

# Mid and Lower Cibolo Creek Watershed Meeting Overview

*Clare Entwistle*

*Texas Water Resources Institute*



# Topics for Today

- ⦿ Review Main Outcomes for Workgroup Meetings
- ⦿ SELECT Modeling Results and Discussion
- ⦿ Water Quality in Cibolo Creek Watershed
- ⦿ Next Steps & Open Discussion

# Review of Previous Meetings



# Watershed Waterbodies

- Mid-Lower Cibolo Creek (~92 miles)
- Martinez Creek (~26 miles)
- Salatrillo Creek (~11 miles)
- Clifton Branch (~8 miles)



# Summary of Water Quality Conditions

- ⦿ Ongoing primary contact recreation impairment in Lower Cibolo & Clifton Branch due to *E. coli* bacteria
- ⦿ Concern in Martinez Creek due to *E. coli* bacteria
- ⦿ Dissolved Oxygen impairment in Clifton Branch, improving DO in Mid Cibolo Creek
- ⦿ Nutrient concerns based on TCEQ screening levels in the Mid Cibolo, portion of Lower Cibolo, Martinez Creek, and Salatrillo Creek



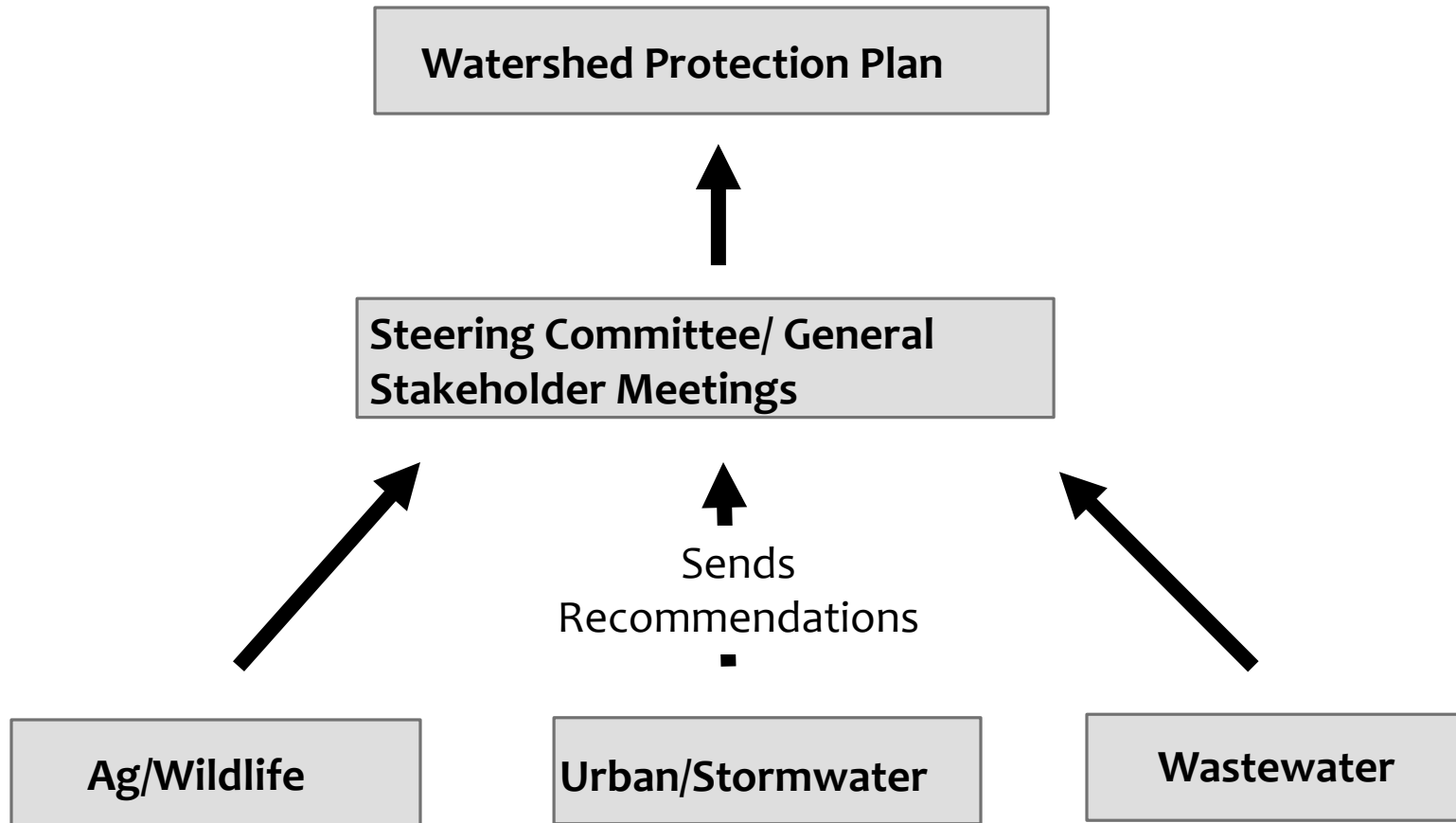
# What is a Watershed Protection Plan?

- ⦿ Watershed Protection Plans (WPP) address complex water quality issues across multiple jurisdictions
- ⦿ The goal is to improve, restore or maintain good water quality within a particular watershed
- ⦿ WPPs are tools to better leverage the resources of local governments, state and federal agencies, and non governmental organizations
- ⦿ WPPs are a voluntary, proactive approach to integrating activities and prioritizing BMP implementation

# Key Elements of Watershed Plans

- ◎ Identification of Sources of Bacteria
- ◎ Estimated Loading Reductions Needed
- ◎ Description of Management Measures
- ◎ Education and Outreach Needed
- ◎ Schedule for Implementation
- ◎ Implementation Milestones
- ◎ Possible Sources of Financial Assistance and Estimated Costs
- ◎ Measures of Success (i.e. indicators to measure reductions)
- ◎ Monitoring plan to evaluate effectiveness

# Workgroup Structure





# Ag/Wildlife Workgroup

- ⦿ Updated Population and Wildlife Estimates to use for SELECT modeling
- ⦿ Survey of potential management measure were handed out
- ⦿ TSSWCB Water Quality Management Plans & Success is Lower San Antonio River
- ⦿ Education/Outreach goals and discussion of potential BMPs
  - ⦿ Feral Hogs removal needs
  - ⦿ Most Popular: Brush Management, Soil Testing, Livestock Watering Facility
  - ⦿ Least Popular: Hunting Camp Septic Systems

# Cattle

## 2012 NASS Data

- Bexar – 3,988
- Wilson – 23,242
- Guadalupe – 8,673
- Karnes – 2,641
- Comal – 37
- Total – 38,581

## NRCS Stocking Rates

- Bexar – 5,536
- Wilson – 16,202
- Guadalupe – 6,267
- Karnes – 3,300
- Comal – 34
- Total – 31,339

Improved:  
Managed  
Hay  
Pasture  
Only

County	Improved Pasture Rate		Unimproved Pasture Rate	
	irrigation	dryland	dryland	Thick brush
Bexar	5 ac/AU		12 - 14 ac/AU	
Wilson	2~3 ac/AU	5~7 ac/AU	15 ac/AU	30 ac/AU
Guadalupe	5~7 ac/AU		12~15 ac/AU	
Karnes	2~3 ac/AU	5~7 ac/AU	15 ac/AU	30 ac/AU
Comal	5~7 ac/AU		12~15 ac/AU	

Unimproved:  
shrub/scrub  
and  
herbaceous

# Other Livestock

© 2012 NASS Data

County	Hogs	Horses	Goats	Sheep	Poultry
Bexar	199	482	684	459	558
Wilson	192	676	955	430	1128
Guadalupe	352	564	1,351	559	8,395
Karnes	10	63	54	19	41
Comal	1	3	27	11	32
Total	754	1,788	3,071	1,478	10,154

# Deer

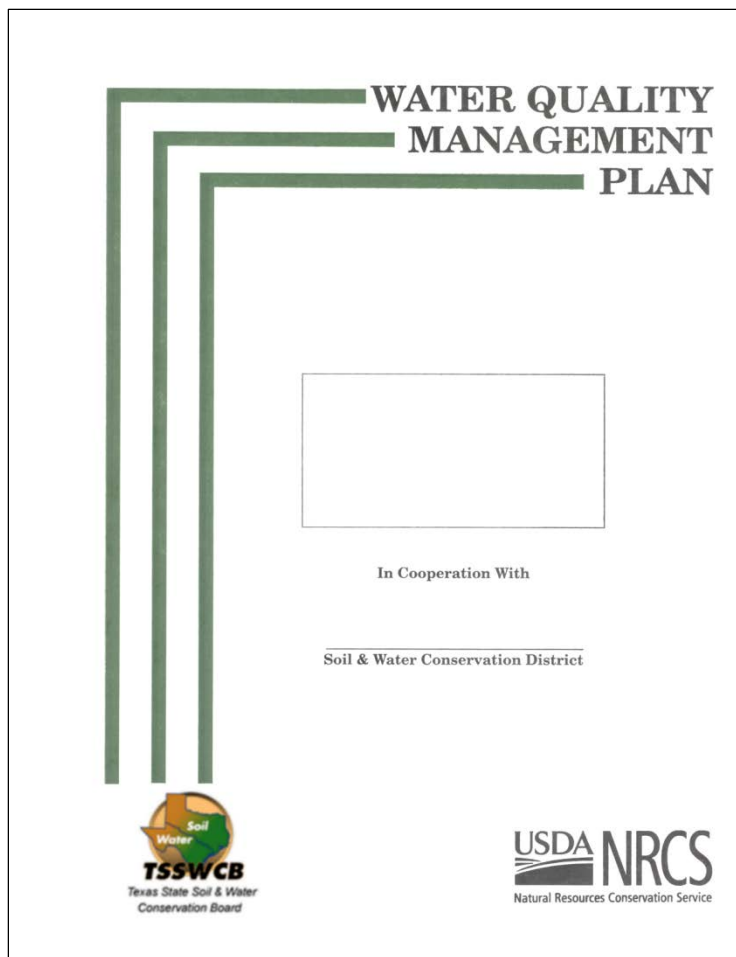
- ◉ Deer – RMU density estimates survey density: variation for different counties
  - ◉ Bexar – 8,499 (7.16 ac/deer)
  - ◉ Wilson – 7,200 (20 ac/deer)
  - ◉ Guadalupe – 4,921 (19.4 ac/deer)
  - ◉ Karnes – 1,197 (23 ac/deer)
  - ◉ Comal – 140 (7.16 ac/deer)
- ◉ **Total – 21,957** (~15% increase from previous estimate)

# Feral Hogs

- ◉ Feral Hogs – Texas A&M Survey + Landowner Feedback 16 – 33.3 ac/hog
  - ◉ Bexar – 1,827
  - ◉ Wilson – 4,324
  - ◉ Guadalupe – 2,512
  - ◉ Karnes – 826
  - ◉ Comal – 30
- ◉ **Total – 9,517** (doubled from previous estimate)



# Water Quality Management Plans



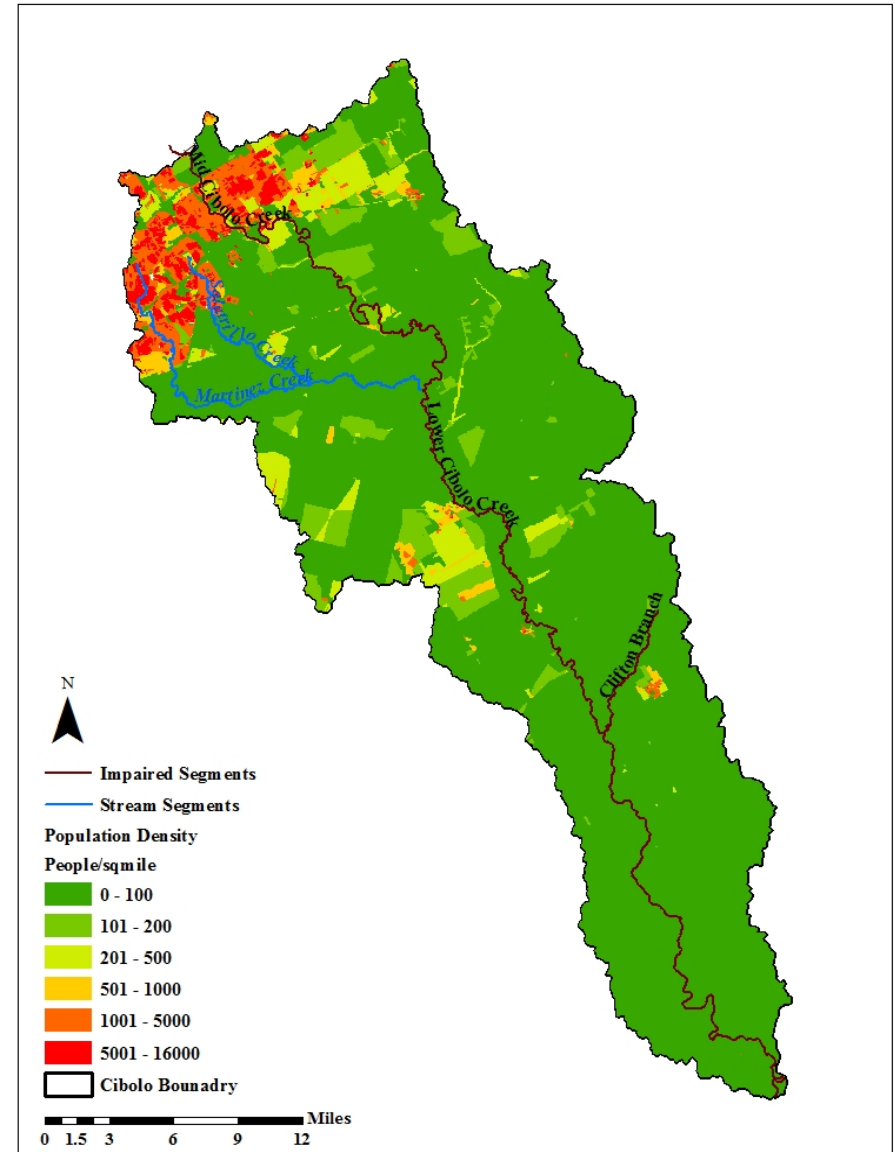
- ⦿ Site-specific plan for land improvement measures developed through SWCD for agricultural lands
- ⦿ Provides farmers and ranchers a voluntary opportunity to achieve a level of pollution prevention or abatement consistent with state water quality standards
- ⦿ Includes appropriate and essential land treatment practices, production practices, management measures, or technologies applicable to the planned land use
- ⦿ Best available management and technology as described in NRCS Field Office Technical Guide

# Urban/Stormwater Workgroup

- ⦿ Discuss sources of pollution specifically in urban areas
- ⦿ Current practices implemented to reduce stormwater
- ⦿ Future management measures to implement
- ⦿ Locating areas of future development

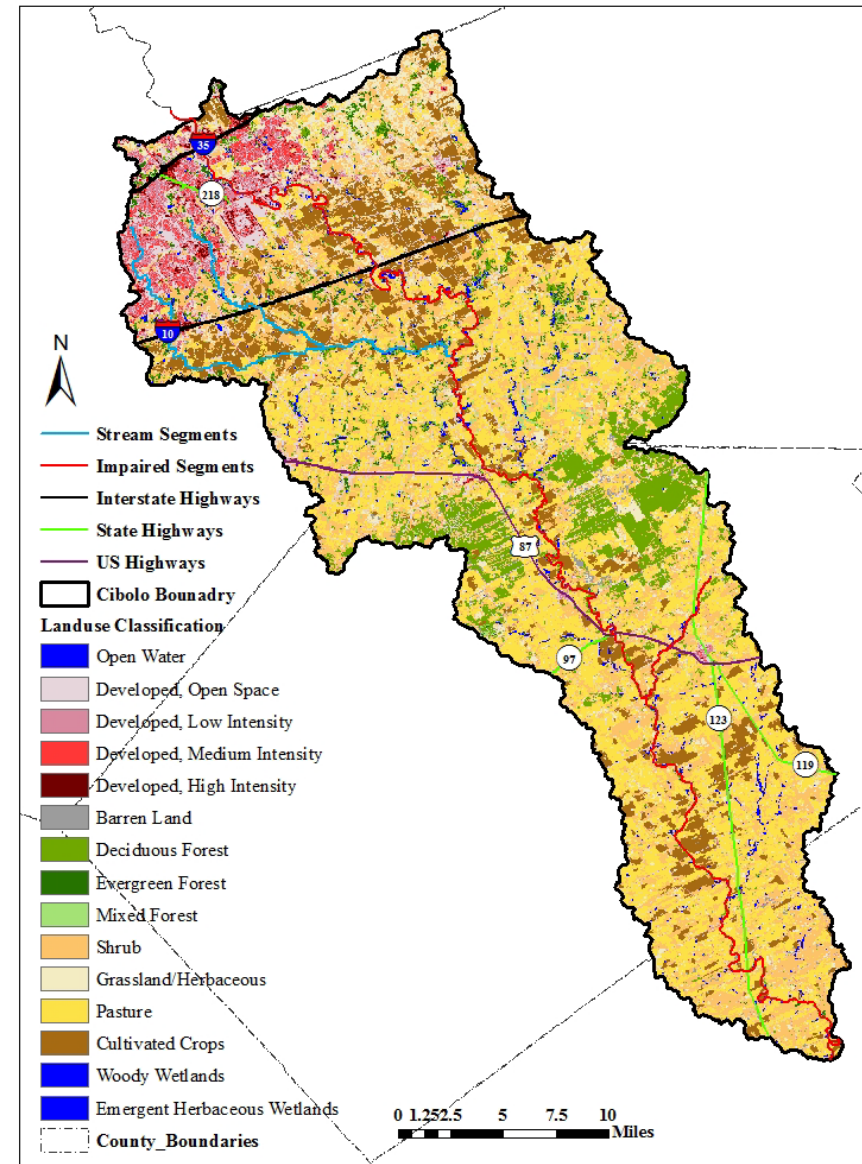
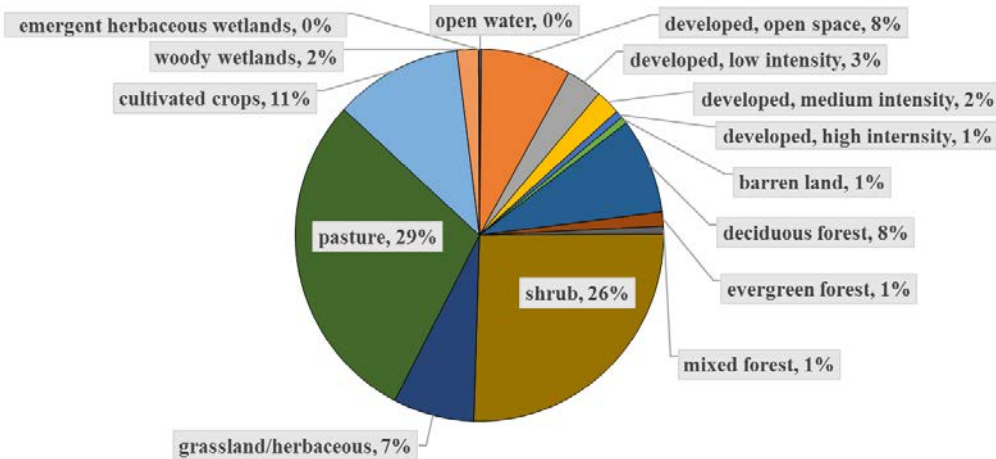
# Population density

- Estimated 2010 population
- 186,154
- Based on 2010 US Census Block Data



# Land Cover

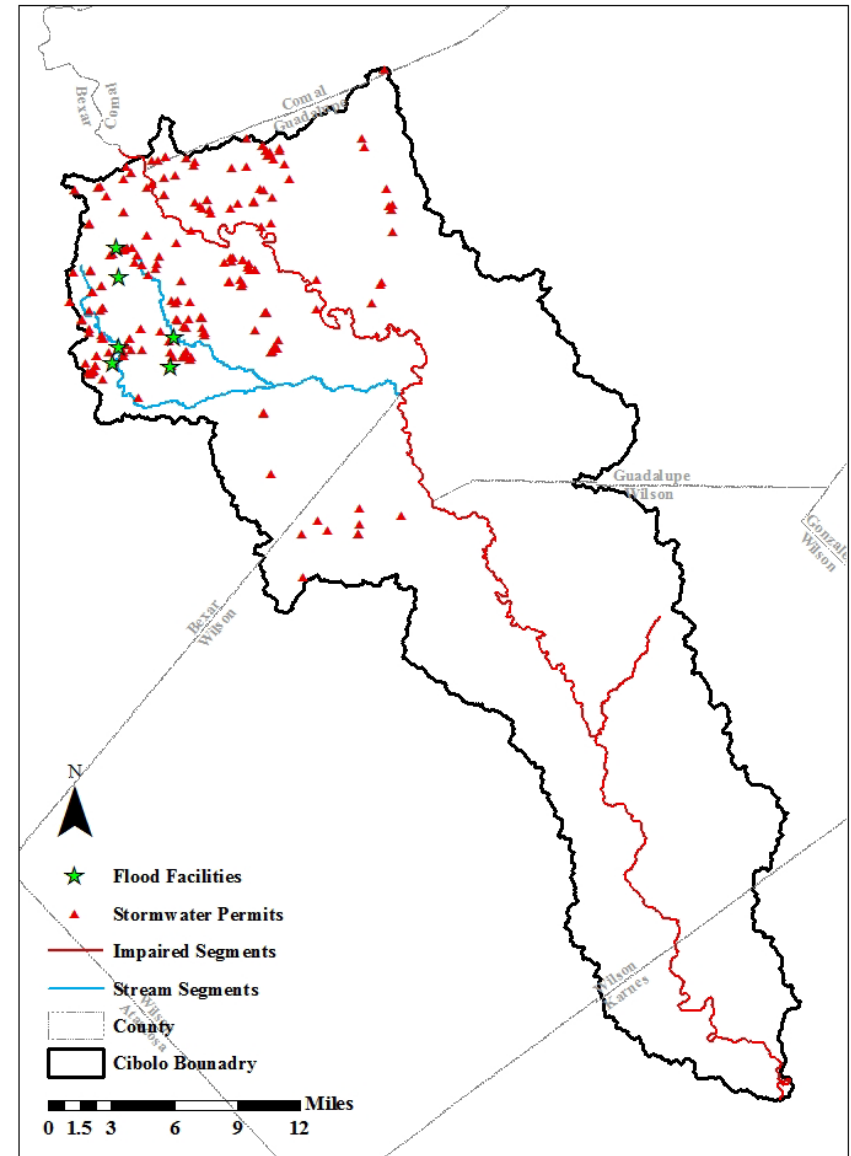
- 29% Pasture (107,014.4 acres)
- 26% Shrub (95,942.4 acres)
- 14% Developed (51,660.8 acres)





# Stormwater permits

- 237 stormwater permits
  - Multi-sector general permit for industrial activities
  - Covers stormwater from manufacturing, processing, material-storage, and waste disposal facilities.
- MS4 Stormwater Permits
  - San Antonio (Phase I)
  - Universal City
  - Converse
  - Live Oak
  - Schertz
  - Cibolo
  - Marion
  - Selma
  - Bexar County
  - JBSA Randolph



# Education/Outreach for Urban Areas

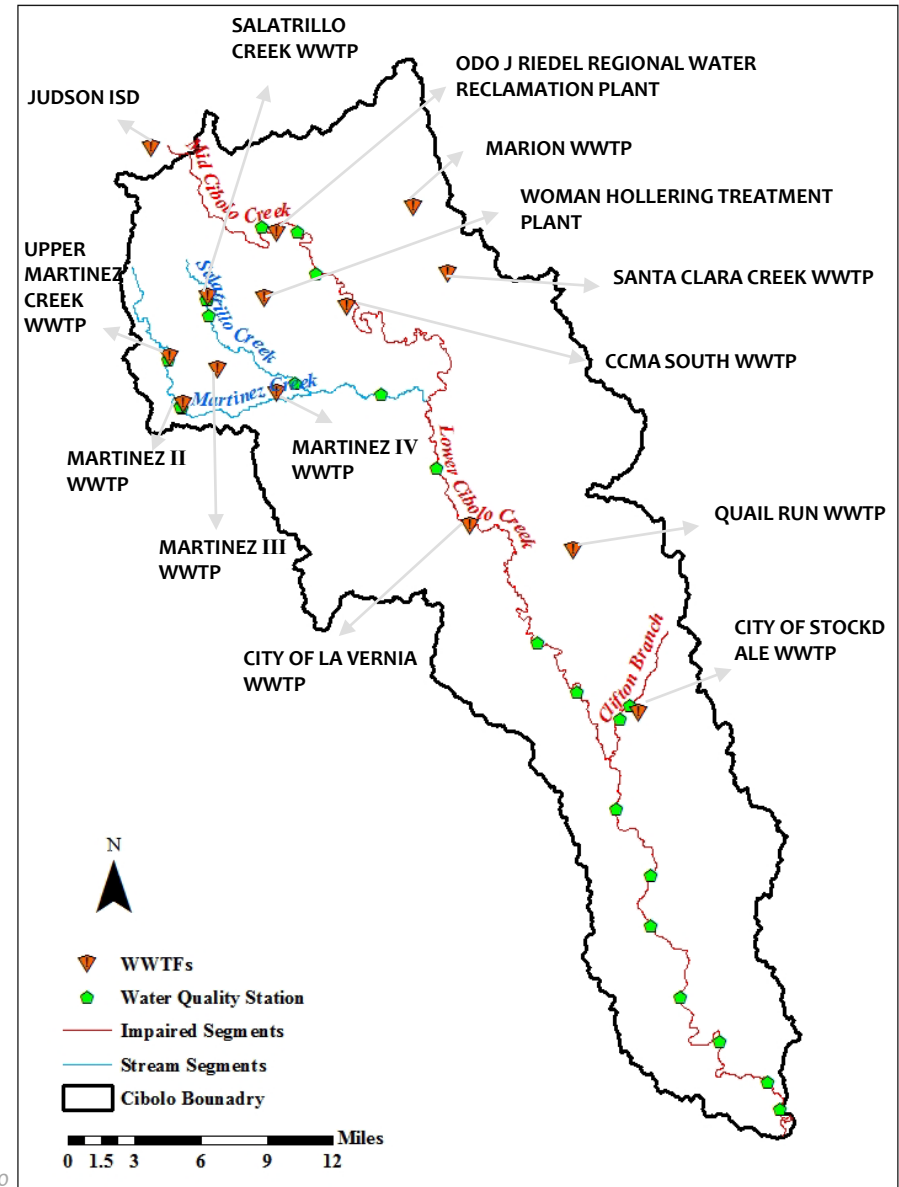
- ⦿ Interested in Green Stormwater Infrastructure workshops/ demonstration projects.
- ⦿ Volunteer Monitoring along Cibolo Creek
  - Engage Cities and local students
- ⦿ Strategies for managing feral cats

# Wastewater Workgroup

- ⦿ Service areas for WWTF and possible future growth
  - ⦿ New WWTFs and facilities that are going offline
  - ⦿ Explore or implement nonpotable wastewater reuse
- ⦿ Septic System estimates and needs
- ⦿ Management Practices and Educational needs in the watershed

# Wastewater Treatment Facilities

## 14 Wastewater Treatment Facility Permits



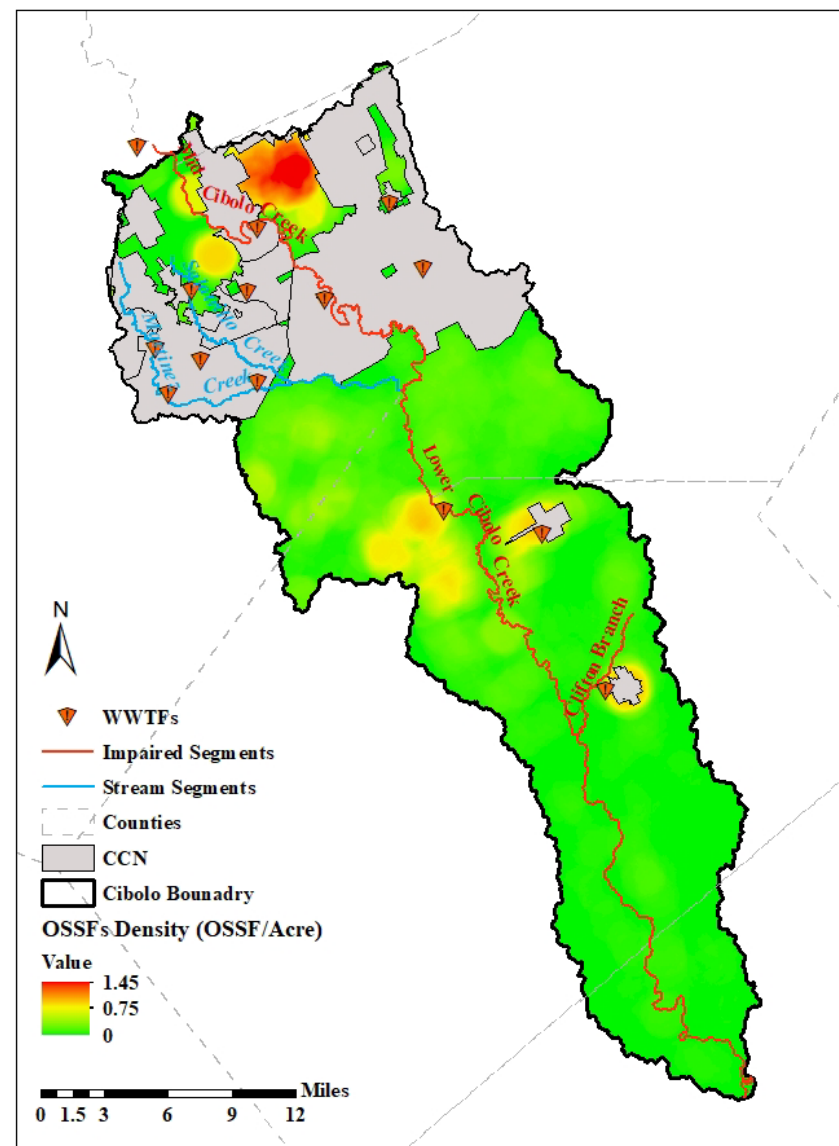
# WWTFs

Permit #	Permittee	Name	Received waterbody	Design Flow(MGD)	
WQ0015141001	Judson Independent School District	JUDSON ISD	Mid Cibolo Creek	0.03	
WQ0011269001	CCMA	ODO J RIEDEL REGIONAL WATER RECLAMATION PLANT	Mid Cibolo Creek	6.2	
WQ0015334001	CCMA	CCMA SOUTH WWTP	Mid Cibolo Creek	0.5	Permitted/Not Operational
WQ0010048001	City of Marion	MARION WWTP	Lower Cibolo Creek	0.2	
WQ0015360001	Green Valley Special Utility District	SANTA CLARA CREEK WWTP	Lower Cibolo Creek	5	Permitted/Not Operational
WQ0010292001	City of La Vernia	CITY OF LA VERNIA WWTP	Lower Cibolo Creek	0.25	
WQ0014672001	South Central Water Company	QUAIL RUN WWTP	Lower Cibolo Creek	0.075	
WQ0010292001	Stockdale	CITY OF STOCKDALE WWTP	Lower Cibolo Creek	0.3	
WQ0010749001	SARA	SALATRILLO CREEK WWTP	Salitrillo Ck	5.83	
WQ0015371001	City of Schertz	WOMAN HOLLERING TREATMENT PLANT	Womans Hollow Ck	0.046	
WQ0010749003	SARA	UPPER MARTINEZ CREEK WWTP	Martinez Ck	2.21	
WQ0014042001	SARA	MARTINEZ III WWTP	Escondido Ck	0.15	
WQ0010749004	SARA	MARTINEZ II WWTP	Martinez Ck	2	
WQ0010749007	SARA	MARTINEZ IV WWTP	Martinez Ck	2	Permitted/Not Operational

24.8 MGD

# Septic Systems - OSSFs

- Estimated using
  - 2010 Census block housing units
  - 911 address points
  - Aerial imagery
  - Removed areas serviced by WWTF
- 16,949 OSSFs estimated in watershed**
- Corrected CCN's yielded 718 more OSSFs**
- Estimated failure rate ~13% based on age/soil



# Questions?

Clare Entwistle  
Texas Water Resources Institute  
210-277-0292 ext 205  
[clare.entwistle@ag.tamu.edu](mailto:clare.entwistle@ag.tamu.edu)

Michael Schramm  
Texas Water Resources Institute  
979-458-9191  
[michael.schramm@ag.tamu.edu](mailto:michael.schramm@ag.tamu.edu)

Patty Carvajal  
San Antonio River Authority  
[pmcarvajal@sara-tx.org](mailto:pmcarvajal@sara-tx.org)

Lucas Gregory, PhD  
Texas Water Resources Institute  
[lfgregory@ag.tamu.edu](mailto:lfgregory@ag.tamu.edu)

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