Tres Palacios Creek Watershed Meeting Overview

T. Allen Berthold, PhD
Texas Water Resources Institute
July 30, 2015

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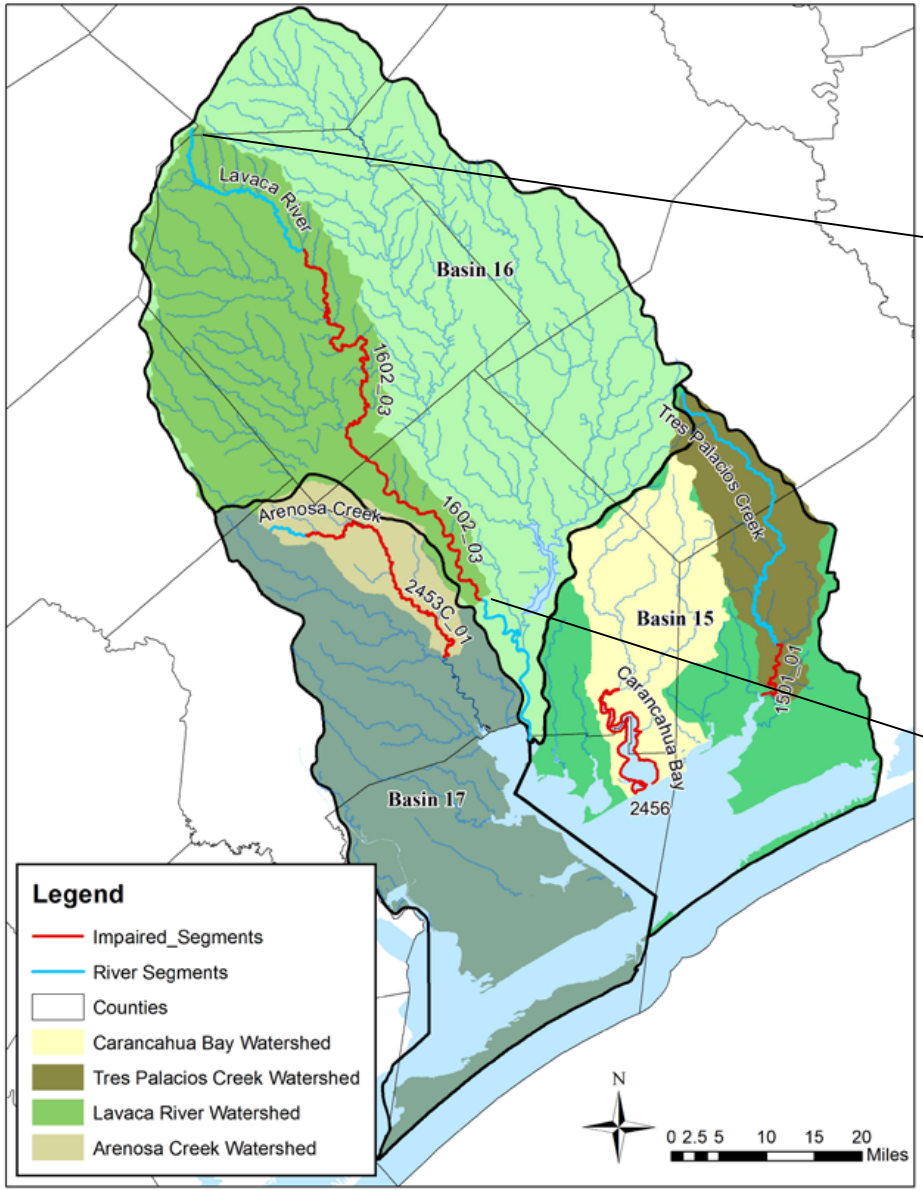

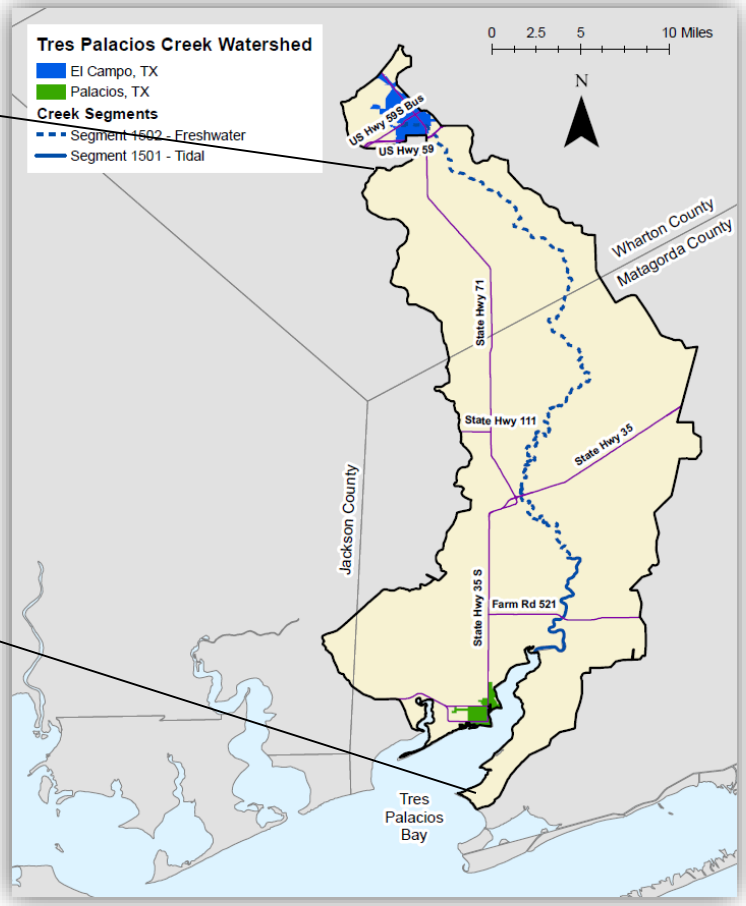

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Topics for Today

- Water Quality Policy, Water Quality Data, Watershed-Based Planning
  - Description of Lavaca River Watershed
- Possible Stakeholder Organizational Frameworks and Decision Making Processes
- Proposed Timeline and Next Steps

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Introductions

- Name
- Entity/group representing/ landowner/interested citizen, etc.

LAVACA RIVER
Water Quality Policy and Data

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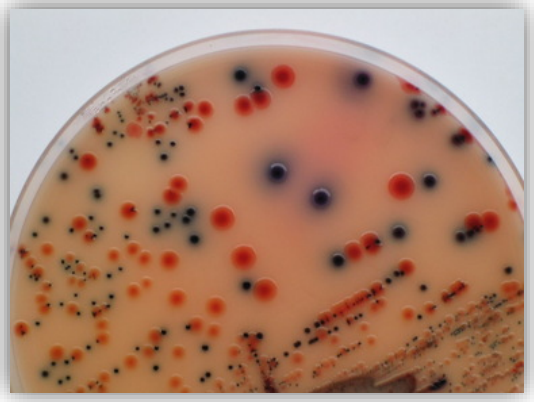
Background: The Clean Water Act

- Federal Clean Water Act (CWA)
  - Goal of CWA is to provide water quality suitable for the protection and propagation of fish, shellfish and wildlife while providing for recreation in and on the water

- U.S. Environmental Protection Agency (USEPA) administers and implements CWA
  - Requires individual states to set water quality standards and monitor to ensure waterbodies meet standards
    - Impaired waterbodies are listed on CWA 303(d) list

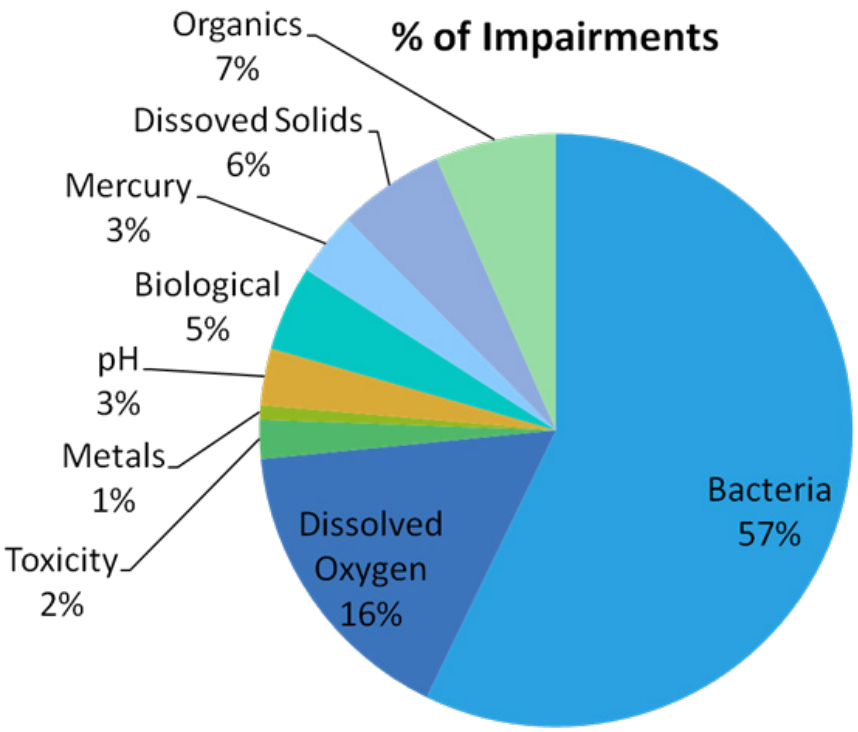
E.g. Standards

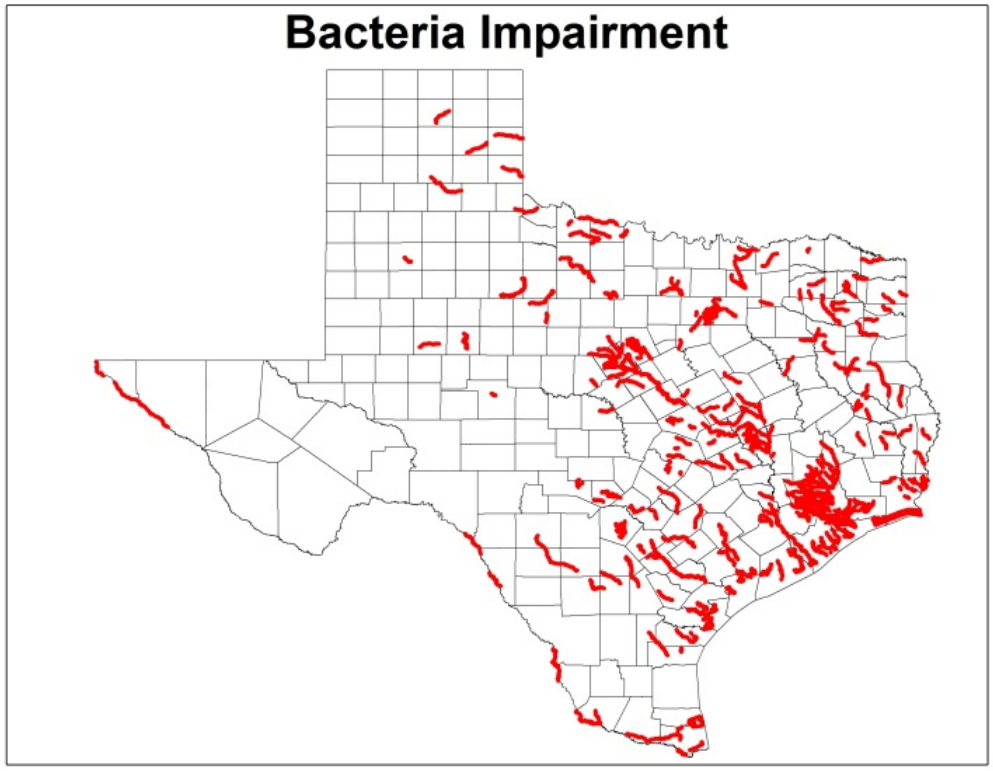
Parameter	TCEQ Standard
pH (standard units)	6.5 – 9.0 range
Chlorophyll-a (µg/L)	21
Dissolved Oxygen (mg/L)	5.0/4.0 (grab avg/min)
***E. coli* (cfu/100mL)**	**126* - Non-Tidal Segment**
Enterococci (cfu/100mL)	35* - Tidal Segment



***** Indicates that there are more than one standard and the most stringent is listed

Current Impairing Parameters





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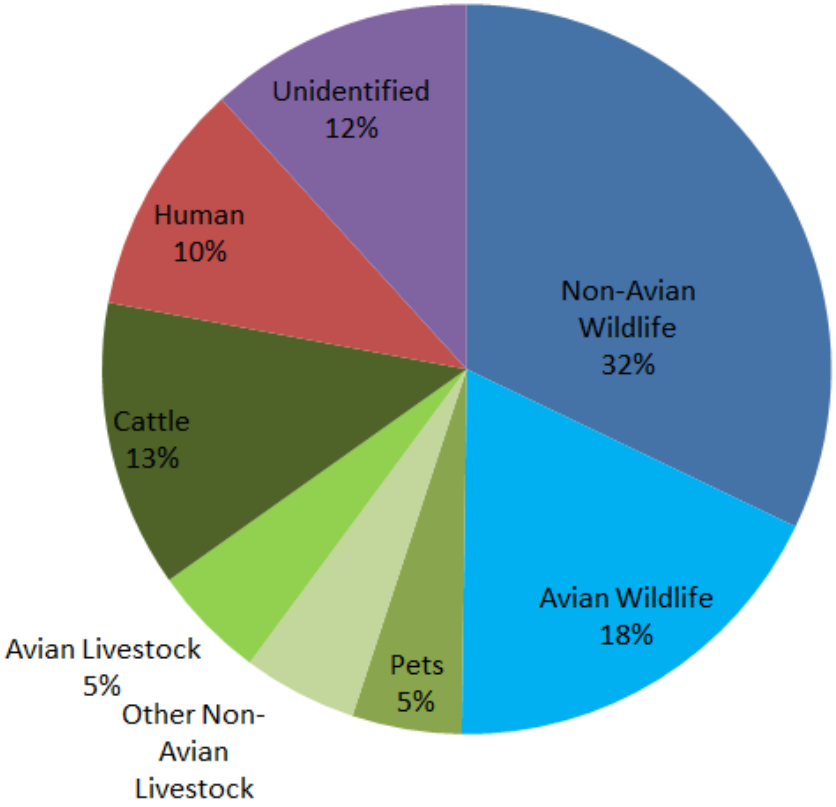
Major Sources Of Bacteria (based on previous projects)



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How does Bacteria get into Creeks?

- Direct deposition
  - Animals directly deposit fecal material into the water
    - Birds above water, ducks on water, livestock & wildlife drinking
- Non-Point Sources
  - Storm water runoff from landscape
  - Fecal material runoff from landscape
    - Pet waste, livestock, wildlife
  - Failing septic systems
- Point Sources
  - Improperly treated waste water treatment discharge
  - Illegal dumping
  - Storm water from cities

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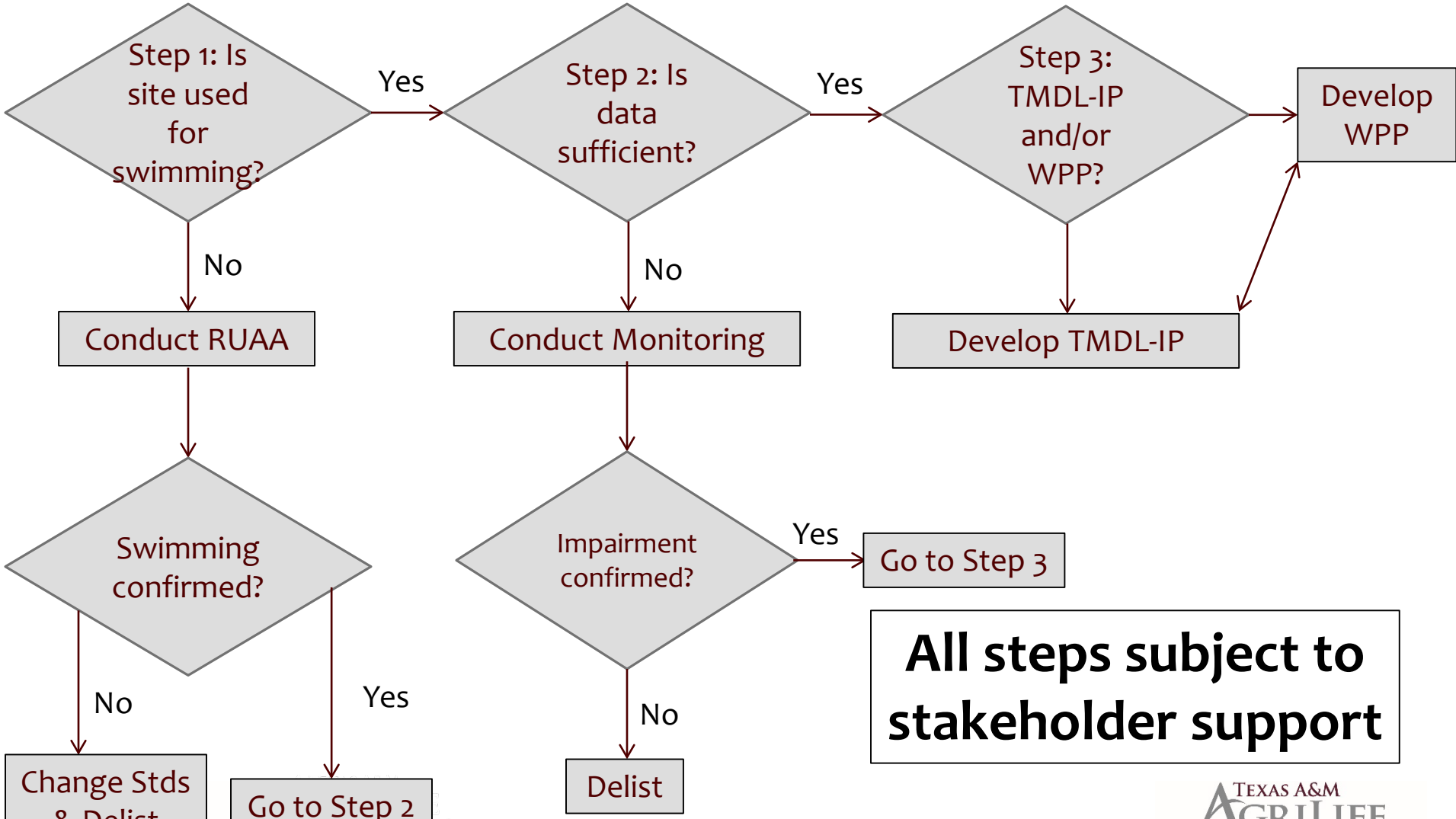
General approach used today



All steps subject to stakeholder support

What is a Watershed-Based Plan?

- A plan that addresses water quality issues in a particular watershed rather than political subdivision
- WPPs are mechanisms for voluntarily addressing complex water quality problems that cross multiple jurisdictions
- WPPs are coordinated frameworks for implementing prioritized and integrated protection and restoration strategies driven by environmental objectives
- WPPs integrate activities and prioritize implementation projects based upon technical merit and benefits to the community

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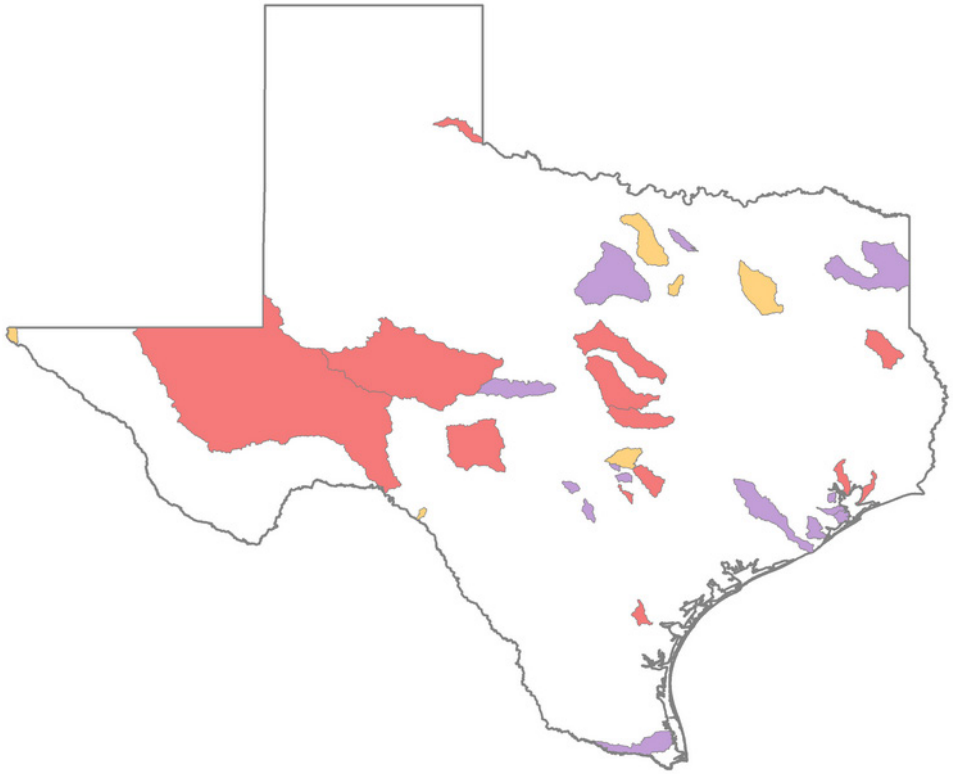
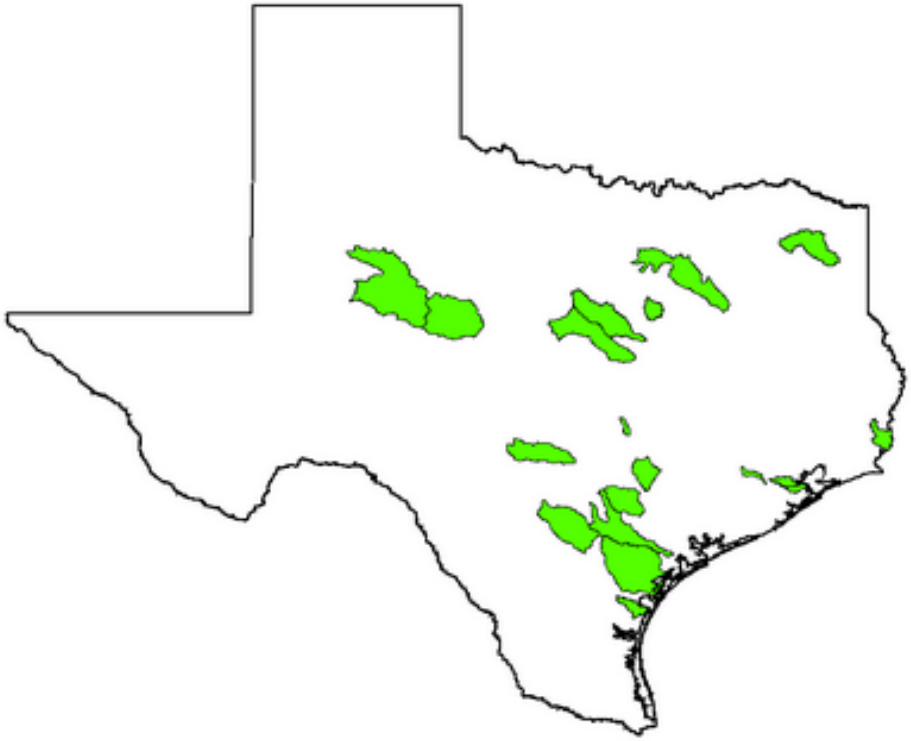
What does a watershed plan consist of?

- USEPA 9 Elements
  - Identify Causes and Sources
  - Estimate Loading Reductions Needed
  - Describe Management Measures
  - Education and Outreach Component
  - Schedule for Implementation
  - Measureable Milestones
  - Source of Financial Assistance and Estimate Costs
  - Progress Indicators to measure Reductions and Adaptive Management
  - Monitoring to evaluate effectiveness

Watershed-Based Plans Across Texas





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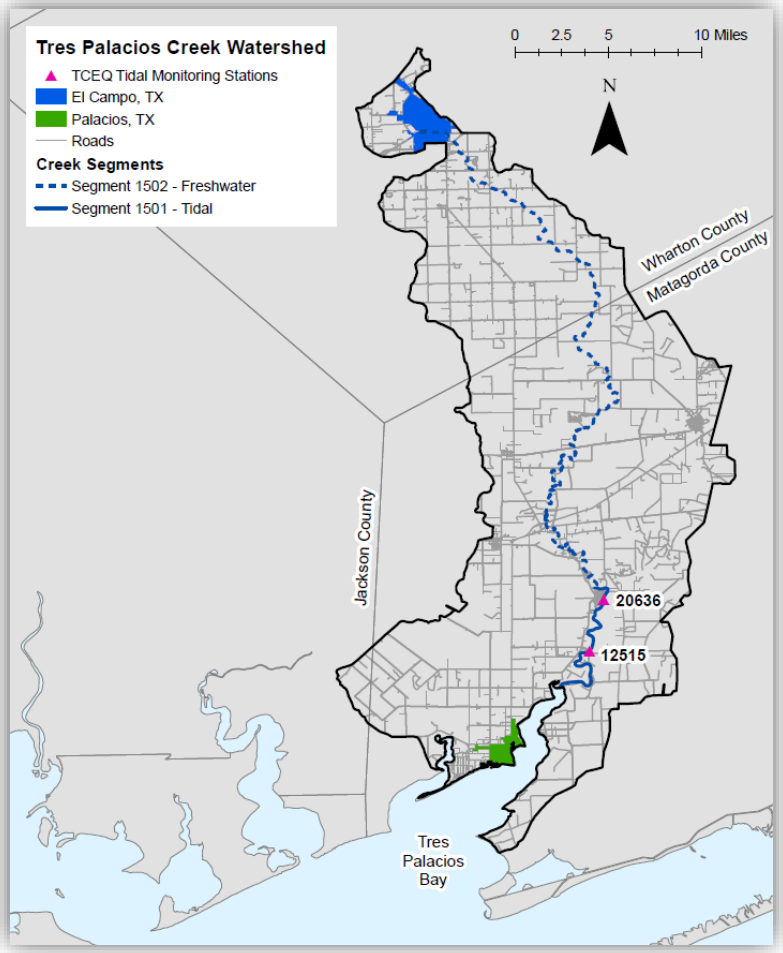
Watershed Description



- 235,056 acres (367 square miles)
- Creek begins near the City of El Campo in Wharton County
- Tidal segment begins about 0.5 miles upstream of the confluence of Wilson Creek and flows approximately 9 miles into Tres Palacios Bay
- Meets the Tres Palacios Bay near the City of Palacios in Matagorda County
- Monitoring Stations:
  - **20636** – downstream of the confluence with Wilson Creek
  - **12515** – at FM 521

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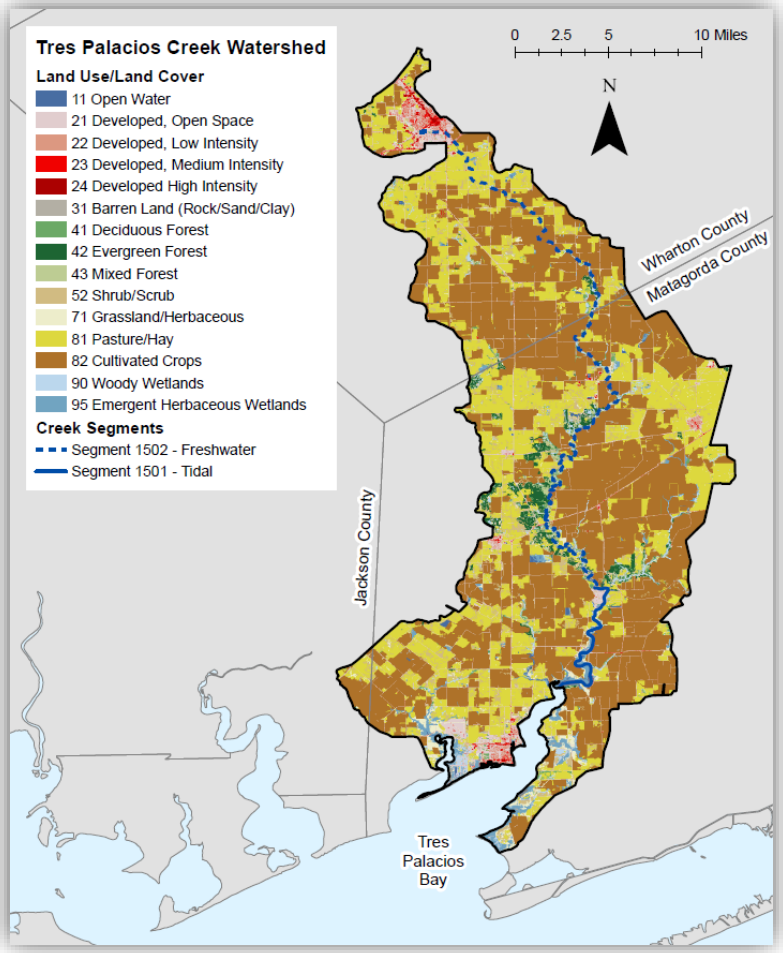
Land Use and Land Cover



- Cropland: 38.6%
- Pasture: 28.3%
- Developed Land: 5.2%
- Forest: 4.5%

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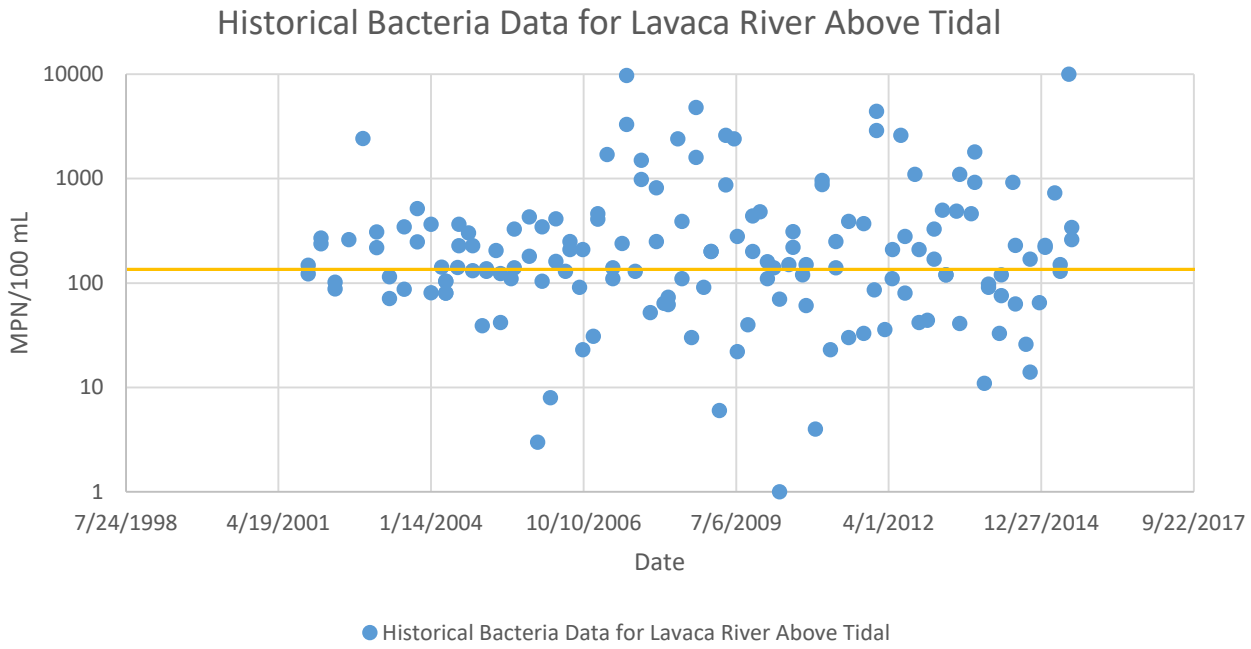
Bacteria Data – Lavaca River Above Tidal

Parameter	ASMT Start Date	ASMT End Date	# of samples	Geometric Mean	Criteria	Designated Use
E. coli	10/30/2001	7/14/2015	155	180.366	126	Recreation



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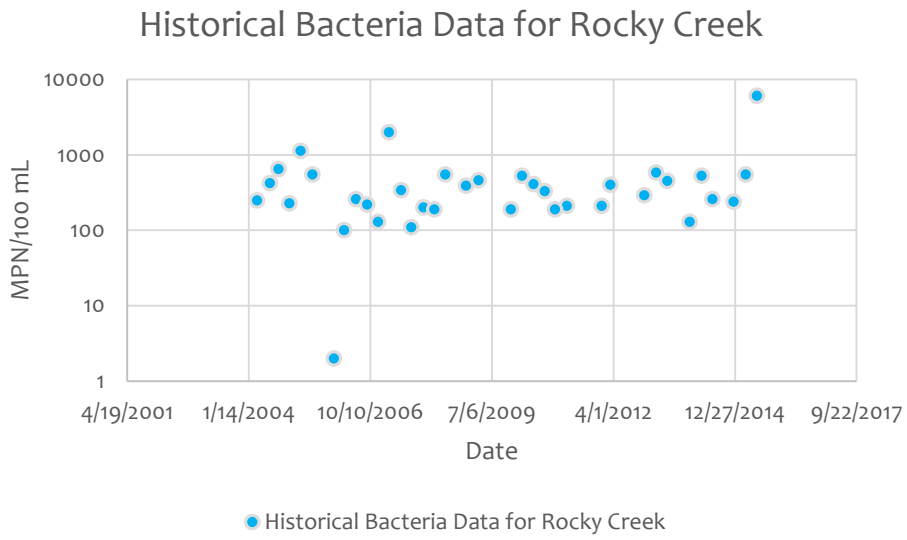
Bacteria Data – Rocky Creek

Parameter	ASMT Start Date	ASMT End Date	# of samples	Geometric Mean	Criteria	Designated Use
E. coli	**3/23/2004**	**6/25/2015**	**36**	**302.48**	**126**	**Recreation**



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Questions/Discussion

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