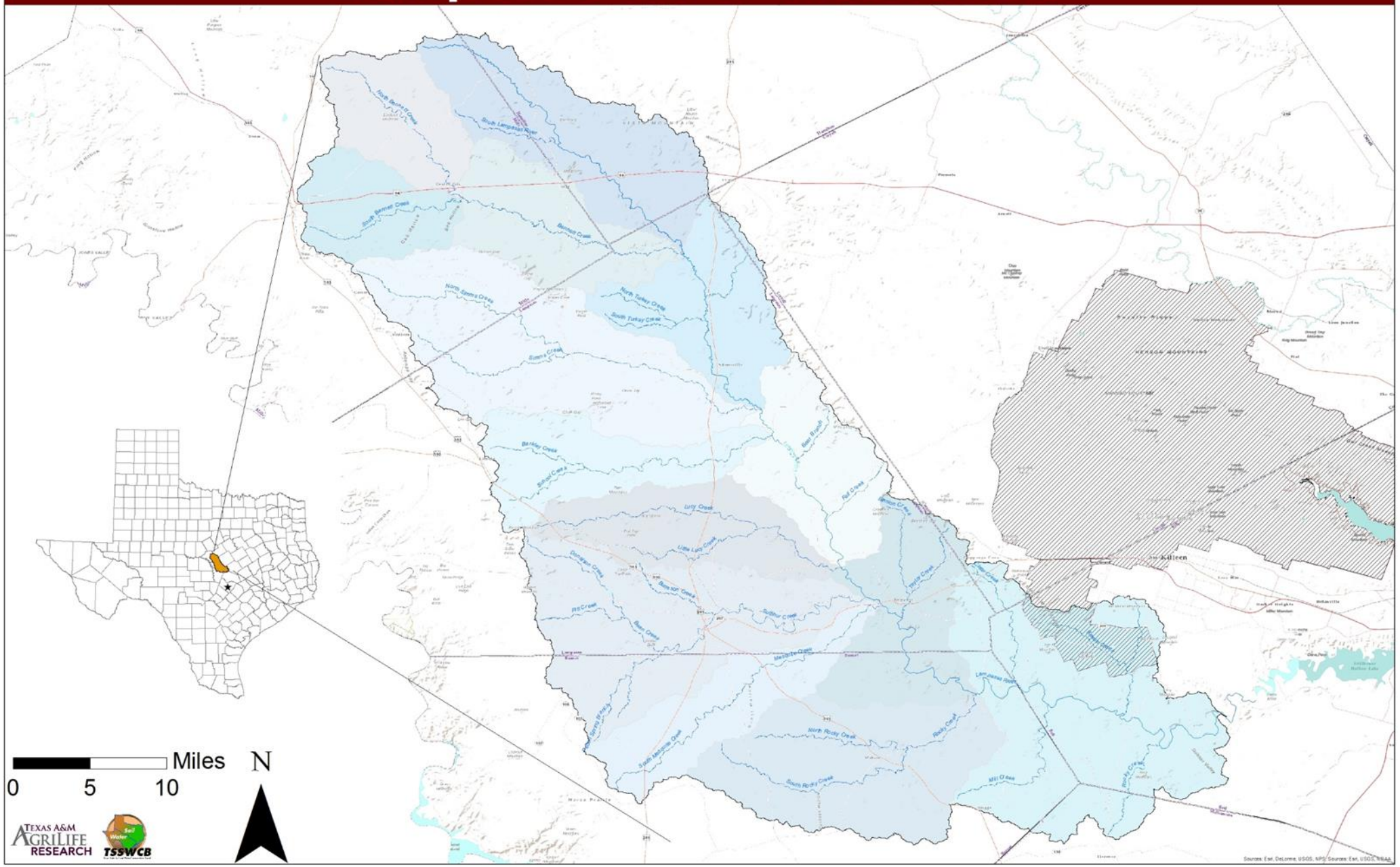
Segment ID	Segment	Designated Use Impairment				
		Aquatic Life Use	Contact Recreation	General	Fish Consumption	Public Water Supply
1211A	Davidson Creek	Y	Y	N	N	N
1212A	Middle Yegua Creek	N	Y	N	N	N
1212B	East Yegua Creek	N	Y	N	N	N
1213	Little River	N	Y	N	N	N
1213A	Big Elm Creek	N	Y	N	N	N
1213B	Little Elm Creek	N	N	N	N	N
1213C	Unnamed Tributary of Little Elm Creek	N	N	N	N	N
1214	San Gabriel River	N	N	Y	N	N
1215	Lampasas River Below Stillhouse Hollow Lake	N	N	N	N	N
1216A	Trimmier Creek	N	N	N	N	N
1218C	Little Nolan Creek	N	Y	N	N	N
1219	Leon River Below Belton Lake	N	N	N	N	N
1220A	Cowhouse Creek	N	N	N	N	N
1221	Leon River Below Proctor Lake	N	Y	N	N	N
1221E	Plum Creek	N	N	N	N	N
1217B	Sulphur Creek	N	N	N	N	N
1217C	Simms Creek	N	N	N	N	N
1217D	North Rocky Creek	Y	N	N	N	N
1217E	South Rocky Creek	N	N	N	N	N
1217F	Reese Creek	N	N	N	N	N
1218	Nolan Creek/ South Nolan Creek	N	Y	N	N	N
1218A	Unnamed Tributary to Little Nolan Creek	N	N	N	N	N

Segment ID	Segment	Designated Use Impairment				
		Aquatic Life Use	Contact Recreation	General	Fish Consumption	Public Water Supply
1216B	Onion Creek	N	N	N	N	N
1217	Lampasas River Above Stillhouse Hollow Lake	N	N	N	N	N
1217A	Rocky Creek	N	N	N	N	N
1246	Middle Bosque/South Bosque River	N	N	N	N	N
1246A	Harris Creek	N	N	N	N	N
1246B	Commanche Springs Spring Brook	N	N	N	N	N
1246C	Unnamed Tributary of South Bosque River	N	N	N	N	N
1246D	Tonk Creek	N	N	N	N	N
1218B	South Nolan Creek	N	N	N	N	N
1242	Brazos River Above Navasota River	N	N	N	N	N
1242E	Little Brazos River	N	N	N	N	N
1242F	Pond Creek	N	Y	N	N	N
1242J	Deer Creek	N	Y	N	N	N
1242N	Tehuacana Creek	N	N	N	N	N
1244A	Brushy Creek Above South Brushy Creek	N	N	N	N	N
1244B	Lake Creek	N	N	N	N	N
1244C	Mustang Creek	N	N	N	N	N
1244D	South Brushy Creek	N	N	N	N	N
1242P	Big Creek	N	Y	N	N	N
1242Q	Bull Hide Creek	N	N	N	N	N
1242R	Cow Bayou	N	N	N	N	N
1243	Salado Creek	N	N	N	N	N

Segment ID	Segment	Designated Use Impairment				
		Aquatic Life Use	Contact Recreation	General	Fish Consumption	Public Water Supply
1244	Brushy Creek	N	Y	N	N	N
1409A	Cherokee Creek	N	N	N	N	N
1256	Brazos River/Lake Brazos	N	N	N	N	N
1256A	Aquilla Creek	N	N	N	N	N
1409	Colorado River Above Lake Buchanan	N	N	N	N	N
1407A	Clear Creek	Y	N	Y	N	N
1221G	Coryell Creek	N	N	N	N	N
1225A	Hog Creek	N	N	N	N	N
1226	North Bosque River	N	N	Y	N	N
1257	Brazos River Below Lake Whitney	N	N	N	N	N
1404A	Hamilton Creek	N	N	N	N	N
1404B	Cow Creek	N	N	N	N	N
1217G	Clear Creek	N	N	N	N	N
1246E	Wasp Creek	N	Y	N	N	N
1247A	Willis Creek	N	Y	N	N	N
1248	San Gabriel/North Fork San Gabriel River	N	N	Y	N	N
1248A	Berry Creek	N	N	N	N	N
1248B	Huddleston Branch	N	N	N	N	N
1248C	Mankins Branch	N	Y	N	N	N
1248D	Middle Fork San Gabriel River	N	N	N	N	N
1250	South Fork San Gabriel River	N	N	N	N	N
1251	North Fork San Gabriel River	N	N	N	N	N

The Lampasas River WPP

Lampasas River Watershed



Why are we here?

- Routine water quality samples exceeded the Texas Surface Water Quality Standards for fecal coliform

- Clean Water Act §319(h) grant from TSSWCB and U.S. EPA to address the bacteria impairment and other pollutant concerns

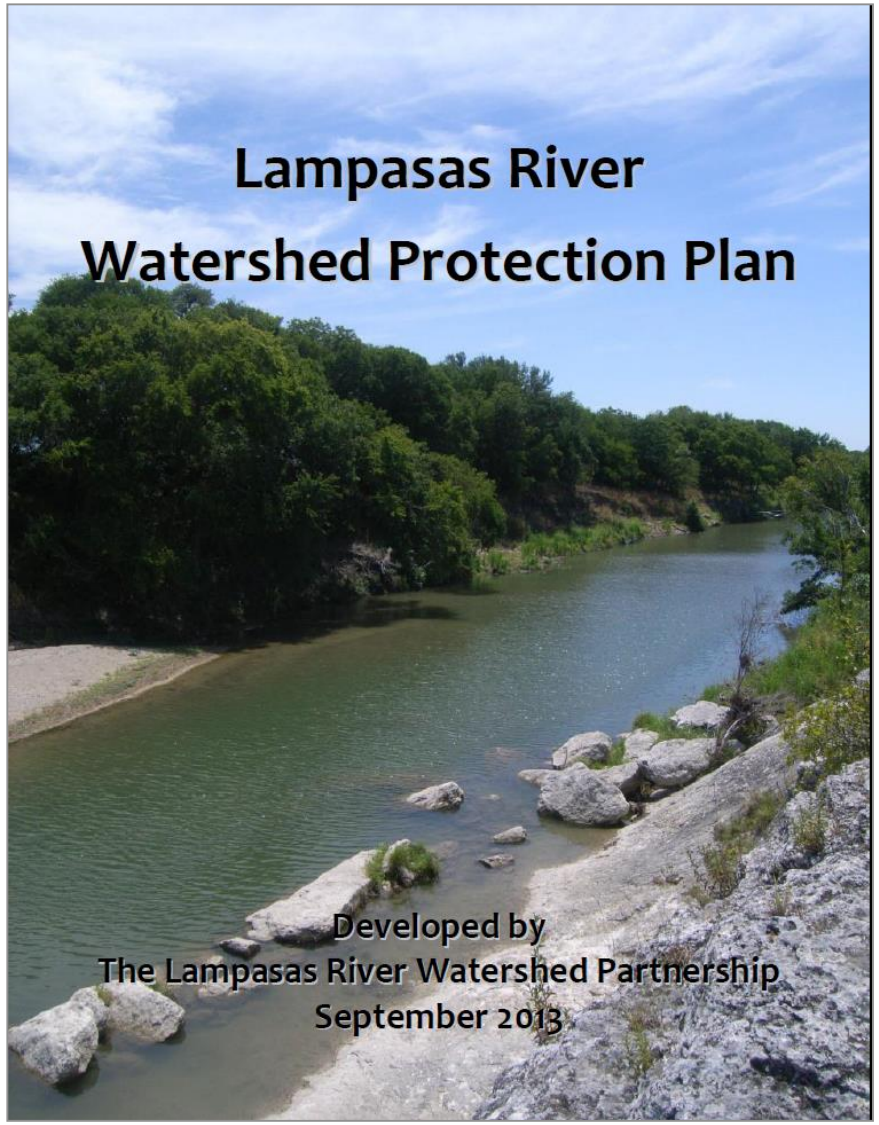
Who Developed the WPP?

- The Lampasas River Watershed Partnership:
  - Concerned local stakeholders facilitated by Texas A&M AgriLife Research
- Steering Committee:
  - Decision-making body of the Partnership
- Topical Work Groups:
  - Work Groups dedicated to specific topic areas; with knowledge and expertise to that field
- Technical Advisory Group:
  - Comprised of state and federal agency experts to provide technical advice

Funding provided by Clean Water Act §319(h) grant from TSSWCB and U.S. EPA

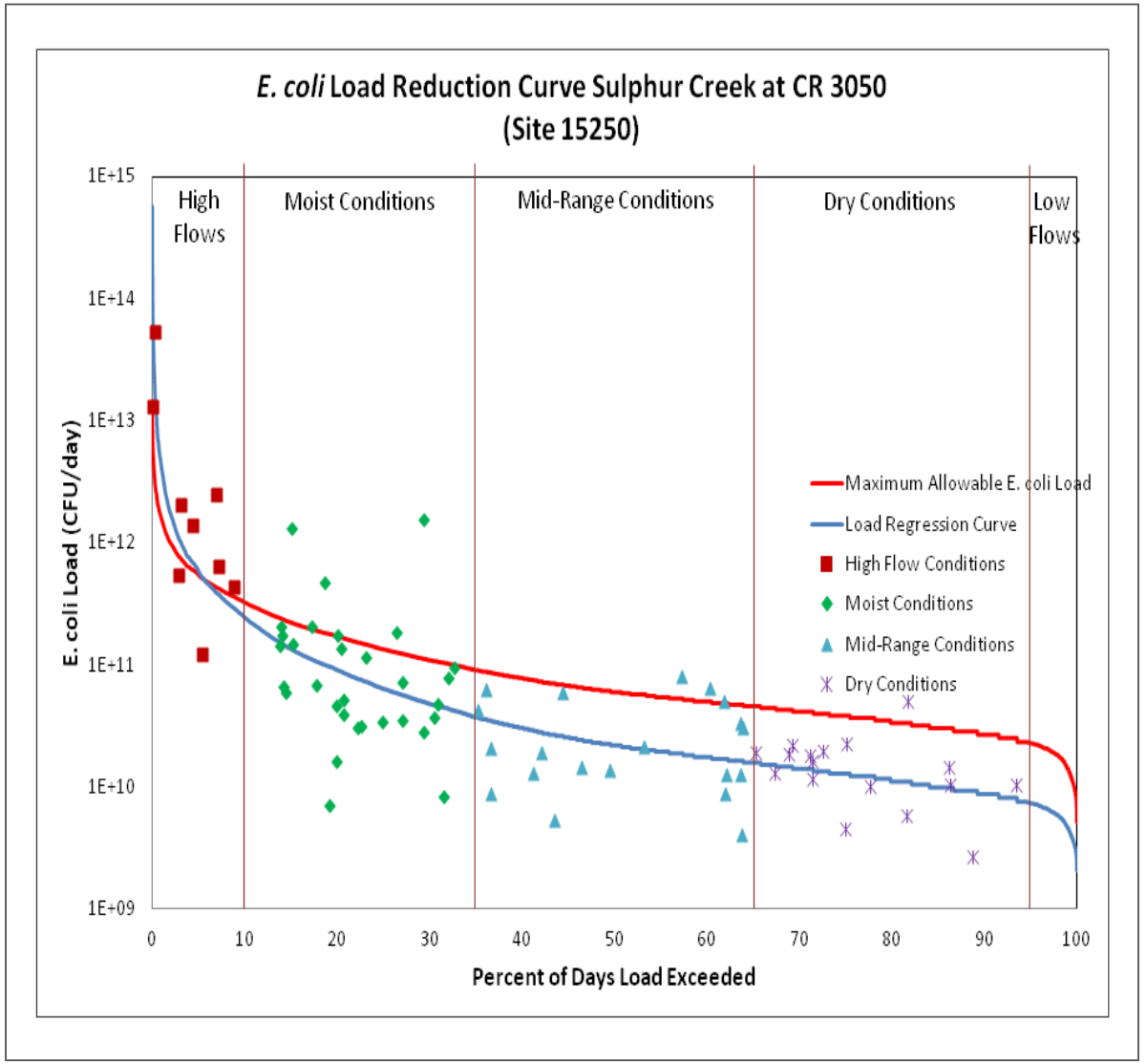
What's the Lampasas River Watershed Protection Plan?

- Addresses all sources and causes of impairments and threats to water resources within a watershed



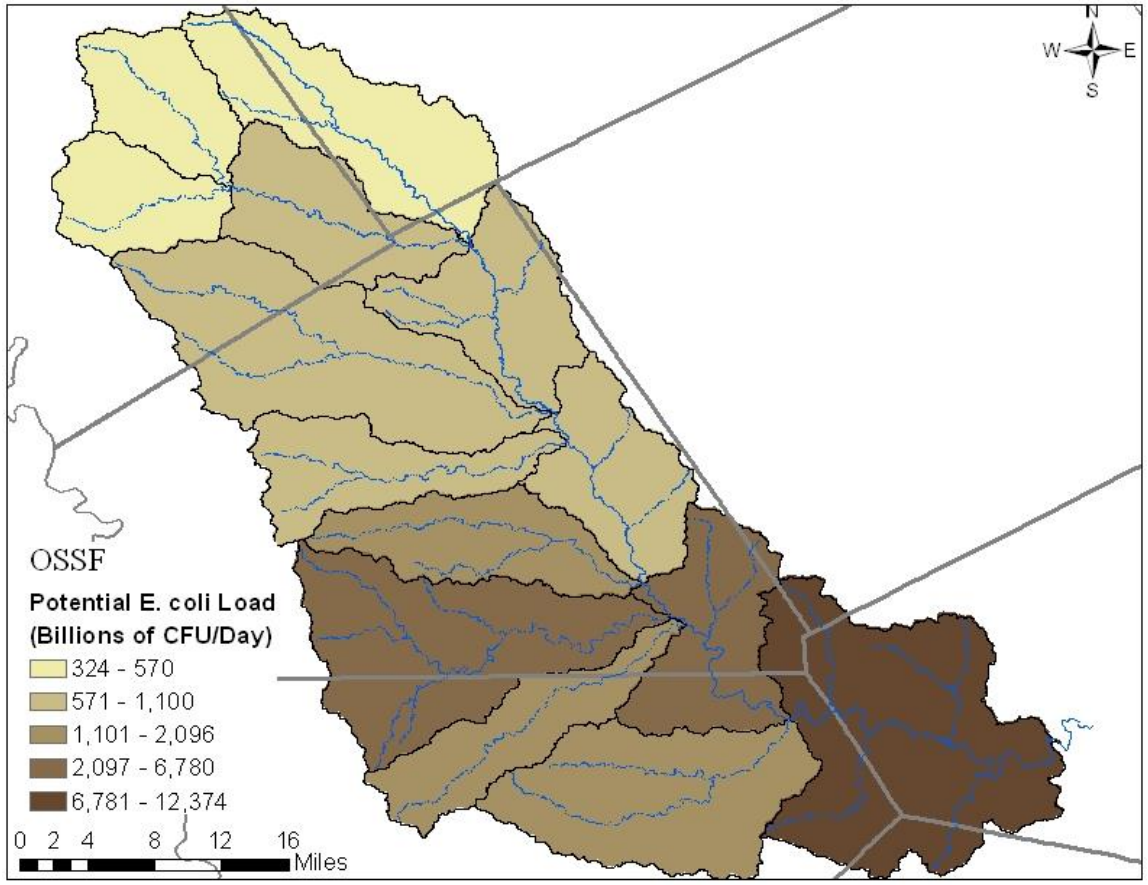
What's the Lampasas River Watershed Protection Plan?

- Analysis of historical water quality data



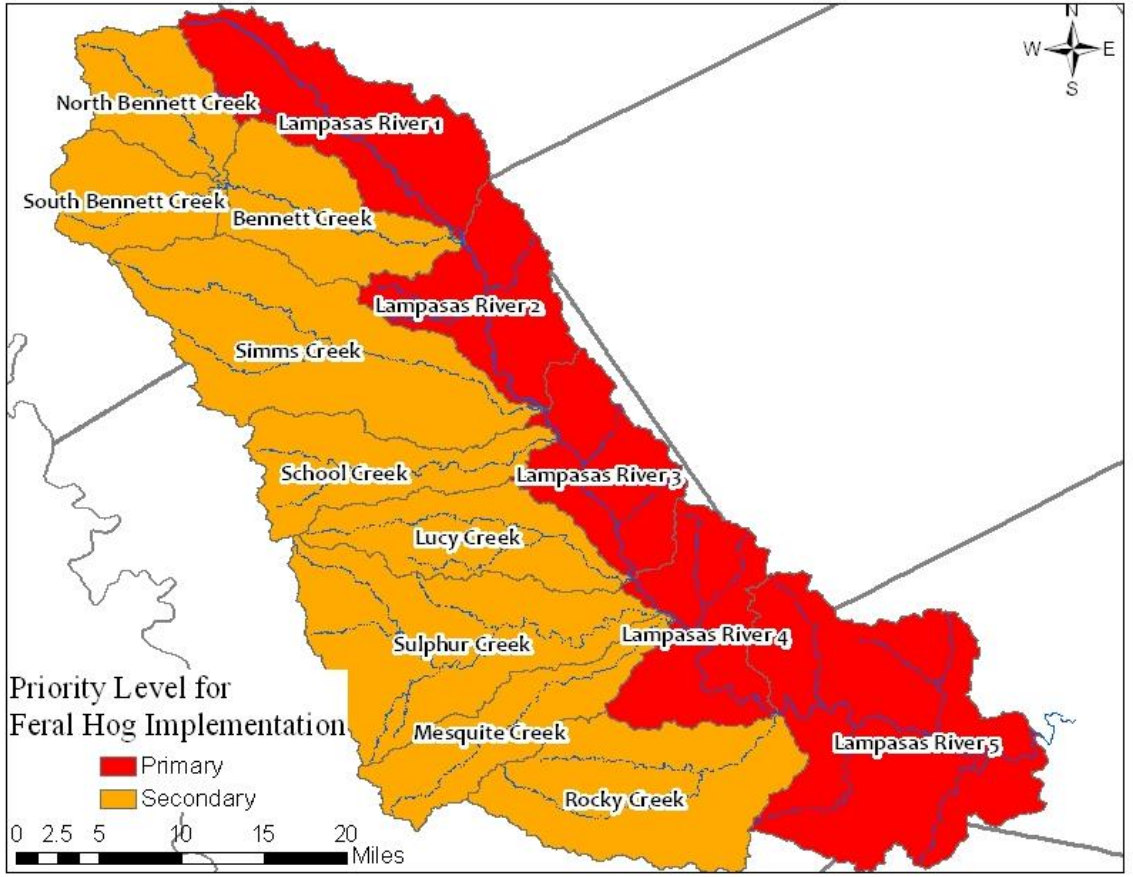
What's the Lampasas River Watershed Protection Plan?

- Models potential water quality conditions



What's the Lampasas River Watershed Protection Plan?

- Prioritizes subwatersheds from implementation of Best Management Practices



What's the Lampasas River Watershed Protection Plan?

- Identifies management practices and outlines a 10-year timeline that promotes a unified approach to seeking funding for Implementation

Table 9.1 Schedule of milestones, responsible parties and estimated costs for recommended management measures.

Management Measure	Responsible Party	Unit Cost	Number Implemented Year			Total Cost
			1 - 3	4 - 6	7 - 10	
Agricultural Management Measures						
WQMP Technician (New Position)	SWCD	$75,000/year	1			$750,000
Water Quality Management Plans	SWCD	$15,000/plan	65	64	64	$2,895,000
Non-Domestic Animal and Wildlife Management Measures						
Feral Hog Specialist (New Position)	AgriLife Extension	$90,000/year	1			$900,000
Feral Hog Managment (Equipment)	AgriLife Extension	$500/trap	10	---	---	$5,000
Monitoring Component						
Targeted Water Quality Monitoring	AgriLife Research	$150,000/year for 10 sites	3	---	---	$450,000[1]
Wastewater Management Measures						
Wastewater Collection System Line Replacement	City of Lampasas	$100,000/ year	3	3	4	$1,000,000[2]
Wastewater Collection System Line Replacement	City of Lampasas	$250,000/ biennium	3	3	4	$1,250,000[3]
Wastewater Collection System Study	City of Lampasas	$50,000/ study	1	---	---	$50,000
Sanitary Sewer Inspection Program	City of Lampasas	$20,000/ camera	1	---	---	$20,000
OSSF Inventory and Database Development	Counties	$42,000/year	1	---	---	$126,000

What's the Lampasas River Watershed Protection Plan?

- Creates a coordinated public communication and education program

Table 9.2 Responsible party, program milestones and estimated financial costs for outreach and education programs.

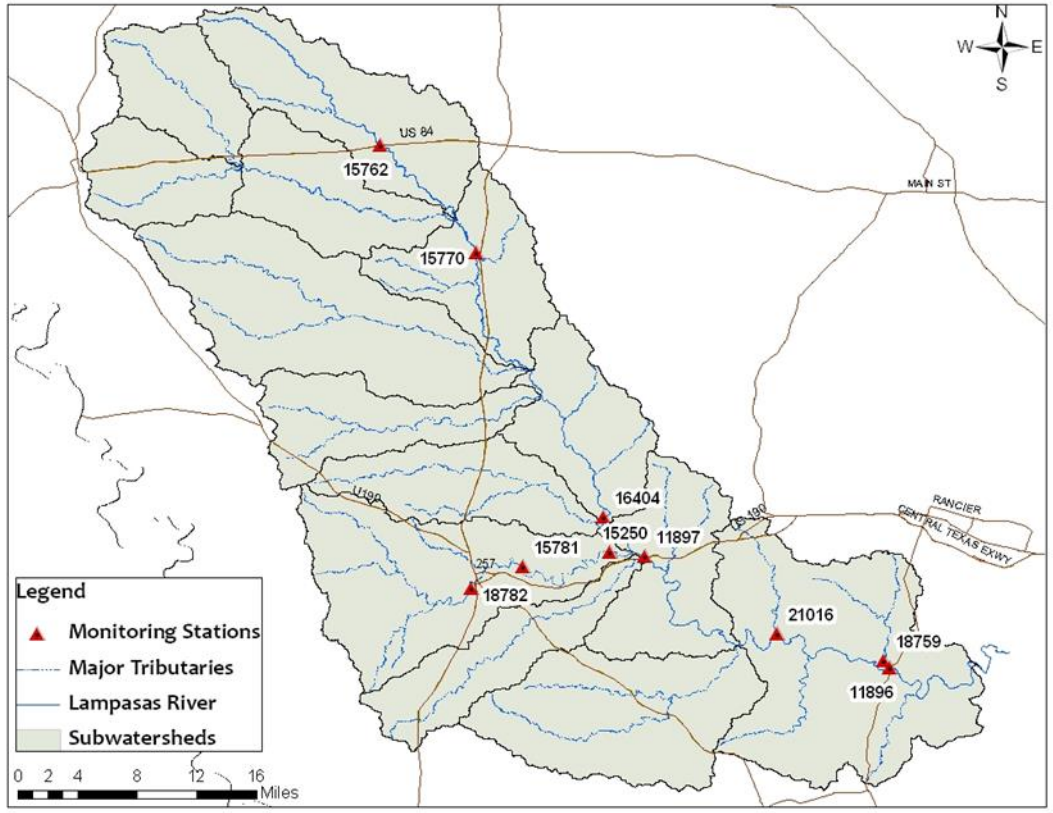
Management Measure	Responsible Party	Number of Programs Year			Total Cost
		1 - 3	4 - 6	7 - 10	
Broad-Based Programs					
Partnership Awareness Campaign	Partnership	3	3	4	$10,000
Displays at Local Events	AgriLife Research	5	5	5	$3,000
Texas Watershed Stewards Program	AgriLife Extension	2	1	1	N/A
Riparian Management Workshops	AgriLife Research/NRCS	6	4	6	N/A
Tributary and Roadway Signage	Partnership	---	18	---	$3,600[1]
Illegal Dumping Campaign	Partnership	3	3	4	TBD
"Don't Mess With Texas Water" signage	Counties / TCEQ	--	3	--	$3,000
Texas Waterway Cleanup Program	Keep Texas Beautiful	3	3	4	N/A
Water Quality in the Classroom Kits	BRA / Texas Stream Team	3	3	2	$8,000
Volunteer Monitor Training	Texas Stream Team	1	1	1	N/A
Household Hazardous Waste Days	CTCOG	2	2	2	N/A
Texas Well Owner Network Trainings	AgriLife Extension	2	2	2	N/A
Urban Stormwater Programs					
Urban Soil and Water Testing Campaign	AgriLife Extension	3	3	4	$36,000
Pet Waste Awareness	Partnership	3	3	4	$35,000
SAFE Workshops	AgriLife Extension	1	2	2	$22,500
Advertise Stormwater Control Training Module	Partnership	3	3	4	$10,000

Implementation of WPP:

- ***Implementing Agricultural Nonpoint Source Components of the Lampasas River Watershed Protection Plan***
  - Technical and financial assistance through local Conservation District Technician and Soil and Water Conservation Technician
    - Hill Country Soil & Water Conservation District
    - 502 E. Key Ave, Ste. E, Lampasas, TX 76550
    - 512-556-5572 ext. 3

Implementation of WPP:

- ***<u>Continuation of Surface Water Quality Monitoring to Support the Implementation of the Lampasas River Watershed Protection Plan</u>***
- Monitor surface water quality at 10 sites along mainstem and tributaries

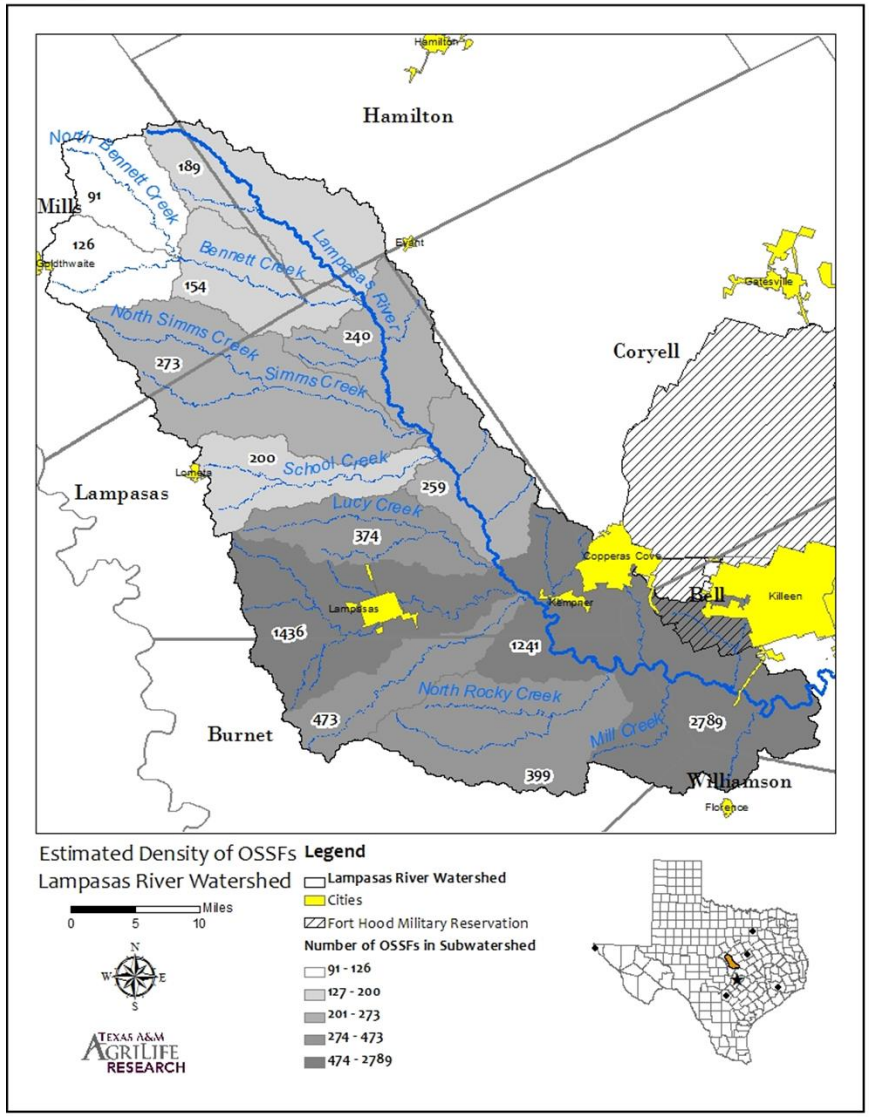


Implementation of WPP:

- ***<u>Continued Coordinating Implementation of the Lampasas River Watershed Protection Plan</u>***
- Watershed Coordinator to seek and leverage funds for implementation and facilitate education and outreach opportunities

Implementation of WPP:

- **Lampasas River Watershed Protection Plan Implementation – On-Site Sewage Facilities Database** – Develop a database of all permitted and unpermitted On-Site Sewage Facilities (OSSF) within the Lampasas River watershed



Implementation of WPP:

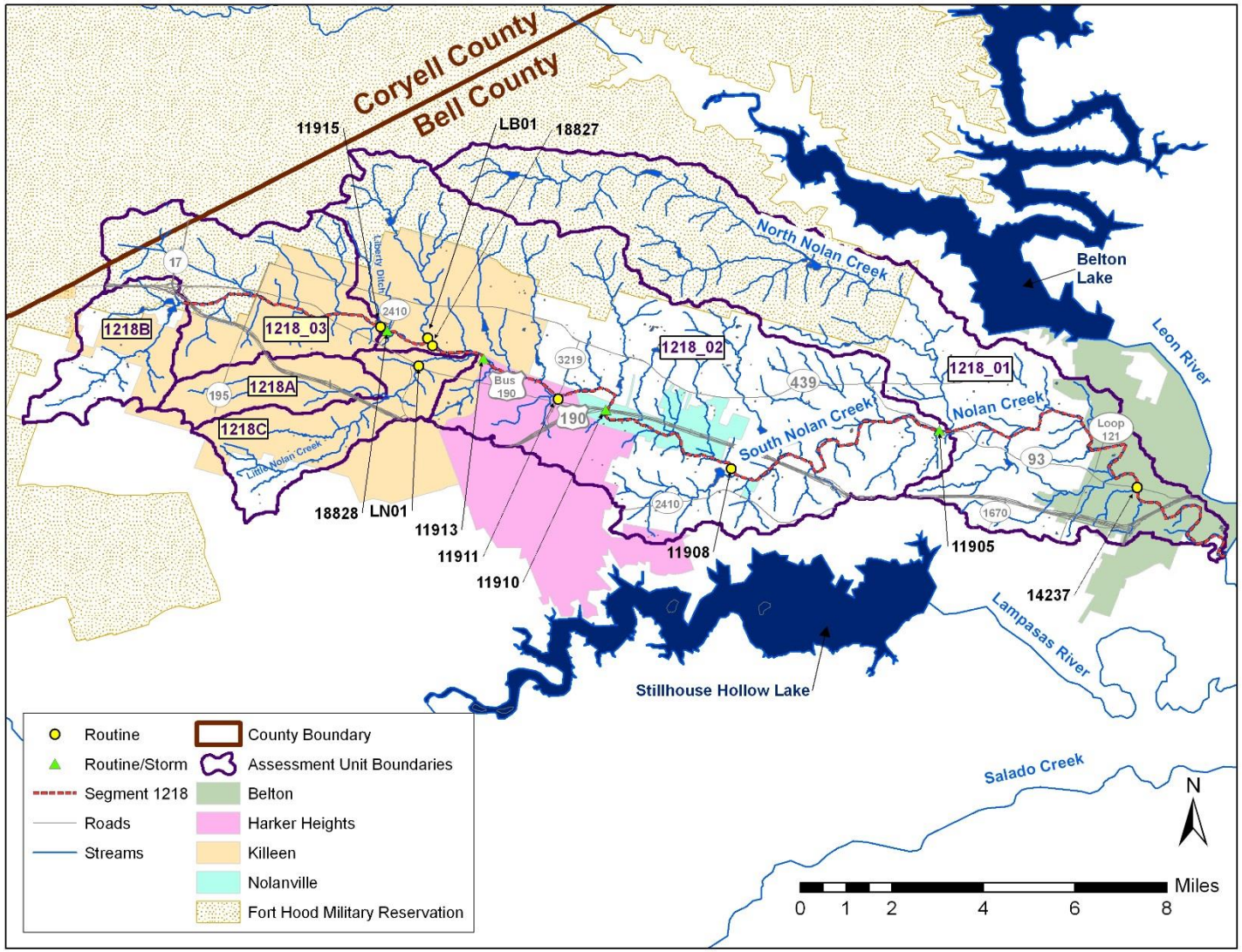
- **Enhancing Feral Hog Management Through Statewide Delivery of Lone Star Healthy Streams**
  - Provide feral hog management education through watershed based trainings
  - Provide best management practices for feral hog reduction
  - http:/feralhogs.tamu.edu

Other Local Resources

Nearby Watershed Planning Projects: Nolan Creek

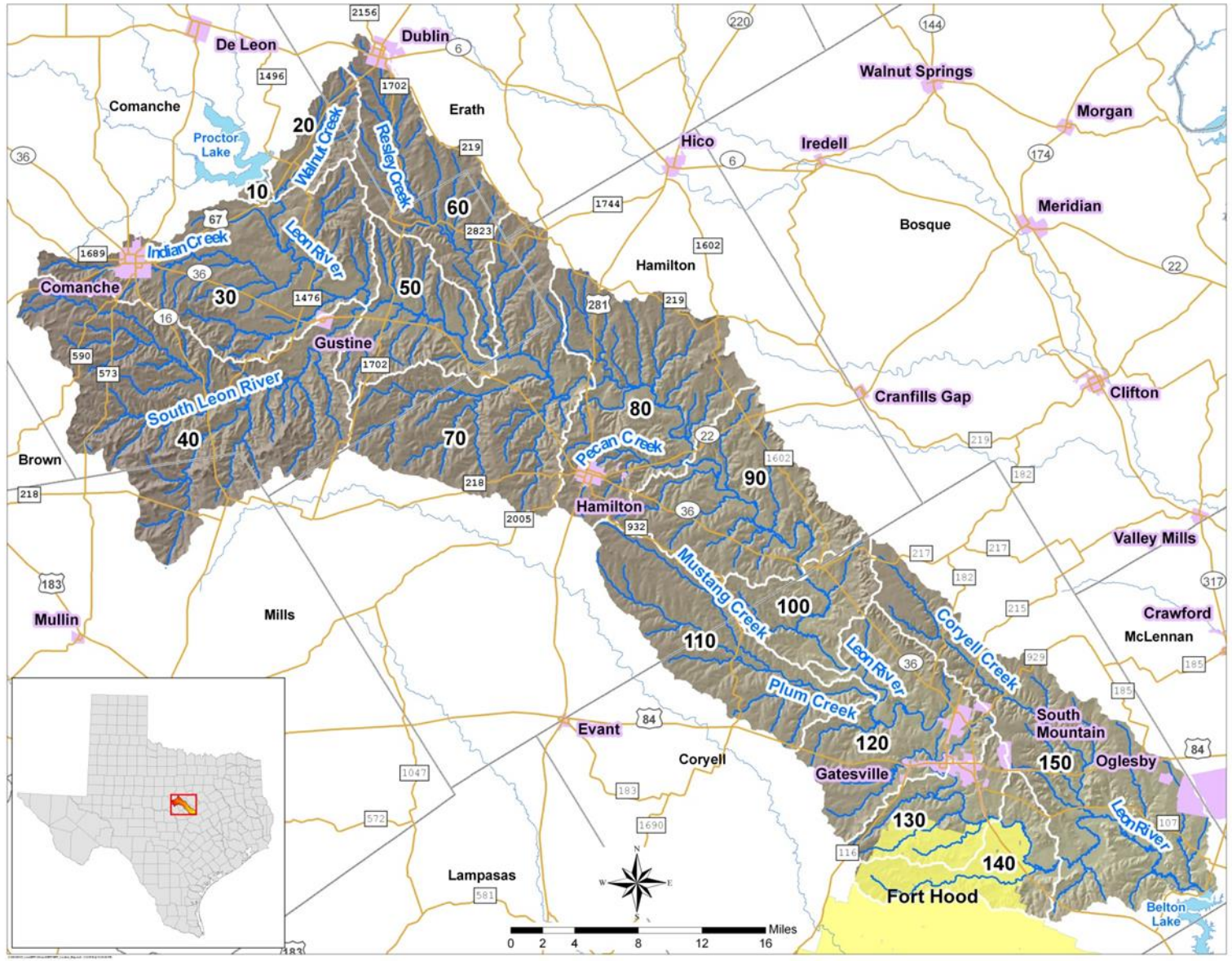
- Project is administered by the Texas Institute for Applied Environmental Science (Tarleton State University)
- The goal of this project is to provide watershed stakeholders and affected agencies with enough information to determine how to address these bacteria impairments
- For more information, please contact:

Lucy Taylor, Coordinator
phone: (254) 968-0513
Email: ltaylor@tiaer.tarleton.edu
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 of the Leon River to the maximum extent possible in order to meet state water quality standards so that citizens may enjoy the water resources with little risk to their health.



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

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 »