



# FACT SHEET



# Texas Gulf Coast Stream and Wetland Initiative

## GENERAL PROJECT SUMMARY

Significant development pressure is being placed on the aquatic resources of the region that have already been stressed from decades of agricultural impacts. Past influences have been suggested as being at least partially responsible for the degradation of the Texas Gulf Coast. The recurrent and annual presence of the hypoxic zone in the northern Gulf of Mexico has been linked to excess nutrients from anthropogenic activities and particularly agriculture. This area with little to no oxygen disrupts the marine ecosystem and reduces fish catches.

The seventh largest estuary in the United States, the Galveston Bay system, has underwent many hydrologic modifications

including direct and indirect impacts associated with freshwater diversions, channelizing streams to improve drainage, groundwater withdrawals, as well as extraction of other resources such as sand and gravel, gas, and oil. Some studies have stated that Galveston Bay's fringing wetlands have been lost due human activities with no mitigation or creation of wetland features on land around the bay. During the 1940-1950s channelization occurred by dredging and deepening streams and rivers in an attempt to reduce flooding in new communities developing in this area of the Gulf Coast and caused changes in the original stream beds.

## RESOURCE CONCERNS TO BE ADDRESSED

- Water Quality - resource concern will be addressed by reducing sediment, nutrients, and other pollutant inputs along headwater and degraded stream reaches.
- Water Quantity - resource concern will be addressed by reducing invasive brush species (e.g. juniper, mesquite, saltcedar) and restoring more native grass and riparian species that promote water conservation.
- Soil Erosion - resource concern will be addressed by reducing streambank erosion and loss of land, and by promoting the deposition of in-stream sediment on restored floodplain areas.



## Potential Practices

| RESOURCE CONCERN  | OBJECTIVES   | SPECIFIC CONSERVATION PRACTICES   |
|---|--|---|
| <b>WATER QUALITY</b><br><i>(NATIONAL AND STATE RESOURCE CONCERN)</i>  | » Reduce sediment entering waterways.<br>» Reduce nutrients loadings to waterways.<br>» Reduce bacterial loadings to waterways.<br>» Reduce stream temperatures.<br>» Increase dissolved oxygen. | » 342 Critical Area Planting<br>» 382 Fence<br>» 391 Riparian Forest Buffer<br>» 484 Mulching<br>» 578 Stream Crossing<br>» 580 Streambank and Shoreline Protection<br>» 584 Channel Bed Stabilization<br>» 590 Nutrient Management |
| <b>WATER QUANTITY</b><br><i>(NATIONAL AND STATE RESOURCE CONCERN)</i> | » Promote retention of flood waters.<br>» Raise local water table levels.<br>» Eradicate invasive plants.  | » 314 Brush Management<br>» 656 Constructed Wetland<br>» 657 Wetland Restoration<br>» 658 Wetland Creation  |
| <b>SOIL EROSION</b><br><i>(STATE RESOURCE CONCERN)</i>                | » Reduce sediment from stream erosion.<br>» Promote the deposition of alluvial sediment.<br>» Capture eroded sediments before reaching waterways.  | » 342 Critical Area Planting<br>» 391 Riparian Forest Buffer<br>» 484 Mulching<br>» 580 Streambank and Shoreline Protection<br>» 584 Channel Bed Stabilization<br>» 601 Vegetative Barrier  |

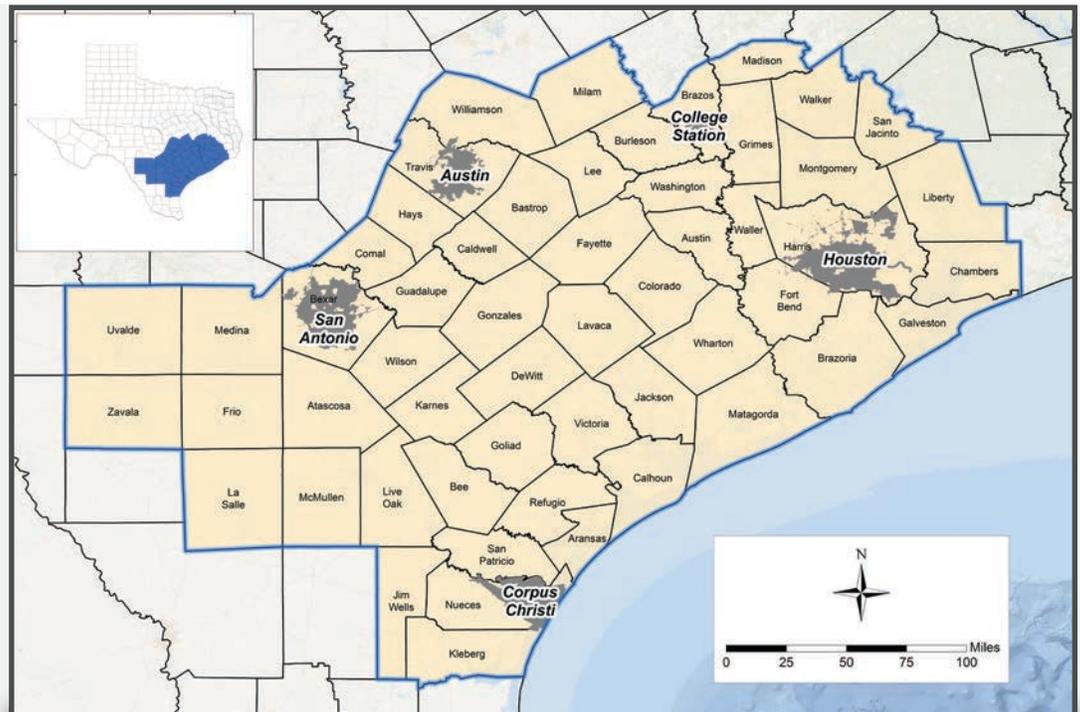
### GEOGRAPHIC FOCUS:

The Initiative will focus on a 43 county area of the Texas Gulf Coast that includes portions of six major river basins draining to the Gulf of Mexico. This focus area was delineated to address areas of rapid

rural land development around the metropolitan areas of Houston, Austin, San Antonio, Corpus Christi, and other developing areas along the Gulf Coast.

### COUNTIES WITHIN THE INITIATIVE

- Aransas
- Austin
- Bastrop
- Bee
- Bexar
- Brazoria
- Brazos
- Burleson
- Caldwell
- Calhoun
- Chambers
- Colorado
- Comal
- DeWitt
- Fayette
- Fort Bend
- Galveston
- Goliad
- Gonzales
- Grimes
- Guadalupe
- Harris
- Hays
- Jackson
- Karnes
- Lavaca
- Lee
- Liberty
- Madison
- Matagorda
- Milam
- Montgomery
- Refugio
- San Jacinto
- San Patricio
- Travis
- Victoria
- Walker
- Waller
- Washington
- Wharton
- Williamson
- Wilson



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## TYPES OF PRACTICES PROPOSED:

NRCS and other agencies that deal with the natural resource base continue to agree that sediment, nutrients, and bacteria are the greatest pollutants of our water bodies in the United States. The reduction of these pollutants in the nation's water bodies has been a long-standing mission of the NRCS. Increasingly, sediment from streambank erosion is identified as a major source of excess sediment in our streams. Likewise, the loss of riparian areas and wetlands along stream systems is a major contributing factor to high loadings of nutrients and bacteria from agricultural pasture and cropland. These pollutant sources are commonly cited as contributing factors for regional streams that are included on the State's 303(d) listing of impaired waterbodies.

The Initiative will address degraded streams in the Gulf Coast region on an unprecedented scale. It is anticipated that over 30 miles of degraded stream systems can be rehabilitated through funding requested through RCPP and the resources provided by the Initiative Partners. The Initiative Partners and NRCS will work in close collaboration to first identify priority areas within the 43 county area (Figure 1). Priority will be given to areas that 1) have been identified through previous Partner watershed and/or corridor studies as high need, 2) are located within watersheds identified by others as high need, 3) are located on stream systems that would complement past or planned projects with similar goals, and 4) are located on or directly drain to State listed 303(d) streams segments.

Next, unnamed tributaries that flow into these priority areas will be added to a stream database to produce a GIS data layer

of priority streams. Potential projects must be located within 300 feet of these priority streams to be considered "High Priority" for funding. Potential projects located near other tributaries in the 12-digit HUCs with a large number of these streams are considered "Lower Priority" for funding.

Initiative Partners, NRCS, and County staff in each of the project counties are tasked with identifying potential projects that meet the criteria above, and will engage landowners that have expressed interest in the program. NRCS will prioritize and rank potential sites using a Field Worksheet that considers such site characteristics as:

- Ability to meet Initiative goals
- Degree of degradation
- Ability to exclude livestock
- Constraints
- Uplift potential

Field assessments will then to be conducted on the highest ranked sites to evaluate the appropriate restoration approaches and conservation practices, the size of the project, and probable costs.



These field assessments will be performed by NRCS and County staff with assistance from restoration specialists/Technical Service Providers with the detailed experience involving restoration and stabilization design. This step allows accurate planning for the available Initiative funding.

Proposed restoration designs are expected to primarily involve the NRCS Standard Conservation Practices listed in Table 4 above. Stream restoration and enhancement approaches will be used, with the overall goal of providing stream stability, arresting channel erosion, and improved water quality. Potential

restoration sites with livestock access to streams will rank high for funding, as simply fencing livestock from the active stream can provide significant benefits. Specific design goals will include improved streambank stability, improved bedform diversity and habitats, reduced sediment loads, and restoration of riparian buffers.

Typical causes of impairment include livestock access to streams, loss of riparian buffers, channelization and ditching, and nutrient runoff from adjacent pasture and cropland. Agricultural land-use and practices are expected to be the primary sources of impairment 

#### ASSISTING PRODUCERS IN MEETING NATURAL RESOURCE REGULATORY REQUIREMENTS:

TO BE ADDED

#### REQUESTED ADJUSTMENTS IN TERMS:

NONE.

#### ALTERNATIVE FUNDING ARRANGEMENTS: NONE.



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## MORE INFORMATION

This fact sheet was last updated January 2015.

For more information and updates about the RCPP Initiatives and other 2014 Farm Bill topics, visit the NRCS website at:

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/farmbill/rcpp/>

Natural Resources Conservation Service

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