Texas A&M Forest Service

March 2022

FOREST STEWARDSHIP BRIEFINGS

Timber ◊ Wildlife ◊ Water ◊ Soil ◊ Best Management Practices ◊ Forest Health ◊ Recreation ◊ Aesthetics

CONSERVATION SUCCESS IN COMAL COUNTY

from Texas Parks and Wildlife Department website article dated February 7, 2022

For more information:

- https://bit.ly/3BssWrP

Thanks to the combined efforts of the Natural Resources Conservation Service (NRCS), The Nature Conservancy (TNC), and Texas Parks and Wildlife Department (TPWD), new conservation protections are being added in Comal County to safeguard Honey Creek Spring Ranch from future development.

In addition to a significant bargain sale from the landowners, funding for this project came from the Texas Farm and Ranch Lands Council in 2019, TPWD's Farm and Ranch Lands Conservation Program (TFRLCP), and NRCS's Agricultural Conservation Easement Program. TNC assisted the landowners in applying for the funding.

Honey Creek Spring Ranch builds on a history of conservation in Comal county. TNC acquired 1,825 acres in the county in 1981 which they then transferred to TPWD to create the 2,294-acre Honey Creek State Natural Area. The easement at the Honey Creek Spring Ranch adds an additional 621 acres to the protected lands in Comal County

The ranch is ecologically important due to the presence of critical wildlife species like the endangered golden-cheeked warbler. Black-capped vireos and other species in decline are also present on the property. The property lies above a section of the Honey Creek Cave, the largest cave system in Texas. Several miles of underground river emerge from the ranch's namesake spring as the source of Honey Creek, which is an important tributary of the Guadalupe River. This cave system is in the drainage area of the Edwards Aquifer, which supplies drinking water to nearly 2 million Texans and the City of San Antonio. Edwards Aquifer contains numerous native and threatened species, including the Comal blind salamander and at least six invertebrates found in only a few caves in Central Texas. Although the conservation easement on Honey Spring Creek Ranch does not allow for public access, the permanent protection of the property from future development is an achievement for conservation in Texas.

Suzanne Scott, the state director for TNC in Texas, lauded the easement, saying it "illustrates how landowners and agencies can collaborate to protect land, safeguard water, and protect native and threatened species."

The Agricultural Conservation Easement Program and the Farm and Ranch Lands Conservation Program from NRCS and TPWD complement the work of conservation partners like TNC to preserve natural resources by protecting working lands from fragmentation and development. These two programs maintain and enhance the ecological and agricultural productivity of these lands through Agricultural Conservation Easements. NRCS, TNC, and TPWD, along with other land trusts in Texas, have partnered to preserve tens of thousands of acres of farm and ranches across Texas utilizing these programs.

Since the legislature created the TFRLCP in 2005, more than 27,000 acres of working lands have been protected. These properties produce $2.9 million in agricultural commodities, $170,000 in wildlife value, and $7.3 million in water replacement costs annually.

INSIDE THIS ISSUE:

Wetland Filtration Value

from Stormwater: The Journal for Surface Water and Erosion Control Professionals website article dated January 25, 2022

For more information:

- bit.ly/3uXKryR

The University of Waterloo recently conducted a study that uses economic valuations to illustrate the importance of Southern Ontario's wetlands for water filtration. This is an important idea to make accessible as these sensitive ecosystems continue to be lost to agricultural conversion and urban development. This study highlights the value of wetlands not only in Ontario but all over the planet.

The researchers based their valuation on the average rate of sediment build up in each type of wetland in Southern Ontario. It was then calculated how much the removal and disposal of the same amount of sediment and phosphorus would cost in stormwater management facilities in Ontario. The researchers estimated that Southern Ontario's wetlands are worth $4.2 billion in sediment filtration and phosphorus removal services every year.

The study also calculated how much it would cost to replace wetlands' existing phosphorus filtration function with three different human-engineered solutions. Building artificially constructed wetlands would cost an average of $2.9 billion annually to replace the free phosphorus filtration service that natural wetlands currently provide. Implementing agricultural Best Management Practices (BMPs) to remove an equivalent phosphorus load would cost society $13 billion annually. Finally, expanding current wastewater treatment capacity to replace wetlands' filtration service would cost $164 billion annually.

Tariq Aziz, who carried out the study during his PhD and postdoctoral work in Waterloo's Department of Earth and Environmental Science, explained that "wetlands naturally filter out phosphorus and sediments from water, but their value is often greatly overlooked. By calculating the economic value of wetland filtration and comparing it to the costs of engineered interventions, we hope to reinforce the importance of protecting our wetlands."

It is interesting to note that this study is the first economic valuation study to separate the values of the major types of wetlands in Southern Ontario. These include marshes, bogs, swamps, and fens. Aziz explained "that marshes were the most valuable wetland type for sediment and phosphorus filtration, based on the removal rates per hectare. However, because swamps make up 87 percent of Southern Ontario's wetlands, they contribute about 80 percent of the overall filtration services we benefit from, at a value of about $3.4 billion per year."

Update to TFS Plan My Land Operation Tool

from Texas Forest Info website by TFS

For more information:

- https://texasforestinfo.tamu.edu/

A Plot Layout tool has been added to the Plan My Land Operation website offered by the Texas A&M Forest Service (TAMFS). This tool will produce a map showing the layout of sample plots based on several user-defined parameters. Once generated, the sampling points can be printed on a map report. Additionally, a file of coordinates for the sampling points will be created that can be loaded into a GPS unit to assist with navigation in the field.

This tool will prove very useful to land managers when determining how to survey a forest stand. Parameters include plot spacing in feet or chains within and between rows as well as rotation angle for orientation of plot layout grid.

The Plan My Land Operation tool allows landowners and land managers to map a property and get detailed information on its suitability for activities such as road building, harvest equipment operability, drainage class, etc. This addition to the app will provide land managers with increased ability to serve Texas landowners.

First Quagga Mussel in Texas

The invasive quagga mussel has been detected for the first time in Texas. National Park Service (NPS) staff discovered the mussels at the International Amistad Reservoir in the Rio Grande basin.

Quagga mussels are closely related to the invasive zebra mussel, which has invaded 33 Texas lakes across six river basins since it was first introduced in Lake Texoma in 2009. The detection of quagga mussels is the first finding of any invasive mussel species in the Rio Grande basin.

Monica McGarrity, the Texas Parks and Wildlife Department Senior Scientist for Aquatic Invasive Species, explained that "quagga mussels can inhabit greater depths and are also able to settle on soft substrates like mud or sand in addition to hard surfaces like rock or infrastructure—unlike zebra mussels—meaning they can colonize more of the lake."

The NPS staff have been actively monitoring Amistad Reservoir for zebra and quagga mussels since 2014. This early detection monitoring can assist in preventing spread to other water bodies as well as providing an early warning for mitigating impacts on infrastructure for facilities using raw surface water. Currently, NPS employees conduct monthly inspections from docks and structures at several sites on the reservoir. Another strategy used by NPS staff is conducting shore surveys with mussel detection dogs.

To date, they have not detected juvenile or adult mussels that might indicate population establishment. TPWD is designating the reservoir as "positive" for quagga mussels. Positive status indicates mussel larvae have been repeatedly detected, but no juveniles or adults have been found, and there is not yet evidence of a fully established population.

The detection of quagga mussels in Texas highlights the critical need for lake users to follow TPWD's prevention guidelines, known as "Clean, Drain, and Dry," when visiting Amistad Reservoir and other lakes with known invasive presence.

from Texas Parks and Wildlife Department website article dated February 2, 2022

For more information:

- https://tpwd.texas.gov/newsmedia/releases/?req=20220202a

Coastal Bottomlands Conserved

The U.S. Fish and Wildlife Service recently acquired nearly 5,000 acres of coastal bottomlands forest on the Texas coast. The newly acquired property, which is 4,628 acres in size, will be known as the McNeill-Peach Creek Unit; it is the largest contiguous "old-growth" forest tract remaining in the Columbia Bottomlands that had not yet been conserved. This property will also be the first refuge tract in Wharton County.

Amy Lueders, the Regional Director for the U.S. Fish and Wildlife Service, announced that the agency was "grateful for The Nature Conservancy and other partners who helped [them] acquire this unique tract, which has been a priority since the Austin's Woods Land Protection Plan was approved in 1997."

The Columbia Bottomlands habitat supports resident reptiles, amphibians, and mammals like swamp rabbits and white-tailed deer, red-eared slider turtles, and wood ducks. This habitat is also a major migratory stopover and resting area for Nearctic-Neotropical migratory birds.

The newly-acquired property contains an extensive amount of frontage on the San Bernard River to the north and east, as well as Peach Creek, which roughly bounds the southern extent of the property. The San Bernard Wildlife Refuge was established in 1968 to provide wintering habitat for migratory waterfowl and other bird species; it was designated as an internationally Significant Shorebird Site by the Western Hemisphere Shorebird Reserve Network.

from U.S. Fish and Wildlife Service website article dated January 4, 2022

For more information:

- https://bit.ly/3LISMMZ

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A History of Conservation

The Nature Conservancy found its start when a group of scientists formed the Ecologists Union in 1946 to take "direct action" to save threatened natural areas. The Ecologists Union changed its name to The Nature Conservancy in 1950 and launched into land protection in 1954 when neighbors of a 60-acre forest in New York were given an ultimatum: bid on the wooded ravine or see it developed.

The first official chapter charter was granted in Eastern New York; this was the beginning of what would become a network of chapters and field offices that covers the entire United States. TNC's first public agency partnership was formed with the Bureau of Land Management to co-manage 3,100 acres in California in 1961. That same year also marked the first donated conservation easement to the organization – 6 acres of Mystic River salt marsh in Connecticut.

The organization's membership surpassed one million people in 1999, and it grows to this day. Presently, they are committed to implementing plans and programs to combat the threats of climate change and biodiversity loss on Earth.

To find out more about The Nature Conservancy and the work they do, visit https://www.nature.org/en-us/.

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