

# Texas Stream Team and the Upper Trinity River Basin Partnership

---

JENNA WALKER

THE MEADOWS CENTER FOR WATER AND ENVIRONMENT





# THE MEADOWS CENTER FOR WATER AND THE ENVIRONMENT

*No natural resource is more important to our future than Water. Water is what we do.*

RESEARCH | STEWARDSHIP | SERVICE | EDUCATION



THE MEADOWS CENTER  
FOR WATER AND THE ENVIRONMENT  
TEXAS STATE UNIVERSITY



## WATER IS WHAT WE DO

Since 2002, The Meadows Center for Water and the Environment's faculty and staff have brought multidisciplinary expertise to complex, real-world, water-related challenges.

We are dedicated to helping our partners find economic, social, cultural, and environmental resilience.

# Texas Stream Team

...is a joint partnership with Texas Commission on Environmental Quality, U.S. EPA Region VI, Texas State University-San Marcos, and numerous partners.



"No natural resource has greater significance for the future of Texas than water."

*Dr. Andrew Sansom, Executive Director of The Meadows Center for Water and the Environment*

## 23 YEARS OF CITIZEN SCIENCE AT TEXAS STREAM TEAM

Water Quality Monitoring — Education — Community Engagement

7,692

*citizen scientists trained since 1991*

45,000

*volunteer hours valued at*

\$1,000,000

429

*sites actively monitored for water quality*

35 new citizen scientists trained each month

all 35,000

*data-points have been validated by a QA officer*

82,973 miles of waterways actively monitored

125,000

*Spring Lake visitors learn about water, nonpoint source pollution, and more each year*

31

*partner organizations use our data to manage water resources, inform policy, and more*

for every dollar granted,  
\$1.00 → \$1.72

*we leverage an additional 72 cents*

### WHAT CAN YOU DO FOR THE FUTURE OF TEXAS WATER?

#### Explore Spring Lake

*SCUBA dive the springs. And, take a tour by glass-bottom boat, kayak, or by foot.*

#### Join Us

*As a trained citizen scientist you will make a difference for our Texas waters.*

#### Partner Up

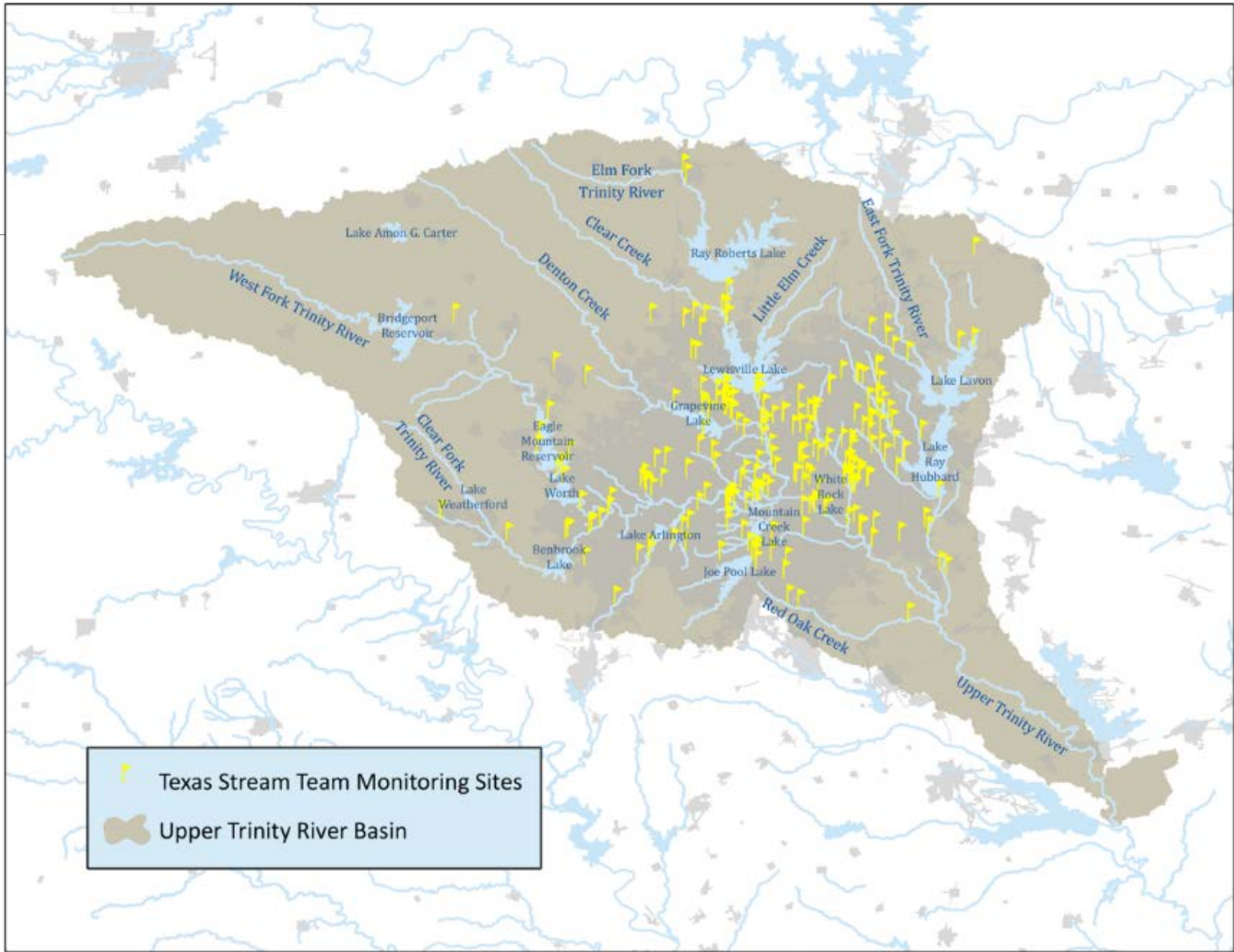
*Our public and private partners trust us – and each other – to share information, resources, expertise, and opportunities.*

#### Sponsor A Project

*Your tax-deductible contribution will make things happen for water, from clean ups to research, and more.*

#### Put Us To Work

*Are you a community representative, researcher, or individual interested in protecting your water? We can help!*



# Texas Stream Team data examples

## Lake Worth

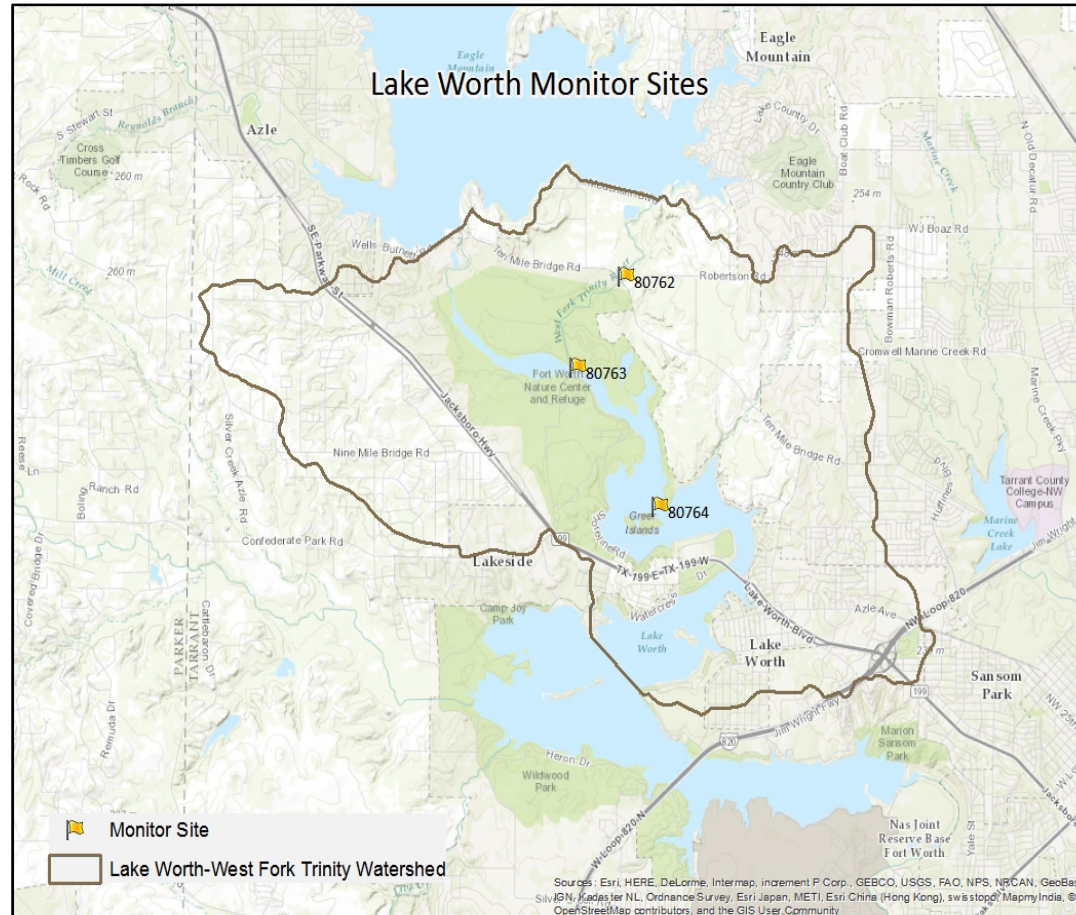
- Started in 2012

## White Rock

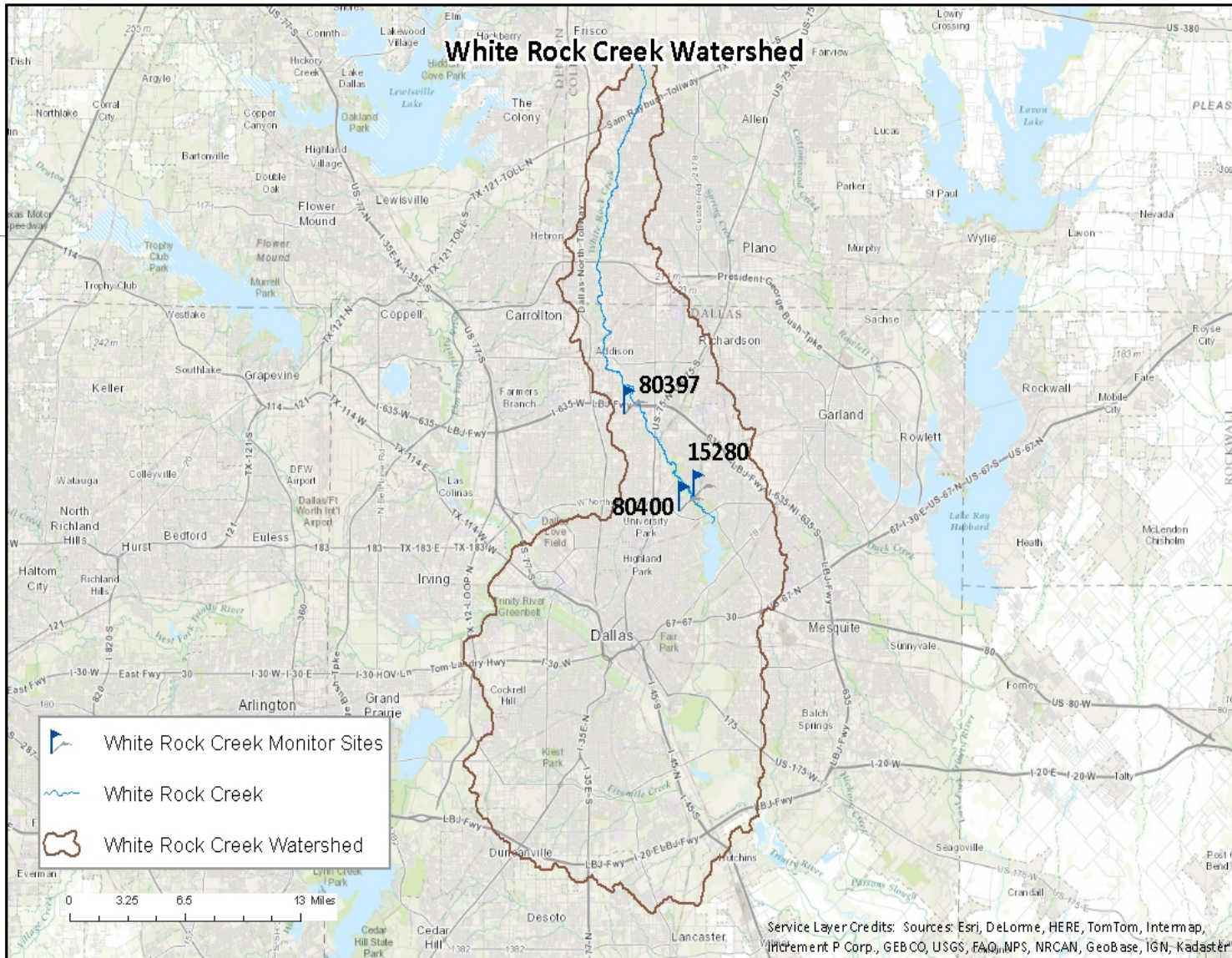
- Started in 2006

## Wilson Creek

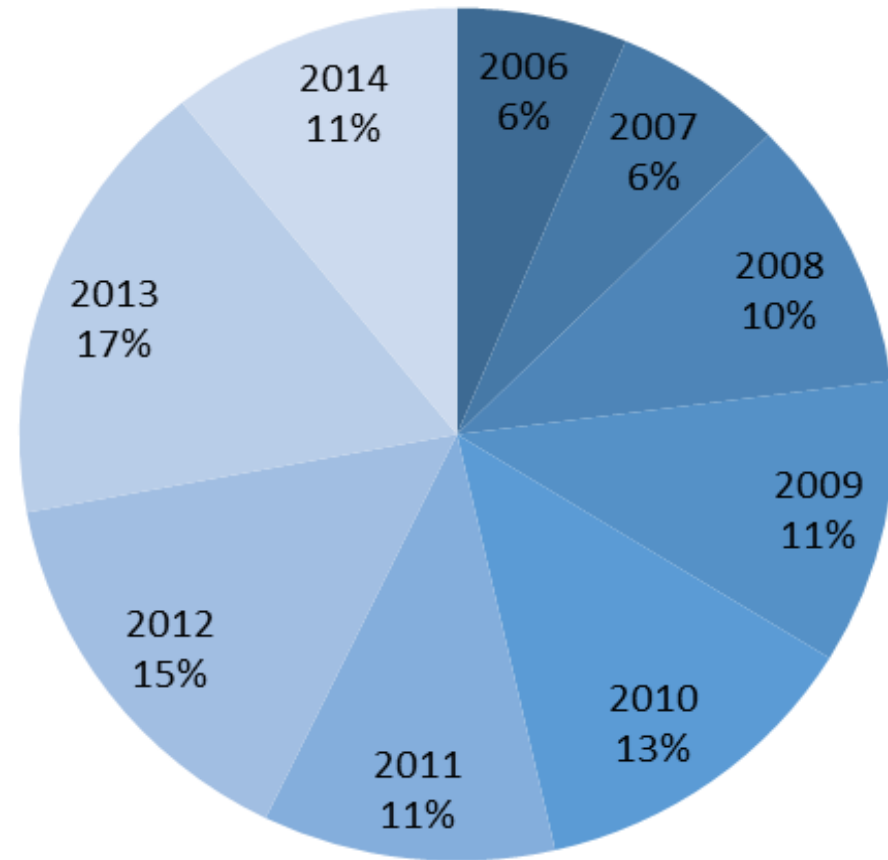
- Started July 2011



# White Rock Creek Watershed







**White Rock Creek Watershed**  
**May 1996 – July 2014**

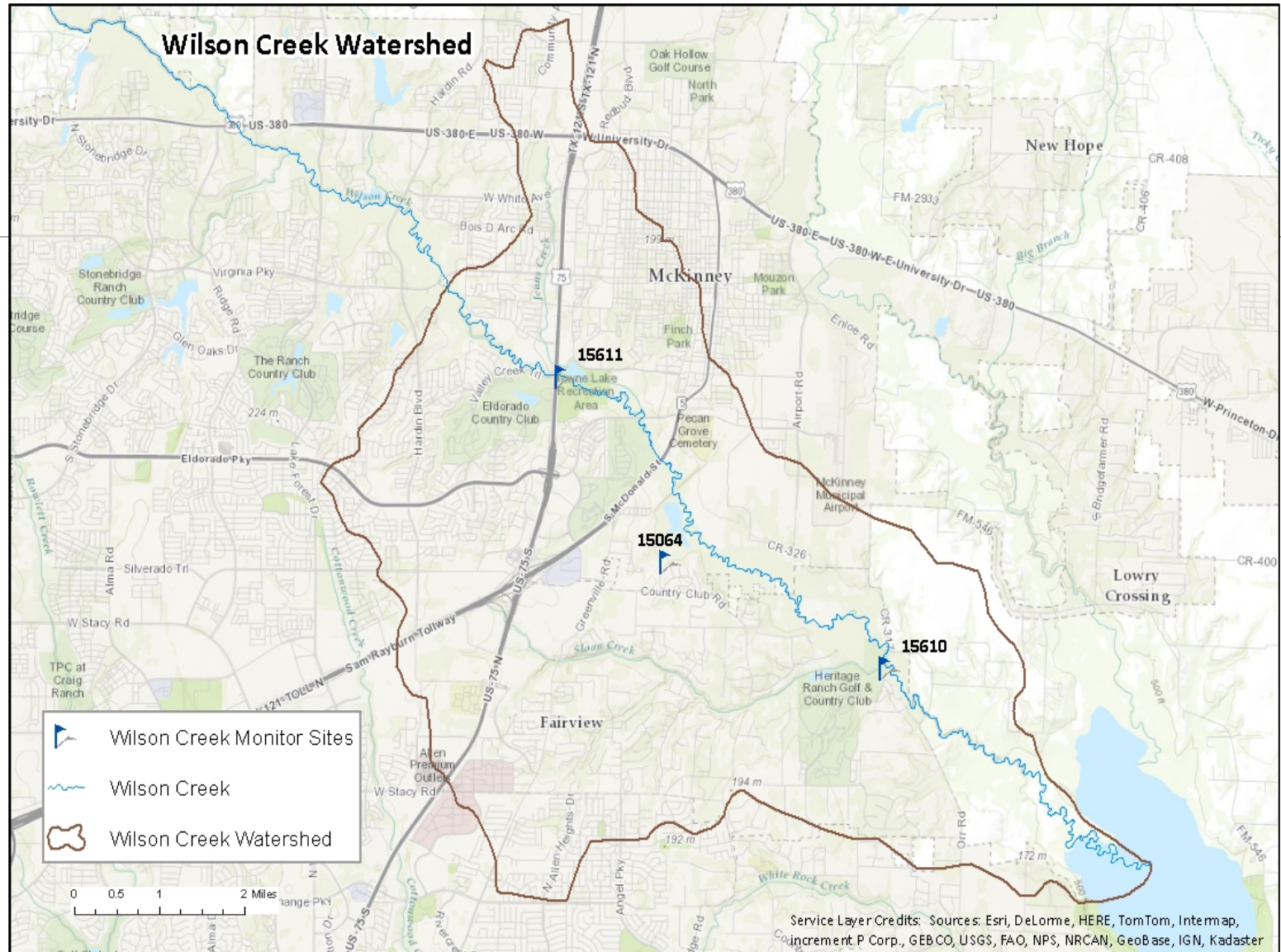
Parameter	Number of Samples	Mean ± Standard Deviation	Min	Max	Standard
Total Dissolved Solids (mg/L)	216	409 ± 72	182	566	500 mg/L
Water Temperature (°C)	219	18.1 ± 7.2	5.0	30.5	33.9°
Dissolved Oxygen (mg/L)	218	7.3 ± 3.3	2.2	12.8	5 mg/L
pH	217	7.4 ± 0.3	6.7	8.3	6.5-9.0
E. coli	59	276	0	7333	126 CFU/100m L
Nitrates	19	1.0 ± 0.0	1	1	
Phosphates	18	0.09 ± 0.16	0.02	0.5	

# Site Analysis

---

Site Number	TDS (mg/L)	DO (mg/L)	pH	E. coli (CFU/100 mL)	Nitrates (mg/L)	Phosphates (mg/L)
80397	405 ± 78 (min)	8.5 ± 2.0 (max)	7.6 ± 0.7 (max)	254	1.0 ± 0.0	0.02 ± 0.0 (min)
80400	413 ± 65 (max)	6.6 ± 2.0	7.3 ± 0.3 (min)	375 (max)	1.0 ± 0.0	0.04 ± 0.04
15280	410 ± 69	6.4 ± 2.3 (min)	7.3 ± 0.3 (min)	223 (min)	1.0 ± 0.0	0.29 ± 0.19 (max)

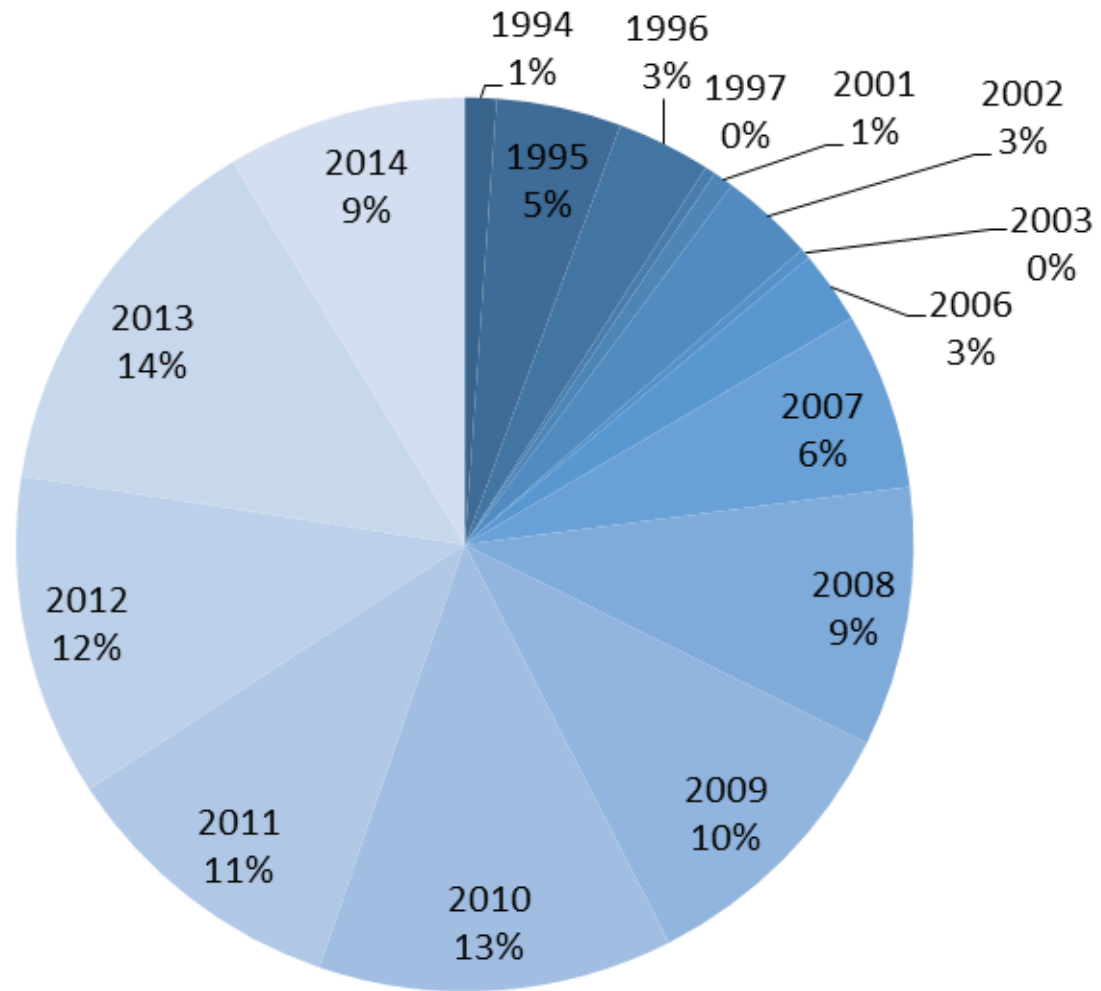
# Wilson Creek Watershed



- Wilson Creek Monitor Sites
- Wilson Creek
- Wilson Creek Watershed

0 0.5 1 2 Miles

Service Layer Credits: Sources: Esri, DeLorme, HERE, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, Geobase, IGN, Kadaster



**Wilson Creek Watershed  
September 1994 – July 2014**

Parameter	Number of Samples	Mean ± Standard Deviation	Min	Max	Standard
Total Dissolved Solids (mg/L)	262	396 ± 73	176	605	500 mg/L
Water Temperature (°C)	264	18.3 ± 7.5	4.5	33.0	33.9°
Dissolved Oxygen (mg/L)	260	7.2 ± 2.2	1.3	12.5	5 mg/L
pH	261	7.6 ± 0.4	6.7	8.8	6.5-9.0
E. coli	51	271	0	7333	126 CFU/100mL
Nitrates	17	1.0 ± 0.0	1.0	1.0	
Phosphates	21	0.09 ± 0.50	0.02	0.50	

# Site Analysis

Site Number	TDS (mg/L)	DO (mg/L)	pH	E. coli (CFU/100 mL)	Nitrates (mg/L)	Phosphates (mg/L)
15611	380 ± 75 (min)	7.9 ± 1.9 (max)	7.9 ± 0.3 (max)	224	1.0 ± 0.0	0.02 ± 0.0 (min)
15064	413 ± 65 (max)	6.6 ± 2.0	7.3 ± 0.3 (min)	375 (max)	1.0 ± 0.0	0.04 ± 0.05
15610	410 ± 69	6.4 ± 2.3 (min)	7.4 ± 0.3	223 (min)	1.0 ± 0.0	0.29 ± 0.19 (max)

# What can Texas Stream Team do for you?

---

**Statewide Watershed Services:** Promote and provide professional services that contribute to the creation and implementation of watershed plans and assist in development of 9 element Watershed Based Plans

- Interest in building a watershed protection plan (WPPs and TMDLs).
- Watershed protection plans (WPPs and TMDLs) under development.
- Complete and approved watershed protection plans (WPPs and TMDLs).



# TST services for Communities **interested** in building a watershed protection plan:

---

Planning workshops to provide information and support for application of planning funding:

- Determination of data and monitoring needs
- Determine potential partners, matching/in-kind funds
- Utilizing the TST “toolbox” in planning process

Liaison assistance between communities, localities, TCEQ, and others

# Water quality and data collection assistance

---

- Assistance with Watershed Needs Assessment
- Compilation of existing data and information
- Specialized data collection, including:
  - targeted water quality data collection
  - water quality “hot spot” identification
  - habitat and riparian assessments (to contribute to Watershed Characterization Report)

# Stakeholder engagement and planning

---

- Supporting coordinating bodies for communities and organizations to engage in planning
- Providing community engagement frameworks and strategies
- Stakeholder and resource identification and assessment

# Education and Outreach

---

- Webinars for educational and outreach efforts
- Templates for reporting and disseminating information
- Templates for educational materials
- Guidance documents for planning activities, education and outreach and implementation
- Training for Watershed Ambassadors to support education efforts

# TST's services for plans under development:

---

## General Plan Support:

- Webinars and workshops providing technical assistance
  - NPS, water quality, monitoring, analyses, etc.
- Workshops and activities to secure matching/in-kind funds
  - Targeted monitoring activity, creation of a Stream Team, River Clean-ups, tracking volunteer Citizen Scientists efforts
- Workshops to help communities use the TST “toolbox” for planning efforts
- Liaison assistance between communities, localities, TCEQ, and others

# Water quality and data collection assistance:

---

- Assistance with Watershed Needs Assessment
- Compilation of existing data and information
- Specialized data collection, including:
  - targeted water quality data collection
  - water quality “hot spot” identification
  - habitat and riparian assessments (to contribute to Watershed Characterization Report)

# Stakeholder engagement and planning

---

- Supporting coordinating bodies for communities and organizations to engage in planning
- Providing community engagement frameworks and strategies
- Stakeholder and resource identification and assessment

# Education and Outreach

---

- Webinars for educational and outreach efforts
- Templates for reporting and disseminating information
- Templates for educational materials
- Guidance documents for planning activities, education and outreach and implementation
- Training for Watershed Ambassadors to support education efforts



# Preparation for implementation: Application Process for WPP, TMDL

---

- Assistance with monitoring plans
- Assistance with Education and Outreach Plans
- Assistance with identification of and commitments for matching funds and project support
- Guidance workshops for planning and securing matching/in-kind funds

# TST's services for approved plans eligible for Implementation may include:

---

Pre-Implementation proposal workshops to provide information and support for application of implementation funding:

- Assistance with monitoring plan related tasks
- Assistance with Education and Outreach Plan related tasks
- Assistance with identification of/commitments for matching funds and project support
- Assistance utilizing the TST “toolbox”

# General Plan Support

---

- Webinars and workshops providing technical assistance
  - NPS, water quality, monitoring, analyses, etc
- Workshops and activities to secure matching/in-kind funds
  - targeted monitoring activity, creation of a Stream Team, River Clean ups, tracking volunteer Citizen Scientists and Ambassadors efforts
- Workshops to provide assistance utilizing the TST “toolbox
- Liaison assistance between communities, localities, TCEQ, and others

# Water quality and data collection assistance

---

- Assistance implementing monitoring plans to track progress
- Assistance with analyses of monitoring data

# Education and Outreach

---

- Webinars for educational and outreach efforts
- Templates for reporting and disseminating information
- Templates for educational materials
- Guidance documents for education and outreach activities
- Training for Watershed Ambassadors to support education efforts

# Contact Info

---

Jenna Walker – Program Coordinator

[jj1433@txstate.edu](mailto:jj1433@txstate.edu)

512-245-9418



Photo courtesy of [beltontexas.gov](http://beltontexas.gov)