

THE TEXAS WATER SOURCE

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

January 2017

LAND STEWARDSHIP - WATERSHED MANAGEMENT

Central Texas is known for cool, clear, tree-lined streams as well as hilly terrain which seems to cascade to the horizon. Landowners can take steps to help their land live up to its potential, as well as, the rivers flowing downstream.

Management for soil and water often go hand in hand. As soil is stabilized on the land, water runoff is clearer. If vegetation is healthy on the land, nutrients and chemicals can't reach a stream as easily. Also, as trees and grasses grow along streams, stream banks resist erosion.

Every acre of land in Texas leads to a stream, river, and ocean. The area of land leading to a stream or river is called a watershed or water catchment. When water is infiltrated in to the plants and soil, movement becomes slow, sustained, and deliberate. This benefits plants and animals over a longer period of time while water slowly journeys to a stream or aquifer.

Landowners can help prevent soil erosion and overland flow that dumps sedi-

ment and other pollutants into streams by 1) proper stocking rate of livestock; 2) controlling deer population to encourage native forbs, shrubs, and trees; 3) thinning or clearing "cedar" trees as appropriate to encourage grass growth and native hardwood trees; 4) protect-



It is good to have trees and shrubs of various sizes in your riparian area. The combination of trees and grasses forms a stable rooting complex which reduces bank erosion.

ing or restoring riparian zones on your property; and 5) Contacting professionals in your area for advice on these and other topics

The riparian zone is the band of vegetation that should occur on both sides of the water in a stream or river. As stabilizing vegetation grows along the water's

edge, water is slowed down and absorbed into the banks. This water is released over a longer period of time increasing the chance of having water flow between rains. The riparian area extends up into the bottomlands with older more long-term trees and grasses. This region of the riparian area plays a critical role in absorbing and slowing down flood waters. This function benefits your land as well as those facing possible flood waters downstream.

For more information:

- <http://texasconservation.org/page.php?page=soil>
- <https://www.facebook.com/HillCountryAlliance/?fref=ts> (Hill Country Alliance video - "Riparian Recovery: Hill Country River Solutions")

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Organization Spotlight

TEXAS WATER RESOURCES INSTITUTE

Established in 1952, the Texas Water Resources Institute (TWRI) was designated as the state's official water resources institute in 1964 by the Texas Legislature and Texas Governor as a result of the Water Resources Research Act. Today's complex water issues require strategic and innovative solutions. Sustained and secure water resources are vital for economic growth, ecological sustainability, public health, and food production. TWRI works on solving priority water issues through research, education, and outreach.

TWRI provides science-based, community-supported solutions that focus on restoring water quality; conserving water supplies; and educating water professionals, students, and the public - all through internal expertise and external collaborations. They offer project management, water quality monitoring, watershed planning, bacterial source tracking, geospatial analysis, and education and outreach.

TWRI's *Water Quality Improvement Program* works to restore many of the more than 400 impaired water bodies in Texas, while also proactively protecting unimpaired watersheds. They partner with other water resource professionals in working with stakeholders to identify, develop, and implement effective management strategies to address local water quality concerns.

The *Water Sustainability and Security Program* centers

on securing adequate municipal, industrial, and agricultural water supplies to meet the increasing demand from Texas' growing population. Collaborating with researchers and extension professionals throughout the state and nation, science-based solutions to improve agricultural and urban water-use efficiency are found.

The *Water Resources Outreach and Training Program* targets both interested citizens and water professionals. Public programs convey best management practices essential to managing and conserving water; while professional courses transfer new science and technology from universities to professionals.

TWRI is a unit of Texas A&M AgriLife Research, the Texas A&M AgriLife Extension Service, and the College of Agriculture and Life Sciences at Texas A&M University. This organization also works together and shares professional and support staff with the Texas A&M Institute of Renewable Natural Resources, using both institutes' unique research and outreach capabilities.



For more information:

- <http://twri.tamu.edu>

INFORMATION YOU CAN USE

You can find a great deal of information on the Texas Water Resources Institute website (twri.tamu.edu). It is a user-friendly website with high-quality information.

The **Publications** tab takes you to various magazines, newsletters, journals, and reports on Texas water resources and their conservation, restoration, and more. Continue exploring that page, and you'll find other educational materials, along with links to other water-related publications from other organizations.

On the **What We Do** page, you'll see a variety of water quality improvement, conservation, and education programs TWRI is involved with, including the Upper Llano River Watershed Protection Plan.

Many water-related links are provided on the **Resources** page. You can find Texas A&M University water resources experts through the Water Resource Specialist Directory by clicking on various topics of interest, such as Water Management for Range and Forest Lands,

Crop and Landscape Water Use, Groundwater and Surface Water Supplies, and Water Quality and Watershed Protection.

On the same page, click on the [Water Conservation Resources](#) link on the right-hand side and find links to articles and websites helpful to homeowners, landowners, and educators, including fact sheets on In-Home Water Conservation, Rainwater Harvesting, and Water Conscious Landscapes.



WHAT IS GROUNDWATER?

Groundwater is the water found underground in the cracks and spaces in soil, sand and rock. It is stored in and moves slowly through geologic formations of soil, sand, and rocks called aquifers. Groundwater is used for drinking water by more than 50 percent of the people in the United States, including almost everyone who lives in rural areas. The largest use for groundwater is to irrigate crops.

Groundwater can be found almost everywhere. The water table may be deep or shallow; and may rise or fall depending on many factors. Heavy rains or melting snow may cause the water table to rise; heavy pumping of groundwater supplies cause the water table to fall.

Water in aquifers is brought to the surface naturally through a spring or can be discharged into lakes and streams. Groundwater can also be extracted through a well drilled into the aquifer.

More than 60 percent of water used in Texas comes from groundwater in 9 major and 21 minor aquifers. The major and minor aquifers extend beneath 81 percent of the land area of Texas. About 80 percent of all groundwater used in Texas is for irrigating crops.

The major aquifer that supplies Edwards, Kimble, and Sutton counties (and many other counties) is the Edwards-Trinity (Plateau) aquifer.

Unlike surface water, which is owned by the State, groundwater in Texas is the property of the landowner, and is subject to the "the rule of capture." State law does not provide authority to any state agency to regulate

the use or production of groundwater, so groundwater conservation districts (GCDs) are the preferred method for managing this resource.

GCDs work to prevent waste of groundwater and are authorized to permit non-exempt water wells, develop a comprehensive management plan, and adopt necessary rules to implement the management plan. Rules may include those that govern well spacing, production, drilling, tract size, and construction standards. State law prevents GCDs from requiring permits for wells used solely for domestic or livestock/poultry watering on tracts larger than 10 acres.

At the local level, groundwater conservation districts in Kimble, Edwards, and Sutton counties manage the groundwater resources of their respective counties. These three districts - the Real-Edwards Conservation and Reclamation District (CRD), the Kimble County Groundwater Conservation District (GCD), and the Sutton County Underground Water Conservation District (UWCD) - along with other groundwater districts in the Edwards Plateau region, participate in a state-mandated Groundwater Management Area joint planning program. Most of the wells in all three districts are exempt from permitting.

For more information:

- <http://www.groundwater.org> Click on "Get Informed"
- <https://goo.gl/VDfkNX>

MAKE SPRINGS YEAR-ROUND

Many springs in Central Texas can respond to management according to conservation practices. Landowners doing their part can impact land and people in areas greater than their own property boundary. One way is to promote the infiltration of rainfall. Landowners can gain valuable information by contacting their local groundwater conservation district. Find yours at www.twdb.state.tx.us/gwrd/gcd/gcdhome.htm.

Get to know your spring. Each spring may require slightly different maintenance and protection. Pick up a copy of Springs of Texas - Spring Owner's Guide for tips and ask a professional out to take a look (go to <https://goo.gl/jAxsXh>). Overall tips to pro-

tect a spring could include:

- Protect the spring outlet with fencing to keep animals from degrading the immediate site.
- Prevent erosion of sediment into the spring outlet.
- Be aware that any alteration of rocks or soil could interfere with spring flow. Prevent erosion of sediment into the spring outlet. This can be a major cause of flow reduction for a specific site.

Did you know . . .

Many battles were fought in Texas between the pioneers and Indians for possession of springs.

Be aware that any alteration of rocks or soil could interfere with spring flow. Observe, and then proceed with care. [from <http://texasconservation.org>]

Watering Texas Landscapes

The management practices you use on your wooded property can not only affect the *quality* of water on (and under) your property, but they can also have an impact on the *quantity* and *availability* of water. Same holds true for the landscaping around your homestead. Choosing the right plants and watering methods can help conserve water and give you a thriving native Texas landscape you can be proud of!

Some keys to watering the Texas landscape wisely:

1. Choose plants adaptive to conditions in your area of the state. From turf to trees, you should choose the ones that can thrive in your climate, soil type, and planting site.
2. Know the amount of water needed to irrigate your landscape, and use the right tools and methods to deliver the optimal amount.

Contact your local AgriLife Extension Service office and local nurseries for tips on what to plant where, and how much to water and the tools to do so.

"A Watering Guide for Texas Landscape" by the Texas Water Development Board is one source for tips on accomplishing this.

You can download this guide at:

www.twdb.texas.gov/publications/brochures/conservation/doc/WaterGuide.pdf

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