

# THE TEXAS WATER SOURCE

UPDATING JASPER AND ORANGE COUNTY  
LANDOWNERS ON LAND MANAGEMENT AND  
WATER ISSUES

November 2020

## Riparian Areas for Water Quality and Wildlife

“Riparian areas” are where a stream meets land. This is commonly referred to as stream banks or stream sides. It is a very important part of the landscape to manage because it provides many ecosystem services.

Trees in the riparian area provide shade for the water, which is known as “thermal regulation.” This helps the water hold oxygen and stay a healthy temperature for aquatic life.

Wildlife use riparian areas for shade, water, cover, and food. Common trees in riparian areas include oak and hickory which produce food or “mast” for deer and other animals.

The vegetation in the understory in riparian areas gives wildlife places to hide from prey, nest, and rest during weather extremes. The temperature in forested areas does not fluctuate as much as in open areas. In the winter it is a little warmer and the wind doesn’t blow as hard. In the summer, wildlife can rest in the shade from the Texas heat.

The roots from trees and vegetation in riparian areas play a very important role in preventing erosion. Roots hold the soil in place so when it rains, less soil is washed into the water; a process known as “sedimentation.”

This is especially important to prevent during timber harvesting.

The Texas A&M Forest Service works closely with the Texas Forestry Association to help educate loggers on the importance of riparian areas. For timber harvesting purposes we refer to riparian areas as “streamside management zones” or “SMZs.” We recommend at least 50ft on both sides of a perennial or intermittent stream is left vegetated. Minimal timber harvesting is allowed within this zone. Maintaining an SMZ reduces sedimentation from the harvested area, maintains healthy water temperature, and benefits wildlife.



The SMZ is the dark strip where trees were left during the harvest.

## Post-Hurricane Water Quality

Hurricanes can negatively affect water quality. It is important to follow public safety announcements for boil water or other advisories.

Before a hurricane, research flood maps in your area to know what your risk of flooding is. You should also have enough water stored for drinking, pets, flushing toilets, bathing, cleaning, etc. Filling up all your reusable bottles, large pots, and bathtubs can reduce the amount of bottled water you have to buy.

When factories, farms, and waste-water treatment facilities flood, it can cause elevated levels of bacteria in the water. Water samples after Hurricane Harvey showed concerning levels of fecal bacteria. As a result of the rising flood waters, eight hundred wastewater plants had spills that resulted in two million pounds of contaminants being released.

Streams, ditches, lakes, and other bodies of water can become overwhelmed during a hurricane. Large volumes and/or fast moving water increases the risk of erosion and sedimentation. This is why it is important to always maintain best management practices on forestland.

Culverts should be cleaned out regularly so water can flow freely through them. Roads with vegetation will not erode as much or as quickly as bare sand/soil roads. If rock has been used it may need to be re-rocked every couple of years especially in places with a lot of rainfall. Proactive, preventative measures like these help save time and money in the long run!

**For more information:**

**Best Management Practices Handbook**

<https://tinyurl.com/y6jodj3t>

### Organization Spotlight

## US Army Corps of Engineers



The US Army Corps of Engineers (USACE) was started by George Washington during the American Revolution and served in every American war since.

The USACE helped construct the nation's infrastructure, explore and map the West, support NASA, and the Postal Service. Transportation throughout the nation was a major role of the USACE in the 1800s through the 20<sup>th</sup> century. Engineers worked on improving navigation in the Mississippi and Ohio rivers, constructed canals, roads, levees, and completed extensive surveys of the country.

As the country saw an increase in urbanization, environmental preservation, and political changes, the USACE shifted gears. In recent years they have assisted with natural disasters including active assistance with Hurricane Laura/Delta relief. Environmental engineering is also a big focus of the USACE today. USACE projects currently range from transportation to hydroelectric power and others in between.

**For more information:**

<https://www.usace.army.mil/>

## Sabine Pass to Galveston Bay

In 2004, researchers started compiling a feasibility study looking at the economic and environmental impacts of constructing a levee that would stretch from Sabine Pass to Galveston Bay. Hurricanes Katrina and Rita hit the Gulf in the summer of 2005. Damage assessments were used to improve the early plans for the levee. Since Rita, Southeast Texas has been hit by Humberto (2007), Ike (2008), Harvey (2017), Laura (2020), and Delta (2020).

The entire levee will be twenty seven miles long with eleven miles in Orange county. The entire system will span across Orange, Jefferson, Chambers, Harris, and Brazoria counties. There will be at least seven new pump stations and fifty drainage structures including one at Cow Bayou and Adams Bayou. The purpose of the levee is to be able to send flood waters out to sea and to protect the cities from storm surges.

The Texas Gulf Coast is a unique area from an environmental and industrial standpoint. The environmental feasibility and impact study on this project was completed in 2017. It estimates that there are twenty three different species of coastal birds in this region. There are multiple types of ecosystems in this region including bottomland hardwoods, swamps, and fresh and brackish marshes.

In order to protect the environment there are multiple mitigation areas to account for converted forests and wetlands. All the mitigation areas for this project will protect a combined total of 452 acres from future development.

The five counties included in this plan have a combined population of five million people. The entire Gulf Coast region of Texas makes up for ¼ of the state's entire population. Three of the world's largest oil refineries and three of the top ten US sea-ports are in these five counties. Not only does Tex-

as infrastructure rely on the Gulf Coast much of the entire Nation does. There are multiple military bases in these counties as well as NASA in Houston.

This is a multi-billion dollar project in which many of the affected counties do not have the funds to pay for it without increasing taxes. The Texas General Land Office has agreed to help fund this project along with other state and federal agencies. The United States Congress passed the Bipartisan Act in 2018, that helped promise funding for this project. America's Water Infrastructure Act was recently signed by the President which also includes this project.

In September 2020, the design agreement was authorized and an engineering firm was contracted to design the structures. This was a big step towards completion of this project which will continue over the next few years.

*The Texas A&M Forest Service does not have a political stance on this matter. This article is solely to help inform citizens in Orange County on current events relating to water resources.*

### For more information:

Feasibility Study:  
<https://tinyurl.com/y6h6lyps>

News article:  
<https://kogt.com/levee-coming-to-orange-county/>

News article:  
Beaumont Enterprise  
<https://tinyurl.com/y36x37to>



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## Hurricane Relief Assistance

If you had timber damage as a result of Hurricane Laura or Delta please check out our Texas A&M Forest Service website for assistance.

There is information on how TFS may be able to help, maps of damaged areas, forest health concerns, and a link to help reach service providers as you clean up and rebuild.

Stay safe Texas!

<https://tfsweb.tamu.edu/laura/>

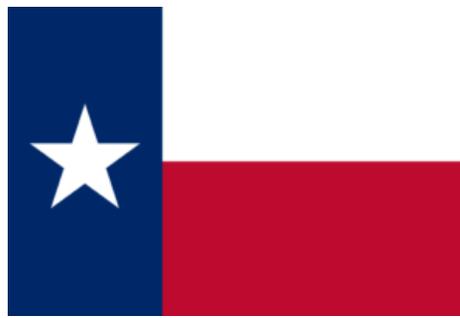
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