TEXAS A&M FOREST SERVICE

THE TEXAS WATER SOURCE

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

June 2017

AXIS DEER AND RIPARIAN AREAS

A public meeting was held on April 6 at the Texas Tech University (TTU) Center in Junction to review a project that will be undertaken on the management of non-native, free-ranging Axis deer and their effects on the riparian habitats of the Upper Llano River Watershed.

The TTU-funded project stems from the Upper Llano River Watershed Protection Plan that was developed by local stakeholders. The Plan is intended to address proactively the threats to the Upper Llano through "strategies to restore and/or protect the quantity and quality of surface water and groundwater resources through voluntary, non-regulatory watershed management strategies."

Axis deer buck

One of eight proposals in this plan is to increase the number of ranches with wildlife management plans by a least two annually, particularly in critically important riparian areas, which is the area of interface between land and a river or stream. Riparian areas are critically important components of ecosystems that support very diverse and interrelated plants and animal life.

Matthew Buchholz, Ph.D. research assistant, gave a presentation that focused on the four major goals of the Axis deer project. The goals:

First – assess the extent and quantify damage of riparian zone habitat, plants, and soils caused by Axis deer. Second – estimate regional population and the group structure of Axis deer, including population size, sex and age ratios, breeding chronology, and survival. Third – assess frequency of occurrence and potential risks of transmitting relevant diseases in Axis deer Fourth – characterize the extent of genetic diversity and regional population structure of the Axis.

It is highly likely that overabundant Axis deer are contributing to degradation of water quality and riparian habitats by overgrazing and trampling, resulting in erosion into the rivers. It was stated further that the precise effect of Axis deer on riparian habitats, as well as other factors of their ecology remains unknown. At its completion, the project will provide an assessment of the environmental damage being caused by Axis deer and recommendations for ameliorating the damage and protecting riparian areas.

TTU researchers undertaking this project are looking for opportunities for partnerships and collaboration with wildlife professionals, land owners, and the public. For example, local deer processing businesses could become a good source of information for the project.

For more information:

- https://goo.gl/226qC0
- Matthew Buchholz, TTU's Dept. of Natural Resources Management, (806) 392-3699; matthew.buchholz@ttu.edu

Inside this issue:

Organization Spotlight

TEXAS RIPARIAN ASSOCIATION

"The Texas Riparian Association's mission is to improve and enhance the health of water quality and quantity in Texas's streams, by encouraging sustainable and balanced riparian ecosystems for the people and the environment of Texas through the exchange of knowledge and expertise, and the dissemination of information."

The Texas Riparian Association (TRA) is a statewide organization that promotes an appreciation of the benefits of healthy rivers. TRA pursues its mission by identifying and filling information needs, making people aware of their reliance on healthy riparian ecosystems for an improved quality of life. In furthering their mission, TRA communicates with professionals in the field of land and water conservation, public officials, landowners, academia, and the people of Texas.

TRA has teamed with The Texas Water Resources Institute (TWRI), Texas State Soil and Water Conservation Board (TSSWCB), Texas A&M Forest Service (TFS), Texas Parks and Wildlife Department (TPWD), USDA Natural Resources Conservation Service (NRCS), Nueces River Authority (NRA), Texas A&M AgriLife Research–Ecosystem Science and Management Department (ESSM), and the Texas Tech University Llano River Field Station (TTU-LRFS) to conduct Riparian and Stream Ecosystem Education programs across the state. These riparian workshops focus on the nature and function of riparian zones (fluvial geomorphology, hydrology, vegetation), the benefits and direct economic impacts from ecological services of healthy riparian zones, best management practices (BMPs) for enhancing and protecting riparian zones, and technical and financial resources and incentives available for implementing riparian BMPs and riparian protection measures. These one-day trainings include indoor classroom presentations and outdoor field sites and stream walks.

Through these educational efforts, landowners and other citizens can improve their management of riparian and stream ecosystems, which will reduce nonpoint source pollution (NPS) and provide tremendous ecosystem service benefits and direct economic benefits to communities.

Funding for these programs come from grants from Texas State Soil and Water Conservation Board and U.S. Environmental Protection Agency.

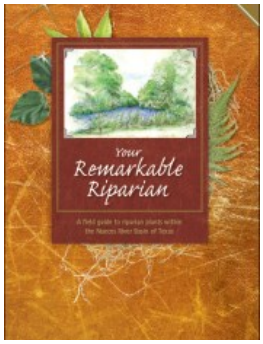
For more information:

- http://http://texasriparian.org
- https://www.facebook.com/TexasRiparianAssociation

INFORMATION YOU CAN USE

In addition to the riparian workshops, you can find a wealth of information on Texas Riparian Association's website (texasriparian.org). For instance, click on "Resources" and find links to:

- Riparian field guides
- Riparian area management handbooks
- Texas A&M Forest Service Water Resources program website and blog
- Texas Forest Info - an interactive website with information on trees and forestland, along with mapping tools geared towards landowners and land managers and contractors
- Managing riparian habitats for wildlife
- Natural stream restoration information
- Central Texas wetland plants
- Urban and community forestry



Under the Riparian Program–Riparian Online Resources and Videos tabs, you'll also find YouTube videos and PowerPoint presentations on topics such as:

- Riparian and Watershed Management
- Stream Processes and Hydrology
- The Importance of Riparian Vegetation
- Forestry Riparian BMPs
- Riparian Considerations for Land Contractors
- And much more!!!

AQUATIC INVASIVE PLANT SPECIES

Invasive species include a wide variety of plants, insects, and animals that have been introduced from other countries. Invasive species are of particular concern because they grow, reproduce, and spread rapidly; establish over large areas; and persist in the environment. Invasive species succeed due to favorable environmental conditions and lack of natural predators, competitors, and diseases that normally regulate their populations in their home countries.

As invasive species spread, they decrease biodiversity by threatening the survival of native plants and animals. It is important to monitor your property for invasive species and take steps to control them when possible. Contact Texas A&M Forest Service or your county's Texas A&M AgriLife Extension Agent for more information.

Invasives in an aquatic environment can spread easily and quickly through water flow and animal and human transport, causing huge problems when not prevented or controlled in time. Here are just a few examples:

Giant reed (*Arundo donax*) - a tall, perennial grass that can grow to over 20 feet in height. Giant reed becomes established in moist places such as ditches, streams, and riverbanks, growing best in well drained soils where abundant moisture is available. It tolerates a wide variety of conditions, including high salinity, and can flourish in many soil types from heavy clays to loose sands.

Giant reed chokes riversides and stream channels, crowds out native plants, interferes with flood control, increases fire potential, and reduces habitat for wildlife. The long, fibrous, interconnecting root mats of giant reed form a framework for debris dams behind bridges, culverts, and other structures. It ignites easily and can create intense fires.

Giant reed can float miles downstream where root and stem fragments may take root and initiate new infestations. Due to its rapid growth rate and vegetative reproduction, it is able to quickly invade new areas and form pure stands at the expense of other species.

Elephant ears (*Colocasia esculenta*) - a perennial herb with thick shoots; can grow to 4 feet tall. It reproduces mosty by stem fragmentation and budding at the base of the plant. It outcompetes native species, thus altering natural habitat and ecosystem processes, reducing biodiversity. It forms dense stands along lakes and rivers where it completely eliminates native plant species.

Elephant ears need soil that is moist to wet, mildly acidic, and rich in organic material. It can be found spreading along wetland fringes as well as stream, ditch, canal, and lake banks.

For more information:

- https://www.llanoriver.org/invasive-species
- http://tfsweb.tamu.edu/InvasiveSpecies
- http://www.texasinvasives.org

POSSESSION AND TRANSPORT OF EXOTIC AQUATIC SPECIES

It is a violation to:

- Possess or transport any exotic aquatic plant or animal listed as harmful or potentially harmful. This includes: plants such as hydrilla, water hyacinth, and giant salvinia; fishes such as tilapia and Asian carps (grass, silver, and bighead carp); and zebra mussels.

- Possess tilapia, grass carp, or any other fish listed as harmful or potentially harmful, without immediately removing the intestines, except on waters where a valid Triploid Grass Carp Permit is in effect. In those waters, it is illegal to possess grass carp. Any grass carp caught must be immediately returned to the water unharmed. See TPWD's list of waters with Triploid Grass Carp Permits.

Did you know . . .

In the State of Texas, having in your possession and transporting invasive species is illegal.

- Fail to immediately remove and lawfully dispose of any harmful or potentially harmful aquatic plant that is clinging or attached to a vessel, watercraft, trailer, motor vehicle, or other device used to transport or launch a vessel or watercraft. Illegal transport can result in a fine of $25 - $500. Learn how to properly clean your watercraft.

From Texas Parks and Wildlife website: **https://goo.gl/4EO1hd .** Also see: **http://tpwd.texas.gov/huntwild/wild/species/exotic .**

Symposium and Symphony

Texas Water Symposium on Invasive Species

Invasive Arundo cane (giant reed), Zebra Mussels, and Hydrilla are among a host of aquatic plants and animals that are not native to Texas and compete with our native animals and plants for food and space. Because introduced species lack natural enemies in our waterways, they can multiply and spread at an alarming rate, interfering with boat traffic, affecting water quality and quantity, and causing a range of other problems.

Dr. Tom Arsuffi, Director of the Llano River Field Station and Board member of the Llano River Watershed Alliance, joined Bob Howells (author of *Freshwater Mussels of Texas*) and Rachael Ranft (The Nature Conservancy) recently in Fredericksburg to discuss invasive species and their impacts on water resources, economics, and ecosystems.

You can listen to the symposium by clicking on the Texas Public Radio play button at this site: **https://goo.gl/3Dhvxb**.

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Symphony of the Soil

The Odeon Theater in Mason hosted *Symphony of the Soil* in early May. This documentary will forever change the way you look at soil. See an interesting preview of this soils documentary: **http://www.symphonyofthesoil.com**.

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