

# THE TEXAS WATER SOURCE

UPDATING EDWARDS, KIMBLE, AND  
SUTTON COUNTY LANDOWNERS ON LAND  
MANAGEMENT AND WATER ISSUES

September 2017

## PROTECTING NATIVE TREES

In July 2017, volunteers from the Texas Master Naturalist Program joined staff from the Texas Parks and Wildlife Department, Hill Country Alliance, Llano River Watershed Alliance, and Texas Tech University Field Station at the South Llano River State Park in Junction. The team identified native tree saplings and installed caging around them as protection from deer and other browsing animals.

Native trees provide important values for humans, wildlife, and livestock. Scientists, land managers, and river stewards are increasingly concerned about a lack of young seedlings and saplings in river bottoms.

As Tyson Broad, Watershed Coordinator at the Llano River Field Station notes, "Creekside areas along the Llano River are often void of young trees due to over browsing from native white-tailed and non-native axis deer." Broad notes, "As the older trees die, having established younger trees becomes vital to preserving the riparian area, helping to prevent bank erosion, mitigating the force of floodwaters, and providing shade for both aquatic and terrestrial species."

On the other side of the coin, volunteers from the same groups set out to control the more than 100 Chinaberry trees that are quickly spreading along the Llano River at the TTU field station. Volunteers employed a "hack-and-squirt" method, using hatchets and herbicide that was

applied to each hatchet-cut wound in the Chinaberry tree trunk.

Chinaberry trees were first introduced to Texas from Asia in the mid-1800s and continue to be used as an ornamental yard tree. When this non-native tree invades river bottoms, it can degrade the quality of wildlife habitat and decrease livestock forage. Chinaberry trees have greater resistance to native insects and pathogens, and can change the character of the soil around them, making it harder for some native plants to thrive.

**Do you have a need to restore native trees to your property?** The Texas A&M Forest Service can help. The Central Texas Restoration and Recovery Program supports reforestation programs by providing landowners with seedlings that will grow well in Central Texas.

Seedling availability varies annually, but some previous species include bald cypress, bur oak, cedar elm, chinquapin oak, green ash, Mexican buckeye, Mexican white oak, pecan, sugar hackberry and Texas redbud. These are sold in bundles of 10 per species for \$40 per bundle. Orders are accepted while supplies last from September 1 to October 31. Seedlings are then delivered to designated Central Texas pick up locations in early November. To learn more or to sign up to receive email notification when the program starts, call 806-892-3572 or email [wtn@tfs.tamu.edu](mailto:wtn@tfs.tamu.edu).

### For more information:

- <https://goo.gl/icrd2s>
- <https://goo.gl/z1gdCG>

*From articles by Daniel Oppenheimer-Hill Country Alliance*

- <http://tfsweb.tamu.edu/CentralTexasRestorationandRecoveryProgram>
- <http://tfsweb.tamu.edu/CentralTexasTreePlanting>

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**Organization Spotlight**

# NATURAL RESOURCES CONSERVATION SERVICE

Since 1935, the Natural Resources Conservation Service (NRCS), originally called the Soil Conservation Service, has provided leadership in a partnership effort to help America's private landowners and managers conserve their soil, water, and other natural resources.

NRCS's natural resources conservation programs help people reduce soil erosion, enhance water supplies, improve water quality, increase wildlife habitat, and reduce damages caused by floods and other natural disasters. Public benefits include enhanced natural resources that help sustain agricultural productivity and environmental quality while supporting continued economic development, recreation, and beauty.

The NRCS Conservation Technical Assistance (CTA) Program provides technical assistance supported by science-based technology and tools to help people conserve, maintain, and improve their natural resources. The CTA program functions through a national network of locally-based, professional conservationists located in nearly every county of the United States. This assistance may be in the form of resource assessment, practice design, resource monitoring, or follow-up of installed practices.

Although the CTA program does not include financial or cost-share assistance, clients may develop conservation plans, which may serve as a springboard for participating in USDA financial assistance programs.



Some of their programs - Environmental Quality Incentives Program (EQIP), Wildlife Habitat Incentives Program (WHIP), Conservation Stewardship Program (CSP), and Emergency Watershed Protection Program (EWP) - involve cost share assistance with certain practices.

Your local NRCS offices:

**Kimble County**

Junction Service Center, 522 N. Main St., Junction  
 Dandy Kothmann, District Conservationist  
 Phone: (325) 446-2722 ext. 3  
 Email: Dandy.Kothmann@tx.usda.gov

**Sutton County**

Sonora Service Center, 301 S. Crockett Ave., Sonora  
 Riley Kitchens, Natural Resource Manager  
 Phone: (325) 387-2730 ext. 3  
 Email: Riley.Kitchens@tx.usda.gov

**Edwards County**

Rocksprings Service Center, 100 S. Sweeten, Rocksprings  
 Matthew Kast, District Conservationist  
 Phone: (830) 683-2125 ext. 3  
 Email: Matt.Kast@tx.usda.gov

**For more information:**

- <https://www.nrcs.usda.gov>

## INFORMATION YOU CAN USE

The Upper Llanos Soil and Water Conservation District is housed in the Junction Service Center in Junction, at 522 N. Main Street.

Since 1947, the District has been providing assistance to local landowners to develop and implement conservation plans of operation in order to better manage and conserve their land and its natural resources. Contact Upper Llanos SWCD for:

- Native and other grass seeds, wildlife planting mixes, forbs and wildflowers. They sell seed at competitive prices and their NRCS partners can provide technical expertise and information for all types of seeding.



- Information regarding scholarships and tuitions available for youth range and wildlife workshops, and teacher conservation workshops.
- Conservation planning for your individual property and information on federal programs administered by the NRCS.
  - Direct contact with the Upper Llanos Prescribed Burn Association.
  - Information and links for their other conservation partners and sponsors.

Their phone number is 325-446-2722 ext. 103, and their new website - [www.ullswcd.com](http://www.ullswcd.com) - has a lot of useful information and links to help you in the management of your property.

## LLANO RIVER FIELD STATION

Texas Tech University Center at Junction, located on the banks of the South Llano River, in Junction, provides academic, research and service programs to expand educational, economic and cultural opportunities throughout the Hill Country region.

The Llano River Field Station was established on Texas Tech's Junction campus in June of 2002 to provide a laboratory and classroom environment for undergraduate and graduate students from numerous universities, institutes, and public schools. The Llano River Field Station encourages and supports research of local watershed and riparian habitats.

The field station provides resident and visiting scientists with the following facilities and equipment: wet laboratory and equipment; lecture room; library; research area equipped primarily for aquatic biology studies; T-1 line with internet access; compound and dissecting scopes; herbarium; collections area for plant, bird, fish, and insect specimens; sleeping facility for four persons; small kitchen and dining area; and restrooms with showers.

Loyola University junior Maggie Yarnold returned this summer to the Llano River Field Station to continue her research on wildlife impacts on riparian zones along the South Llano. Ms. Yarnold's research evaluates the plant communities both inside and outside of an enclosure in the riparian zone at the Llano River Field Station.

Last year's research found that browsing pressure from wildlife (primarily white-tailed deer and axis) not only impacts plant growth, but the litter layer (layer of leaves, twigs, etc., on the ground underneath the trees) is affected as well. All this results in increased erosion and

changes to the carbon/nitrogen ratio in the soil, which impacts growth of desirable plant species. Data shows the weight of the dry leaf litter from the enclosure area was 45% more than from outside the enclosure, showing the importance of having the desirable tree species and their leaves around to enhance and protect the soil. Without a healthy and abundant litter layer, the soil will slowly deteriorate with every storm or flood.

Young saplings of desirable tree species, such as pecan, elm, ash, and walnut, were almost nonexistent outside of the enclosure. Within the enclosure, the desirable species were in abundance, suppressing most of the undesirable trees and other plant species (honey mesquite, frostweed, common horehound, etc.).

This year's research by Ms. Yarnold will help determine the length of time enclosures need to remain in place to protect and restore the healthy riparian ecosystem.

Other current and past research projects at the station:

- Monitoring of global seismic activity
- Variation and diversity in stream fishes in terms of growth stages, space, and time
- A survey of autumn aquatic plants of the South Llano River

### For more information:

- <https://www.depts.ttu.edu/junction/lrfs>
- <https://goo.gl/oMQ39t>

## GIANT REED INVASION

Giant reed (*Arundo donax*), also called carrizo cane, is an invasive species that colonizes streambanks and floodplains, and is frequently seen on roadsides. It threatens pretty much every river system in the state. It is a grass that grows up to 30 feet tall, and spreads mostly by way of horizontal stems (rhizomes) that run along the ground.

Riparian invaders displace native plant communities along riverbanks and degrade instream habitat for aquatic life. *Arundo* consumes large amounts of water; so much that they can actually re-

### Did you know . . .

An estimated 24.5 trillion gallons of rain has fallen from Hurricane Harvey. That much rainfall would cover the entire 4,455 square miles (2.8 million acres) of the Llano Watershed with 26 feet of water!

duce stream flow. Ironically, they can also make floods more destructive, forming dense stands that hamper a floodplain's ability to do its job

A few *Arundo* stands are found along the Llano. The Llano River Field Station and the Llano River Watershed Alliance are working with Texas Parks and Wildlife to treat this plant before it becomes well established. If you have a stand that needs treatment, please contact the Alliance at [southllanoriver@gmail.com](mailto:southllanoriver@gmail.com).

from: [https://tpwmagazine.com/archive/2016/jul/scout2\\_invaders](https://tpwmagazine.com/archive/2016/jul/scout2_invaders)

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Temple office (254) 742-9874  
lhazel@tfs.tamu.edu

## Devil's Sinkhole

The Llano River and Devil's Sinkhole made news in the United Kingdom in June 2017.

Researchers dropped down into the cave for scientific investigations. The research includes increasing knowledge of the flow of water from the sinkhole to the Nueces and possibly Llano rivers. They are also dating bat guano - or bat droppings.

Located at Devil's Sinkhole State Park near Rocksprings, the giant hole in the ground is home to between three million and five million Mexican free-tailed bats during the summer. The bats can be seen flying out of the ground each night during their time there in the summer.

This enormous vertical cavern is thought to be the largest single-chamber cavern in Texas. The opening is a shaft approximately 50 feet wide that drops 140 feet into the cavern. Here, the shaft balloons out to a diameter of over 320 feet and reaches a total depth of over 350 feet.

Visitors are not allowed to go into Devil's Sinkhole - all descents are made by expert cavers for authorized scientific research.

To see some wonderful photos and video, go to <https://goo.gl/iPBFhk>.

To read more on the Devil's Sinkhole State Natural Area, go to <https://tpwd.texas.gov/state-parks/devils-sinkhole>.



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