

# Headwaters

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*Summer 2014*

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Prepared in cooperation with The Texas Commission on Environmental Quality and The United States Environmental Protection Agency

## **Hello Texas Stream Team!**

Summer is in full swing and many of you have probably noticed higher water temperatures during your monitoring. You may have also noticed that the dissolved oxygen measurements are also lower this time of year. That is because as the water warms up, it loses its ability to hold dissolved gasses such as oxygen. This is most pronounced in the early morning hours because no oxygen is produced by photosynthesis throughout the night since there is no sunlight, but animals such as crustaceans and fish are using up all of the oxygen in the water. DO measurements less than 3 mg/L are stressful to aquatic organisms and can be fatal if prolonged. If you observe a fish kill at your monitoring site, please call The Texas Parks and Wildlife Department's Kills and Spills Team at (512) 389-4848 or (281) 842-8100. Be sure to have your Texas Stream Team water quality data to give to the Kills and Spills Biologists as well. And please remember when you are out there monitoring this time of the year to be safe and drink plenty of water!

Travis Tidwell

Monitoring Program Coordinator

# Cypress Creek Watershed Protection Plan

By: Lindsay Sansom

We have won another victory for protecting water quality in Texas! In April, the Cypress Creek Watershed Protection Plan was officially submitted to Texas Commission for Environmental Quality. The Cypress Creek is a beautiful spring-fed creek in the small town of Wimberley, Texas. Wimberley is fortunate to have a strong group of involved citizenry. Since 2008, a committed group of stakeholders have been working hard to develop a WPP or Watershed Protection Plan. A WPP is a voluntary tool for managing water quality. The tool was developed by the Environmental Protection Agency and continues to be widely used across the United States.



Photo courtesy of the Cypress Creek Project

The development of the Cypress Creek Watershed Protection Plan required the local Stream Team chapter to collect extensive water quality data at several strategic places along the creek. Armed with Texas Stream Team's water quality data, the Cypress Creek Stakeholder Committee members were able to determine several Best Management Practices (BMPs) to improve water quality for Cypress Creek. According to Interim Watershed Coordinator, Matt Heinemann, the "community supporters who produced the plan had three drivers: the need for collaboration, the scientific rationale that a *clean* and *clear* creek cannot be maintained without adequate *flow*, and the interest in finding practical solutions and remedies for Wimberley, Woodcreek, and Western Hays County's residents facing unique water issues."

While Wimberley still maintains its small town charm, there is immense development pressure in the surrounding areas. Dripping Springs, Kyle, and Buda are all surrounding Hill Country communities that are developing rapidly. With so many surrounding communities experiencing development and population growth, it is only a matter of time before Wimberley begins to develop at a faster rate. The Cypress Creek is an important part of the community socially, environmentally, and economically. The creek is a strong tourist attraction and protecting water quality in Cypress Creek is a move towards investing in the cultural and economic future of the small town. The local Texas Stream Team chapter continues to collect water quality data for the Cypress Creek Project, which will help identify any changes in the water chemistry.

## TST Paddlers Monitor Stretches of Waterways in Texas



By: Travis Tidwell

This year, Texas Stream Team launched its newest program, ‘TST Paddlers.’ The goal of TST Paddlers is to increase Texas Stream Team’s monitoring efforts by working with kayakers, canoeists, and paddling groups across Texas. Paddlers make great citizen scientists. They are outdoor enthusiasts who are routinely out on their local waterways, and because of this, they are familiar with the normal conditions of the rivers, lakes, and streams. If the conditions of these waters change, from a sewage spill or a fish kill, the monitors patrolling these areas can contact Texas Parks and

Wildlife’s Kills and Spills Team or their local river authority and Texas Stream Team.



TST Paddlers undergo a certification training like all Texas Stream Team citizen scientists. Once trained, the Paddlers then select a paddling route where they will go out and monitor several sites. Paddling groups are encouraged to work together as a team so that the sites will be monitored monthly. A major advantage of the TST Paddlers is that they are able to access stretches of waterways where other citizen scientists cannot access. Most citizen

scientists monitoring for Texas Stream Team are limited to public access points to their waters, such as a bridge, a park, or a boat ramp. In some cases, citizen scientists have access to private property on the water. TST Paddlers will be able to access and monitor locations in between these public access area to fill in spatial gaps in the monitoring of Texas streams.

New monitoring equipment has been introduced in order to help the TST Paddlers in their monitoring effort. While the traditional LaMotte Core Water Quality Monitoring Kit can be used by the Paddlers, the mixing of reagents to do tests such as the dissolved oxygen titration can be quite cumbersome from a canoe or kayak. In order to help with the protocol, the paddlers have access to an ExTech ExStik II electronic water quality monitoring kit. The kit comes with two electronic probes that measure temperature, pH, conductivity, and dissolved oxygen. The new protocol makes

it quick and easy for the Paddlers to monitor a site so that they can monitor several sites as they paddle down their route.

Paddlers have established groups on the San Marcos River and the Arroyo Colorado down in the Rio Grande Valley. Texas Stream Team has also partnered with Austin Canoe and Kayak, who has purchased monitoring kits. These kits will be housed in their stores in Austin and Houston, and will be available for certified citizen scientists to check out before they go paddle their route.

If you are a member of a paddling group who would be interested in monitoring along a paddling route, please let us know by emailing [txstreamteam@txstate.edu](mailto:txstreamteam@txstate.edu)

## **Citizen Scientists Spotlight: In Memory of Alfred C. Schram**

By: Lindsay Sansom

This edition's citizen scientist spotlight is very dear to our hearts. On March 12<sup>th</sup> of this year we lost a valuable member of the Texas Stream Team. Alfred Schram completed his final water quality monitoring the day before he died, on March 11<sup>th</sup>, which marked 20 solid years of consistent volunteer water quality monitoring; only missing one month in all that time.

Dr. Schram, originally from Belgium, received his B.S. in Chemistry from Brooklyn Polytechnic Institute in 1954. In 1958 he completed his Ph.D. in chemistry from the University of Texas in Austin. Starting in 1959, Dr. Schram worked at the University of Texas Southwestern Medical Center in Dallas as a biochemistry professor. From 1965, up until his retirement in 1995, Dr. Schram enjoyed his career as a professor within the Texas A&M University system, teaching a wide variety of chemistry courses, including general, organic, environmental, and biochemistry. His research focus was on immunochemistry and nonlinear optics.



Starting in 1994, Dr. Schram and his late wife Eleanor were dedicated members of the local Texas Stream Team chapter. Despite name changes and group leadership changes, Dr. Schram continued to collect and maintain a diligent record of water chemistry for Lake Vilbig (also known as Lake Irving). In fact, up until a year ago, according to the Citizen of Irving Stream Team Group Leader, Karen Siddall, Dr. Schram swam across Lake Vilbig every day and was well known on the lake for his passionate dedication to volunteer water quality monitoring. His efforts in life truly reflect the spirit of citizen science and he will be greatly missed.

## **Texas Stream Team East Texas Regional Meeting**

**July 26, 2014**

**1:00 pm to 4:00 pm**

**LOCATION:** Collins Academy, 500 E. Broadway St. Jefferson, TX 75657

The meeting will be held at the Collins Academy Conference Room at 500 E. Broadway St., Jefferson, TX 75657. The goals of the meeting are to meet with other Texas Stream Team Citizen Scientists in the area, meet with the Texas Stream Team Staff from The Meadows Center for Water and the Environment, and hear how Texas Stream Team partners are involved in water stewardship projects in the area.



## **Texas Stream Team Free One Day Workshop For 6-12 Teachers Focused on Water Education**

**August 8, 2014**

**9:00 am to 4:00 pm/Lunch is provided!**

**Location: The Meadows Center – San Marcos, TX**

This workshop will give you a broad range of aquatic activities to use with your students from water characteristics to groundwater, watersheds, and aquifers, to water quality monitoring. This will be a hands-on workshop, so plan on getting wet and using lots of interesting science tools!

You will receive a copy of The Meadows Center Water Education Curriculum for K-12<sup>th</sup> grade, a chance to network, some great freebies, and an excitement for aquatic education! Bring sturdy shoes you don't mind getting wet. We are taking a field trip!

For more information or to register, please email Karen Sinor at [kts32@txstate.edu](mailto:kts32@txstate.edu) or call 512-245-8570.

# Citizen Science by the Numbers



Since 1991, citizen scientists have spent

**38,958**

hours sampling.



That is equal to one full-time employee working for 19.5 years.

That is how long Texas Stream Team has existed!



Citizen scientists have traveled  
**438,515**  
miles since 1991.



That is **294** round trips between Houston and El Paso.



That is 154 trips around the perimeter of Texas!



**37,000**

samples have been collected.

If one sample is 50 mL of water, that is

**489**

gallons of water, enough to fill

**14**

bath tubs.



Thank you!

