TEXAS A&M FOREST SERVICE

THE TEXAS WATER SOURCE

UPDATING CHAMBERS AND LIBERTY COUNTY LANDOWNERS ON LAND MANAGEMENT & WATER ISSUES

February 2022

The Importance of Wetlands and their BMPs

What is a Wetland?

Wetland" is a general term used to describe a variety of wet environments, such as marshes, wet meadows, bogs, bottomland hardwood forests, and wooded swamps, which are transitional zones between open water and dry land. These areas provide many benefits, including:

- Filtering sediment and other pollutants
- Food and habitat for fish and wildlife
- Erosion control
- Floodwater storage
- Control of saltwater intrusion
- Timber production
- Recreational opportunities

Federal regulations define wetlands as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."

Wetlands possess three essential characteristics that must be present: (1) hydrophytic vegetation that will only grow in a wet environment; (2) hydric soils formed under conditions of saturation and develop anaerobic (absence of oxygen) conditions during the growing season; and (3) wetland hydrology - water is present either at or near the surface of the soil all year or for varying periods of time during the year, including the growing season.

BMPs for Forested Wetlands

Forested wetlands are environmentally sensitive areas. Special attention to Texas Forestry Best Management Practices (BMPs) is essential if water quality is to be protected while working in these areas.

Careful planning will help minimize stream crossings; identify the best locations for roads, skid trails and log sets; and allow operations to be scheduled during dry periods to minimize adverse impacts on soils and water.

Streamside Management Zones (SMZs) - buffers of specially managed forest along the banks of water bodies - are particularly important in wetland areas. Timber may be logged carefully and selectively within these areas.

Federal mandatory BMPs for road construction must be followed in jurisdictional wetlands.

The Texas A&M Forest Service Water Resources program informs landowners, loggers, and the general public about the use of forestry BMPs during forestry operations. These efforts have paid off as BMP implementation has increased across all ownership types.

For more information:

- http://www.epa.gov/Wetlands/
- http://texasforest service.tamu.edu/BMP

A Chambers County Wetland

The Anahuac National Wildlife Refuge is a 37,000 acre refuge in Chambers County for the waterfowl and shorebirds that frequent its marshes and prairies. Although the main management focus of the refuge is on the coastal marshes that these birds call home, there is an abundance of wildlife present in the refuge; animals such as bobcats and alligators also reside within this unique ecosystem.

One species that the refuge is especially concerned with is the mottled duck, also known as the mottled mallard. The mottled duck is an "indicator species" for marsh and wetland health, meaning that the presence of the species is a sign that the wetlands are functioning in a healthy way. Researchers are concerned about this duck because of its small population size and range, especially considering its popularity as a game bird for hunters.

One study detailed by the refuge discovered that the mottled ducks have begun spending time on the open waters of the Gulf of Mexico despite the species' history of avoiding open water. Researchers suspect that this new change in the birds' behavior is a result of habitat loss and saltwater intrusion, which are both results of coastal development.

The plight of the mottled duck is a good illustration of why wetlands are important; they provide specialized habitat to wildlife that depend on very specific conditions to thrive. The ecosystems are sensitive, and they need the attention of people like you to keep providing their benefits to humanity and wildlife alike.

The Anahuac National Wildlife Refuge Visitor Center is located on FM 563 at the Texas Chenier Plan Complex Headquarters. The main entrance to the refuge is 20 miles south of the visitor center; it is located on FM 1985.

For more information:

- https://www.fws.gov/refuge/Anahuac/%20
- https://bit.ly/3rP6THk

Organization Spotlight

Texas GLO

What is GLO?

It stands for the Texas General Land Office. Established in 1837, it is the oldest state agency in Texas. The position of Texas Land Commissioner with the GLO was established before the position of Governor in Texas.

The original purpose was to create an organization that would manage public land. When The Republic of Texas entered the Union and became the state of Texas, public land remained under the state's possession. This was because the federal government would not accept land for payment owed.

Today, the GLO manages 13 million acres of state land and Gulf shore tidelands. The Texas GLO is involved in the Sabine Pass to Galveston Bay project (*https://www.swg.usace.army.mil/S2G).* The GLO also maintains a website, Texas Beach Watch (*https://cgis.glo.texas.gov/Beachwatch*), to help monitor fecal bacteria levels in Gulf Coast waters. There are two monitoring stations for this program in the upper Galveston Bay.

The Texas GLO also sponsors the Adopt-A-Beach program to reduce litter and assists in oil-spill prevention and response.

Fun Fact: You can purchase historical maps and aerial imagery from the Texas GLO website.

For more information:

- https://www.glo.texas.gov

How You Can Protect Your Watershed

EPA Recommendations

The Environmental Protection Agency (EPA) has detailed ways in which individual citizens can make a difference in the battle to maintain water quality within their watersheds. The actions listed by the EPA are effective in protecting "source water," which is the water that eventually provides drinking water to a populace. A large portion of drinking water is sourced from "groundwater," or water held beneath the Earth's surface in rock and soil. This water is typically pumped and treated to provide drinking water.

According to the EPA, a major way to help protect your source water is to make sure you properly dispose of chemicals such as motor oil. If left in the open or disposed of improperly, motor oil can make its way into streams and bring harmful effects to both humanity and wildlife.

Another way you can help is by reconsidering the use of fertilizers and pesticides; these chemicals, especially if over-applied, can find their way into the groundwater. This effect can be especially exaggerated in agricultural regions due to fertilizer's use in farming. If you must use fertilizers and pesticides, it is very important to follow the instructions and use the recommended amounts on the product label.

One man-made system that can have an impact on water quality is the septic system. Depending on the type of septic system in use, an inspection may be required as often as once a year or every three years. Failing septic systems can act as a source of contamination to the groundwater.

Finally, a surprising source of contamination to groundwater is prescription medication flushed down toilets. Water treatment plants are typically not equipped to remove medicine from water, so properly disposing of prescription and over-the-counter medications can make a difference in your watershed. You can view all of the EPA's recommendations for protecting your source water at the first link below.

Double Bayou WPP

Did you know that the Double Bayou watershed has a Watershed Protection Plan (WPP)? In the process of developing this plan, the sources of contamination to the watershed were identified, and management strategies were designed to lower the levels of contamination.

Multiple sources were listed as potentially major contributors to the contamination level in the Double Bayou watershed. These included agricultural activities and livestock (especially horses), aging septic systems, and wildlife such as feral hogs and deer.

The WPP organizers agreed that the best way to manage agriculture and livestock activities was to support the implementation of voluntary, site-specific Water Quality Management Plans (WQMPs). These plans are developed by the Trinity Bay Soil and Water Conservation District #434 and approved by the Texas State Soil and Water Conservation Board. The purpose of these plans is to provide a specific course of action for private agricultural and forestry operations to reduce their nonpoint source pollution. Nonpoint source pollution is pollution that cannot be traced back to one singular location like a pipe; instead, it results from the collective runoff of pollution from a wide variety of sources such as activities spread over a large piece of land.

In addition to these WQMPs, the protection plan details specific strategies which could be carried out on their own or as a part of a WQMP, helping reduce the nonpoint source pollution from livestock operations. These and the rest of the management concerns for the Double Bayou watershed can be found in the full Watershed Protection Plan at the second link below.

For more information:

- https://bit.ly/3rOZqrR
- https://bit.ly/3tYE26j

Distribution of *The Texas Water Source* is provided free of charge to forest landowners of Chambers and Liberty counties. This publication is funded by the Texas State Soil and Water Conservation Board through a Clean Water Act §319(h) grant from the U.S. Environmental Protection Agency. PLEASE ADVISE US IF YOU WISH YOUR NAME TO BE REMOVED FROM OUR MAILING LIST.

Texas A&M Forest Service offices serving you:

Tyler Jones—Water Resources Forester, East Texas

(936) 639-8182
tyler.jones@tfs.tamu.edu

Matt Garrison- District Forester
Chambers, Liberty, Polk, San Jacinto Counties
(936) 327-4832

Digital Stakeholder Series

The Double Bayou Watershed Partnership has a digital "library" of agendas, presentations, and meeting summaries available online at **www.doublebayou.org**. Click on the LIVE! Button to the right under "Announcements" on this page.

These presentations and associated documents date back to May of 2013, when the process of creating a Watershed Protection Plan was in the early stages.

There are also PowerPoint presentation videos on the protection plan's implementation and the Coastal Communities Water Quality Education and Outreach program.

TEXAS A&M FOREST SERVICE

Texas A&M Forest Service
Water Resources
P. O. Box 310
Lufkin, TX 75902-0310

Email: tyler.jones@tfs.tamu.edu