



**ATTOYAC BAYOU WATERSHED  
ASSESSMENT AND WATERSHED  
PROTECTION PLAN DEVELOPMENT  
MAY 19, 2011**



**CASTILAW**  
ENVIRONMENTAL SERVICES, LLC

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# ATTOYAC BAYOU IMPAIRMENT

- On 2004 Texas 303(d) List for not meeting bacteria standard
- Screening level concern for ammonia levels



## WHAT DOES THIS IMPAIRMENT MEAN?

- E. coli levels in Attoyac Bayou are higher than state standards
- Action must be taken to improve water quality to meet state standards by 2017; otherwise, regulatory measures are likely to be implemented (i.e. TMDL will be developed)



## WHAT IS A WPP?

- **Voluntary** plan developed by stakeholders
- Holistic approach to watershed management which addresses potential sources and causes of concerns/impairments. This approach also considers:
  1. Load Reductions,
  2. Management Measures,
  3. Assistance Needed,
  4. Public Information and Education,
  5. Implementation,
  6. Milestones,
  7. Measure Success, and
  8. Monitoring



## PROJECT TEAM

- Texas Water Resources Institute,
- Texas AgriLife Research,
- Stephen F. Austin State University,
- Pineywoods RC&D,
- Angelina & Neches River Authority, and
- Castilaw Environmental Services, LLC



## PROJECT GOAL

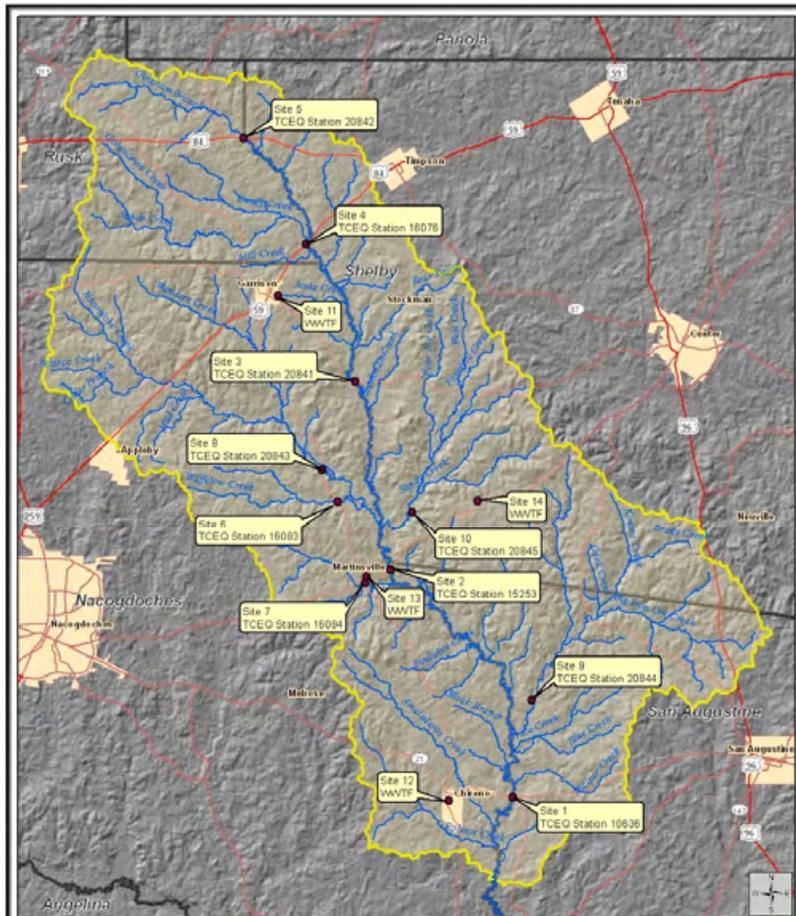
- Collect data in Attoyac Bayou Watershed to better characterize hydrology and E. coli levels, assess uses of the water body, and ultimately develop a plan that reduces E. coli.



## PROJECT TASKS

- Coordinate stakeholder involvement,
- Conduct watershed survey and update GIS information,
- Surface water quality monitoring,
- LDC and SELECT Modeling,
- Recreational Use Attainability Analysis,
- Bacterial Source Tracking, and
- Development of Watershed Protection Plan

# WATER QUALITY SAMPLING SITES



Attoyac Bayou Sampling Site Locations

TCEQ				GPS Coordinates	
Site #	Station #	Sample Type	Sampling Site Name	Lat: 31° N	Long: 94° W
<b>Stream Sampling Sites</b>					
1	10636	Routine	Attoyac Bayou @ SH 21	30'15.05"	18'13.99"
2	15253	Routine / Storm	Attoyac Bayou @ SH 7	38'54.00"	23'50.00"
3	20841	Routine	Attoyac Bayou @ FM 138	46'6.53"	25'32.30"
4	16076	Routine	Attoyac Bayou @ US 59	51'24.14"	27'49.89"
5	20842	Routine	Attoyac Bayou @ US 84	55'26.97"	30'41.07"
6	16083	Routine	Waffelow Creek @ FM 95	41'29.99"	26'16.00"
7	16084	Routine	Terrapin Creek @ FM 95	38'20.01"	24'53.08"
8	20843	Routine	Naconiche Creek @ FM 95	42'43.80"	26'57.86"
9	20844	Routine / Storm	Big Iron Ore Creek @ FM 354	33'57.43"	17'22.05"
10	20845	Routine	West Creek @ FM 2913	41'10.33"	22'50.37"
<b>Waste Water Treatment Plant Sampling Sites</b>					
11	WWTF	Quarterly	City of Garrison WWTF	49'29.86"	29'2.82"
12	WWTF	Quarterly	Chireno ISD WWTF	30'3.13"	21'6.30"
13	WWTF	Quarterly	Martinsville ISD WWTF	38'32.29"	24'52.99"
14	WWTF	Quarterly	City of Center WWTF	41'38.80"	19'56.66"

Figure 1 of 1

Sampling Site Location Map

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Development of a Watershed  
Protection Plan for Attoyac Bayou

Datum: NAD 83

Imagery Source: ESRI

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## PROJECT FUNDING

- Funding is being 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