

Gulf of Mexico Initiative

GoMI

Alabama . Florida . Louisiana . Mississippi . Texas

December 2011



United States Department of Agriculture
Natural Resources Conservation Service

Gulf of Mexico Initiative

GoMI

The Natural Resources Conservation Service (NRCS) in the states of Alabama, Florida, Louisiana, Mississippi, and Texas, in cooperation with our conservation partners, proposes the establishment of a landscape-based, coordinated effort to improve ecosystem health in the Gulf of Mexico and its associated watersheds.

Executive Summary

The objective of the proposed Gulf of Mexico Initiative (GoMI) is to assist agricultural producers in improving water quality, increasing water conservation, and enhancing wildlife habitat within watersheds draining into the Gulf of Mexico. It will complement the existing Mississippi River Basin Healthy Watersheds Initiative (MRBI), which addresses similar concerns in the Mississippi River Basin, by working on smaller watersheds that drain directly into the Gulf of Mexico. The proposed initiative is designed to implement sustainable agricultural and wildlife habitat management systems that maintain agricultural productivity; avoid, control, and trap nutrient runoff; and reduce sediment transport in priority watersheds. In addition, GoMI will reduce current over-drafting of water resources and associated saltwater intrusion into the habitats of many threatened and endangered species. The net effect will be a reduction in nitrogen, phosphorus, and sediment that contributes to water quality concerns in the Gulf of Mexico.

Drawing from recent state natural resource assessments, NRCS identified Gulf Coast watersheds where substantial opportunities exist to reduce nutrient and sediment loading

through focused technical and financial assistance. Working in conjunction with State and Federal agencies, local partners, and producers, NRCS selected seven river basins containing sixteen of the watersheds with the greatest opportunity to build upon existing conservation efforts. They include Weeks Bay in Alabama, the Escambia River in Alabama and Florida, the middle Suwannee River area in Florida, the Atchafalaya and Mermentau Basins in Louisiana, the Jourdan River in Mississippi, and the Lower San Antonio River in Texas.

This working lands conservation initiative will deliver up to \$50 million in financial assistance (FA) over three years through a combination of NRCS easement and financial assistance programs. The programs include: Environmental Quality Incentives Program (EQIP), Wildlife Habitat Incentives Program (WHIP), Conservation Stewardship Program (CSP), Wetlands Reserve Program (WRP), Grassland Reserve Program (GRP), and Farm and Ranch Lands Protection Program (FRPP). These funds will be used to accelerate implementation of conservation practices through a systems approach in some of the most vulnerable watersheds draining into the Gulf of Mexico.

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Gulf of Mexico Ecosystem

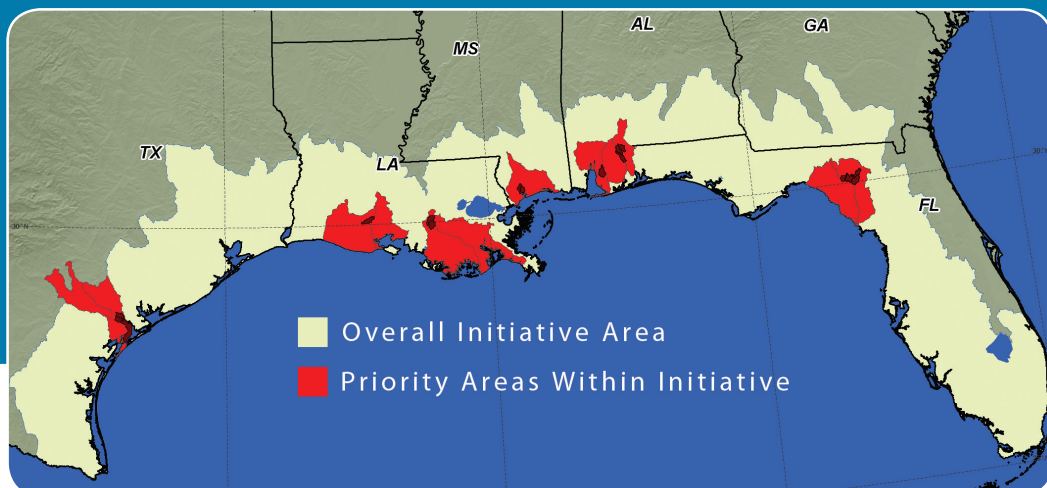
- The Gulf of Mexico hosts a diverse array of habitats from coral reefs and hyper-saline lagoons to emergent wetlands and vast sea grass meadows.
- Over 50 percent of the United States' coastal wetlands, approximately 5,000,000 acres, are found adjacent to the Gulf.
- The Gulf accounts for 85 percent of all shrimp harvest, 60 percent of all oysters harvested and over 50 percent of recreational fishing in the United States.
- At over 1.3 billion pounds of annual seafood production, the Gulf produces more finfish, shrimp, and shellfish than the south and mid-Atlantic, the Chesapeake Bay, and New England, combined. The health of this resource is essential to the Gulf States as well as the nation.

Focus Areas

NRCS engaged State and Federal agencies, local partners, and producers to identify river systems draining into the Gulf of Mexico with substantial agriculture-related nutrient and sediment loading and opportunities to build upon existing conservation efforts. Sixteen priority watersheds were selected in seven major river basins. Each of the basins either contribute to or are 303(d)-listed impaired and threatened waters. They include Weeks Bay, Escambia River, Barataria-Terrebonne National Estuary, Mermentau Basin, Jourdan River, and Lower San Antonio River.

Gulf of Mexico Initiative Focus Areas

State	Major River/Basin	Watershed	Hydrologic Unit Code
Alabama	Weeks Bay (Fish River)	Upper Fish River	031602050201
Alabama / Florida	Escambia River	Canoe Creek	031403050401
Alabama / Florida	Escambia River	Sandy Hollow—Pine Barren Creek	031403050501
Florida	Escambia River	Little Pine Barren Creek	031403050502
Florida	Middle Suwannee River Area	Old Grassy Lake	031102050203
Florida	Middle Suwannee River Area	Allon Lake	031102050305
Florida	Middle Suwannee River Area	Blue Lake	031102050402
Florida	Middle Suwannee River Area	Pickel Lake	031102050405
Louisiana	Barataria-Terrebonne National Estuary	Bayou Corne—Grand Bayou	080903020302
Louisiana	Barataria-Terrebonne National Estuary	Bayou St. Vincent—Little Grand Bayou	080903020304
Louisiana	Mermentau Basin	Bayou Grand Marais	080802020103
Mississippi	Jourdan River	Rotten Bayou	031700091002
Mississippi	Jourdan River	Bayou LaTerre	031700091001
Texas	Lower San Antonio River/ Guadalupe	Kuy Creek—Guadalupe River	121002040404
Texas	Lower San Antonio River/ Guadalupe	Guadalupe River—South Guadalupe River	121003030608
Texas	Lower San Antonio River/ Guadalupe	Hynes Bay—San Antonio Bay	121004040000



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Weeks Bay (Fish River)

Weeks Bay (Fish River)

Alabama

HUC #031602050201

Background

Weeks Bay is a small estuary, receiving fresh water from the Magnolia and Fish Rivers that drains a 198-square-mile watershed into Mobile Bay. The Weeks Bay watershed encompasses a rich mosaic of upland and coastal habitats. In 1986, Weeks Bay was designated as the nation's 16th National Estuarine Sanctuary and the name was changed to the Weeks Bay National Estuarine Research Reserve (one of five Reserves in the Gulf of Mexico region).

Weeks Bay is of great importance to the eastern Mobile Bay System. This highly productive area serves as a nursery for commercially important shellfish and finfish, as well as a diverse array of other flora and fauna. Weeks Bay acts as a filter for nutrients and sediments, provides shoreline stabilization, and offers recreational and educational opportunities for the local population and tourists. The area also serves as important habitat for numerous species of plants and animals, including rare, threatened, and endangered species such as the brown pelican, eastern indigo snake, and the Alabama red-bellied turtle. Habitat loss resulting from development, natural erosion processes, sedimentation, dredge-and-fill practices, exotic species, and hydrologic modifications are some of the principle environmental concerns in the region.

The entire length of Fish River, from Weeks Bay to its source, is on the 303(d) list. The initiative will focus on the headwaters of Fish River. The economy in this watershed is heavily dependent on agriculture; however, the watershed has experienced a 37 percent increase in developed land, as reported by the South Alabama Regional Planning Commission. Row crops and livestock production are the major farm enterprises. Approximately 60 percent of the land in the watershed is used for agriculture or forest management. Agricultural runoff adds sediment, nutrients, pesticides, and bacteria to surface waters.

Goals / Objectives

The objective of this initiative is to help producers voluntarily implement a combination of three core and supporting practices that: reduce the amount of agricultural-related nitrogen, phosphorus, and sediment leaving the field; reduce agricultural impacts on water quality; and enhance or maintain wildlife habitat.



Resource Concern	Total Acres Needing Treatment
Water Quality – Excessive Suspended Sediment and Turbidity in Surface Water and Excessive Nutrients and Organics in Surface Water	22,400
Water Quality – Harmful Levels of Pathogens in Surface Water	5,750
Soil Erosion – Classic Gully, Ephemeral Gully, and Stream Bank	500
Fish and Wildlife – Threatened and Endangered Species, Declining Species, Species of Concern	25,000

State Proposal - Alabama

Actions

This initiative will focus on reducing soil erosion, improving water quality, and improving wildlife habitat on cropland, pastureland, and forestland by:

- Installing grade control structures to stabilize eroding gullies
- Implementing precision agriculture to reduce chemical application overlap and protect sensitive environmental areas
- Increasing adoption of residue and tillage management, cover crops, and conservation crop rotations to reduce sheet and rill erosion and improve soil organic matter, which will result in cleaner runoff and improved water quality
- Planting grass and trees to stabilize eroding areas
- Installing cross-fences and watering facilities to facilitate grazing distribution
- Controlling cattle access to streams to improve water quality and streambank stability
- Planting and managing native plant species to improve wildlife habitat and to assist with restoration of a multitude of declining species

Outcomes and Impacts

Anticipated long-term outcomes of this initiative are: a significant decrease in sediment deposited into the Gulf of Mexico, resulting in decreased turbidity, decreased levels of absorbed nutrients, and improved dissolved oxygen content; improved water quality in Weeks Bay; improved fish and wildlife habitat; and, increased community awareness about resources and best management practices to support conservation and renewal of our natural resources.



Typical gully needing repair.



Residue and tillage management.

Partners

Weeks Bay Foundation is a non-profit organization provides assistance and support to the Weeks Bay National Estuarine Research Reserve's goals and programs. This support includes monitoring of dissolved oxygen, saturation, specific conductivity, salinity, temperature, pH, turbidity, fecal coliform, pesticide concentrations, and transport paths of fine sediments.

U.S. Fish and Wildlife Service will continue to assist with riparian restoration projects and restoration of other native habitats.

Baldwin County Soil and Water Conservation District provides technical and financial assistance for conservation practices that improve water quality by reducing sediment, nutrients, and pesticides in runoff.

Alabama Cooperative Extension System will assist with producer meetings and technical assistance to promote precision agriculture.

USDA-Agricultural Research Service will assist with producer meetings to encourage adoption of conservation tillage and other practices which serve to improve soil quality. They will also assist with evaluation of conservation tillage adoption barriers and successes and assist with economic evaluation.

Alabama Department of Conservation and Natural Resources has technical resources for habitat recovery and monitoring.

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Escambia River Watershed

Alabama/Florida

Canoe Creek

HUC #031403050401

Pine Barren Creek - Sandy Hollow

HUC #031403050501

Little Pine Barren Creek

HUC #031403050502

Background

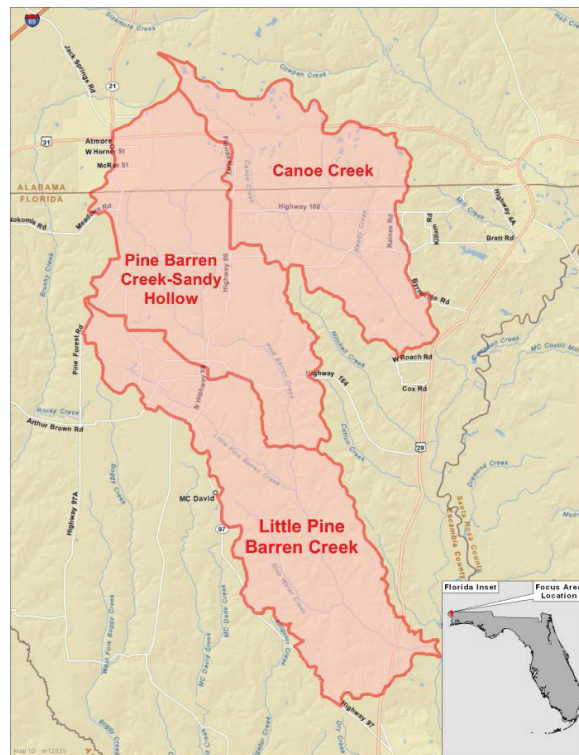
The Escambia River is a large alluvial river that flows south from Alabama through the Florida Panhandle to the Pensacola Bay Estuary and the Gulf of Mexico. The Escambia River Basin is highly productive, and serves as a nursery for commercially important shellfish and finfish, as well as a diverse array of flora and fauna.

The Basin ecosystem provides diverse habitats ranging from mature bottomland hardwood forest to pine uplands, agricultural lands, and estuarine marsh. It provides important habitat for numerous species of plants and animals, including more than 85 native freshwater fish species, candidate mussel species, and rare, threatened, and endangered species such as the brown pelican and piping plover.

The estuary also acts as a filter for pollutants, provides shoreline stabilization, and offers recreational and educational opportunities for the local population and tourists.

In recent years, the Escambia River Watershed has experienced extreme drought conditions. Problems associated with sedimentation have been exacerbated by poor flushing and large sediment loads. Current and historic land uses have left a legacy of polluted sediments that contribute to water quality concerns because of the threats that they pose to human health, aquatic health, and decreased fish and shellfish production.

The major land uses are cropland, forestland, rangeland, and pastureland. Croplands in the area are dominated by row crop agriculture. The major crops are cotton and peanuts, with corn and soybeans as minor crops.



Goals / Objectives

This initiative will reduce sediments and nutrient loads generated from agriculture operations in the focus area, and as a result, reduce their deposition into tributary streams of the Escambia River. Ultimately, this will improve wildlife habitat and the quality of water delivered to Pensacola Bay and the Gulf of Mexico.

Resource Concern	Total Acres Needing Treatment
Water Quality – Excessive Nutrients and Organics in Surface Water and Excessive Suspended Sediment and Turbidity in Surface Water	17,620
Water Quality – Harmful Levels of Pathogens	1,750
Soil Erosion – Classic Gully and Streambank	255
Soil Erosion – Sheet & Rill Erosion	15,620
Fish and Wildlife – Threatened and Endangered Species, Declining Species	8,000

State Proposal - Alabama/Florida

Actions

This initiative will focus on reducing soil erosion, improving water quality, and improving wildlife habitat on cropland, pastureland, and forestland by:

- Installing grade control structures to stabilize eroding gullies
- Implementing precision agriculture to reduce chemical application overlap and protect sensitive environmental areas
- Increasing adoption of residue and tillage management, cover crops, and conservation crop rotations to reduce sheet and rill erosion and improve soil organic matter, which will result in cleaner runoff and improved water quality
- Planting grass and trees to stabilize eroding areas
- Installing cross-fences and watering facilities to facilitate grazing distribution
- Controlling cattle access to streams to improve water quality and streambank stability
- Planting and managing native plant species to improve wildlife habitat and to assist with restoration of a multitude of declining species
- Promoting energy conservation by eliminating the need for annual mechanical removal of sediment from split ditches
- Implementing grazing management
- Installing heavy-use area protection pads

Outcomes and Impacts

Anticipated long-term outcomes of this initiative are: a significant decrease in sediment deposited into the Pensacola Bay and the Gulf of Mexico, resulting in decreased turbidity, decreased levels of absorbed nutrients, and improved dissolved oxygen content; improved water quality in the Gulf of Mexico and Pensacola Bay; improved fish and wildlife habitat; and increased community awareness about resources and best management practices to support conservation and renewal of our natural resources.



Cotton production in Florida.



Precision planting and chemical application in a high residue cover crop in Alabama.

Partners

Escambia County Commission, Florida provides staffing assistance in the Molino USDA Service Center Office.

Escambia Soil and Water Conservation District, Florida and Alabama provides technical assistance and outreach to producers.

Florida Department of Agriculture and Consumer Services helps with outreach.

Florida Fish and Wildlife Conservation Commission provides staffing assistance.

Northwest Florida Water Management District provides technical assistance with permits and outreach.

Florida Three Rivers and Alabama Gulf Coast RC&D assists NRCS with outreach, initiative feedback, and support.

Florida Division of Forestry provides outreach to producers and technical recommendations.

U.S. Fish and Wildlife Service helps restore habitat for listed mussels and improve fish passage.

Perdido Bay Indian Tribe provides outreach and public support.

Poarch Band of Creek Indians works with tribal members to implement conservation measures.

Alabama Cooperative Extension System assists with producer meetings and technical assistance to promote precision agriculture.

Alabama Department of Conservation and Natural Resources has technical resources for habitat recovery and monitoring.

USDA-Agricultural Research Service, Alabama assists with producer meetings, evaluation of conservation tillage, and economic evaluation.

Alabama Department of Environmental Management collects and analyzes water quality data which will assist NRCS in monitoring results of applied conservation practices.

Middle Suwannee River Area Watershed

Florida

Background

The focus area watersheds are located in north central Florida approximately halfway between the cities of Jacksonville and Tallahassee along the Middle Suwannee River in Suwannee and Lafayette counties. The Suwannee River originates in the Okefenokee Swamp in Georgia and flows through North Central Florida for 245 miles before it empties into the Gulf of Mexico.

The Middle Suwannee suffers from water quality concerns over nutrients, sediment and pathogens. The river acts as a filter for pollutants entering the Suwannee River, which ultimately enters the Gulf of Mexico.

The hydrogeology of the area is of karstic nature with closed basins, stream to sink drainage, numerous springs, and an unconfined aquifer with a high degree of recharge potential overlain by sandy, well-drained soils. Major land uses are cropland, forestlands and pastureland, with cropland being dominated by row crop agriculture. This area is extremely vulnerable to ground water contamination.

In addition, the Suwannee River and its floodplain provide some of the most productive wildlife habitats in Florida. It supports at least 54 species of fish, 39 species of amphibians, 73 species of reptiles, 232 species of birds, and 39 species of mammals.

Goals / Objectives

This initiative will reduce organics, sedimentation, and pollution from agricultural operations in the focus area, and as a result, reduce their deposition into the Suwannee River. Ultimately, this will reduce sediments and pollutants that would otherwise end up in the Gulf of Mexico.

Old Grassy Lake

HUC # 031102050203

Allon Lake

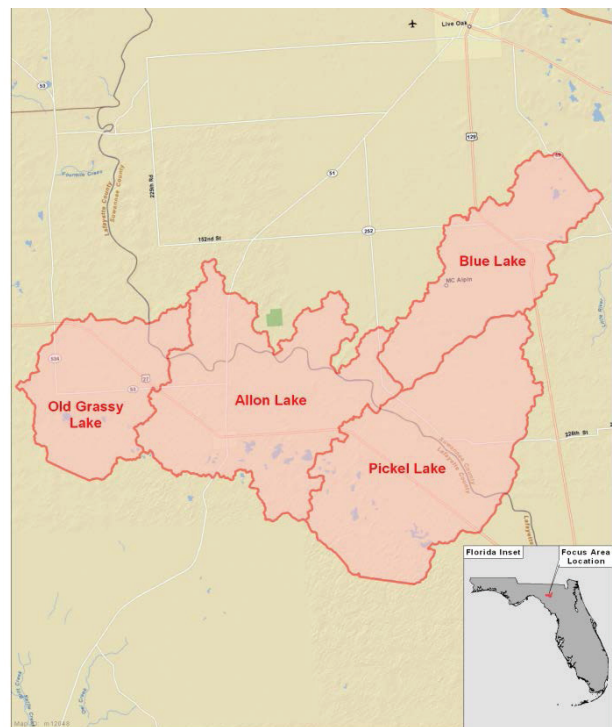
HUC # 031102050305

Blue Lake

HUC # 031102050402

Pickel Lake

HUC # 031102050405



Resource Concern	Total Acres Needing Treatment
Water Quality – Excessive Nutrients and Organics in Ground Water	32,000
Water Quality - Excessive Nutrients and Organics in Surface Water	8,000
Water Quantity –Aquifer Overdraft	5,000
Water Quantity – Inefficient Water use on Irrigated Land	5,000
Soil Condition – Sheet and Rill Erosion	3,000

State Proposal - Florida



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Actions

The initiative will focus on providing technical and financial assistance to address water quality and soil erosion concerns on lands managed as confined livestock operations (dairy and poultry) and croplands.

Practices will include:

- Nutrient Management
- Integrated Pest Management
- Irrigation Water Management
- Irrigation System, Sprinkler
- Residue and Tillage Management, No-Till/Strip Till/Direct Seed
- Residue and Tillage Management, Mulch Till
- Cover Crop
- Heavy Use Area Protection
- Waste Storage Facility
- Composting Facility
- Irrigation Pipeline

Outcomes and Impacts

This initiative will enhance NRCS' ongoing conservation efforts to reduce organics, sedimentation and pollution from agricultural operations in the designated watersheds, and thus improve the water quality of the Suwannee River, whose waters flow into the Gulf of Mexico. If this initiative is funded, 40% of the nutrients and/or organics, and 50% of the sheet and rill erosion identified will be eliminated from the watershed.



Conservation Tillage in Focus Area



Dairy: Heavy Use Area Protection

Partners

Suwannee and Lafayette Soil and Water Conservation Districts will provide technical assistance and leadership in setting priorities for conservation measures to be implemented in the selected watersheds.

Florida Fish and Wildlife Conservation Commission will provide technical assistance to program participants and NRCS on biological recommendations, and planning assistance dealing with threatened and endangered species and their habitat.

Florida Department of Agriculture and Consumer Services will help with outreach and provide technical assistance to landowners within the selected watersheds.

Suwannee River Water Management District will provide resources to help with outreach, continued monitoring of ground and surface water, and permitting.

Florida Forest Service will provide technical assistance and outreach to Non-Industrial Private Forest (NIPF) landowners.

Florida Department of Environmental Protection will provide assistance in monitoring ground and surface water.

Florida Cooperative Extension Service will provide assistance in conducting educational workshops and outreach to agriculture producers.

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United States Department of Agriculture
Natural Resources Conservation Service

Barataria-Terrebonne National Estuary

Louisiana

Bayou Corne-Grand Bayou

HUC #080903020302

Bayou St. Vincent-Little Grand Bayou

HUC #080903020304

Background

South Louisiana is known throughout the United States for its abundant production of seafood along the Gulf Coast. It contains some of the most productive fisheries in the United States. It is also known for its ability to produce sugarcane and productive grazing lands because of its mild winters and fertile soils.

Bayou Corne-Grand Bayou and Bayou St. Vincent-Little Grand Bayou Watersheds are located within the Barataria-Terrebonne National Estuary. This is one of the most fragile estuaries in the country. The overall health of the Barataria-Terrebonne estuary is declining for several reasons, many of which are inter-related; they include: hydrologic modification, sediment reduction, habitat loss, eutrophication, pathogens, toxic substances, and changes in living resources. These problems originate from many sources including point and non-point sources, building levees, channelization, and runoff from urban, suburban, and agricultural areas.

The major land use within the focus area is agriculture, with Assumption Parish being one of the top sugarcane producing parishes in the state. The two watersheds consist of 23,226 acres of cropland, 46,167 acres of bottomland hardwood forest, 331 acres of pasture, and 1,870 acres of urban land.

Runoff from working lands in south Louisiana contributes to water quality concerns in the watersheds, basins, and the Gulf of Mexico. Sheet and rill erosion deposits excessive sediment in waterways, resulting in increased turbidity, phosphorus loading, and eventually eutrophication. Excess sediment in surface water also degrades animal and plant life populations and diversity by changing the depth and turbidity of the water ultimately impacting fragile coastal estuaries.

Goals / Objectives

Through this initiative, NRCS and its partners will help producers voluntarily implement a combination of core and supporting practices that: reduce the amount of agricultural related nitrogen, phosphorus, and sediment leaving the field; reduce agricultural impacts on water quantity; and enhance or maintain wildlife habitat.



Resource Concern	Total Acres Needing Treatment
Water Quality – Excessive Suspended Sediment and Turbidity in Surface Water and Excessive Nutrients and Organics in Surface Water	23,226
Water Quantity – Reduced Storage of Water Bodies by Sediment Accumulation and Reduced Capacity of Conveyances by Sediment Deposition	23,226
Soil Erosion – Classic Gully and Ephemeral Gully	14,000
Soil Condition – Organic Matter Depletion	16,000
Wildlife – Food and Cover	10,000

State Proposal - Louisiana (1 of 2)



United States Department of Agriculture
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Actions

This initiative will focus on reducing soil erosion and improving water quality on sugarcane fields and pastureland by:

- Eliminating the old split ditch system used for drainage water management
- Reducing or eliminating tillage on field borders, roads, and turnrows by establishing a cut-off date for cultivation
- Implementing a chemical fallow period during the sugarcane rotation
- Planting a cover crop during the sugarcane rotation
- Installing grassed waterways
- Implementing precision agriculture and applying nutrients according to a nutrient management plan
- Implementing Seasonal Residue Management by not burning sugarcane residue until after February 15th, thereby leaving >90 percent residue on the fields over winter.
- Promoting energy conservation by eliminating the need for annual mechanical removal of sediment from split ditches
- Implementing grazing management
- Installing cross-fences and watering facilities to facilitate grazing distribution
- Improving sediment and nutrient filtering and wildlife habitat by designing a constructed wetland

Outcomes and Impacts

Anticipated long-term outcomes of this initiative are: a significant decrease in sediment deposited into the Gulf of Mexico, resulting in decreased turbidity, decreased levels of adsorbed nutrients, and improved dissolved oxygen content; increased water quantity in Lake Verret; improved fish and wildlife habitat; and increased community awareness about resources and best management practices to support conservation and renewal of our natural resources.



Cultivated field borders increase erosion.



Mechanically cleaned drainage ditches (split ditches) increase erosion.

Partners

The Barataria-Terrebonne National Estuary Program (BTNEP) is a partnership between Federal and State agencies, business and industry, environmental groups and scientists, and fisherman and farmers.

The Louisiana Department of Agriculture and Forestry Office of Soil and Water Conservation (LDAF/OSWC) will provide technical assistance to program participants with our OSWC field staff and local Soil and Water Conservation District technicians.

The Louisiana Department of Environmental Quality will continue to monitor water courses in the project area for nutrients, suspended sediments and pathogens.

The Lower Delta Soil and Water Conservation District and the **Louisiana Cooperative Extension Service** will hold producer meetings to promote wider adoption of precision agriculture, field borders and alternative methods to handling sugarcane crop residue.

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Mermentau Basin Louisiana

Bayou Grand Marais
HUC #080802020103

Background

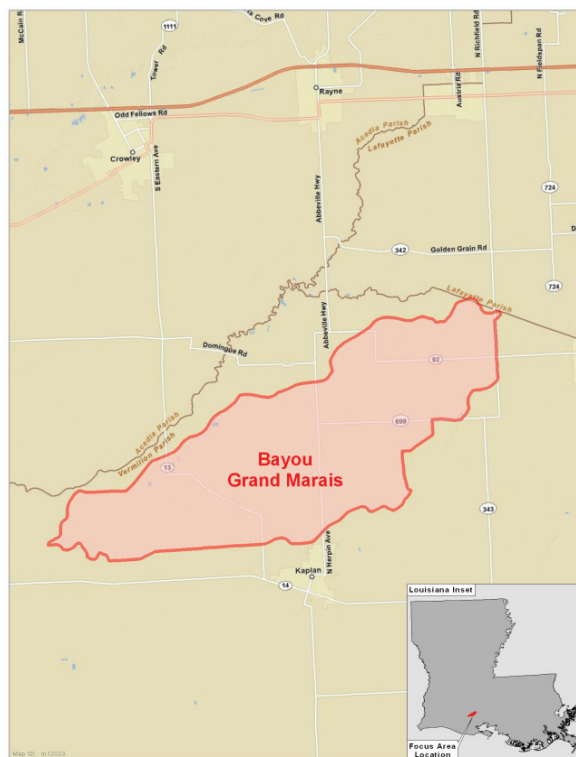
South Louisiana is known throughout the United States for its abundant production of seafood along the Gulf Coast. This area contains some of the most productive fisheries in the United States. It is also known for its ability to produce rice, sugarcane, and productive grazing lands because of its mild winters and fertile soils.

Bayou Grand Marais Watershed is located in the north-central portion of Vermilion Parish. A majority of the land use in the watershed is irrigated cropland, predominately rice grown in rotation with crawfish production. Other crops grown in the watershed include soybeans and sugarcane, which are typically not irrigated. Livestock production comprises approximately 10 percent of the area. The watershed consists of 30,975 acres of cropland; 3,777 acres of pasture; 1,332 acres of forestland; and 1,133 acres of urban land.

Ecosystem health is threatened by erosion, pollutants, and high nutrient loads from urban and agricultural sources. Runoff from rice fields, sugarcane, and pasturelands adds nutrient-rich sediments to surface water, affecting water quality of the watersheds, basins, and the Gulf of Mexico. Sheet and rill erosion from agricultural sources deposits excessive sediment in waterways, resulting in increased turbidity, phosphorus loading, and, eventually, eutrophication. Excess sediment in surface water also degrades animal and plant life populations and diversity by changing the depth and turbidity of the water, ultimately impacting fragile coastal estuaries.

Goals / Objectives

Through this initiative, NRCS and its partners will help producers voluntarily implement a combination of core and supporting practices that: reduce the amount of agriculture-related nitrogen, phosphorus, and sediment leaving the field; reduce agricultural impacts on water quantity; and enhance or maintain wildlife habitat.



Resource Concern	Total Acres Needing Treatment
Water Quality – Excessive Suspended Sediment and Turbidity in Surface Water and Excessive Nutrients and Organics in Surface Water	10,000
Water Quantity – Reduced Storage of Water Bodies by Sediment Accumulation and Reduced Capacity of Conveyances by Sediment Deposition	10,000
Soil Erosion – Classic Gully and Ephemeral Gully	5,000
Soil Condition – OM Depletion	4,000
Wildlife – Food and Cover	10,000

State Proposal - Louisiana (2 of 2)



United States Department of Agriculture
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Actions

This initiative will focus on reducing soil erosion and improving water quality on rice fields, sugarcane fields, and pastureland by:

- Improving drainage water management on irrigated rice cropland by developing an irrigation water recirculation and filtering system
- Eliminating the old split ditch system on sugarcane fields
- Reducing or eliminating tillage on field borders, roads, and turnrows by establishing a cut-off date for cultivation
- Planting a cover crop during the sugarcane rotation
- Installing field borders
- Implementing precision agriculture and applying nutrients according to a nutrient management plan
- Improving sediment and nutrient filtering and wildlife habitat by designing a constructed wetland
- Promoting energy conservation by eliminating the need for annual mechanical removal of sediment from split ditches
- Implementing grazing management
- Installing heavy-use area protection pads

Outcomes and Impacts

Anticipated long-term outcomes of this initiative are: a significant decrease in sediment deposited into the Gulf of Mexico, resulting in decreased turbidity, decreased levels of adsorbed nutrients, and improved dissolved oxygen content; increased water quantity; improved fish and wildlife habitat; and increased community awareness about resources and best management practices to support conservation and renewal of our natural resources.



Water from rice fields can contain nutrients and sediment which impacts water quality



Mechanically cleaned drainage ditches (split ditches) increase erosion

Partners

The Louisiana Department of Agriculture and Forestry Office of Soil and Water Conservation (LDAF/OSWC) will provide technical assistance to program participants with the Office of Soil and Water Conservation field staff and local Soil and Water Conservation District technicians.

The Louisiana Department of Environmental Quality will continue to monitor water courses in the project area for nutrients, suspended sediments, and pathogens.

The Vermilion Soil and Water Conservation District and the Louisiana Cooperative Extension Service will promote, through producer meetings, wider adoption of precision agriculture, field borders, and alternative methods to handling sugarcane crop residue.

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Jourdan River Mississippi

Rotten Bayou
HUC #031700091002
Bayou La-Terre
HUC #031700091001

Background

South Mississippi is known for its rich heritage and abundant production of seafood along the Gulf Coast. It is home to some of the most productive fisheries in the United States.

The environmental health of the delta ecosystem is under threat from population growth, point and non-point sources of nutrients, and contaminants, sediment, poor benthic conditions, and eutrophication.

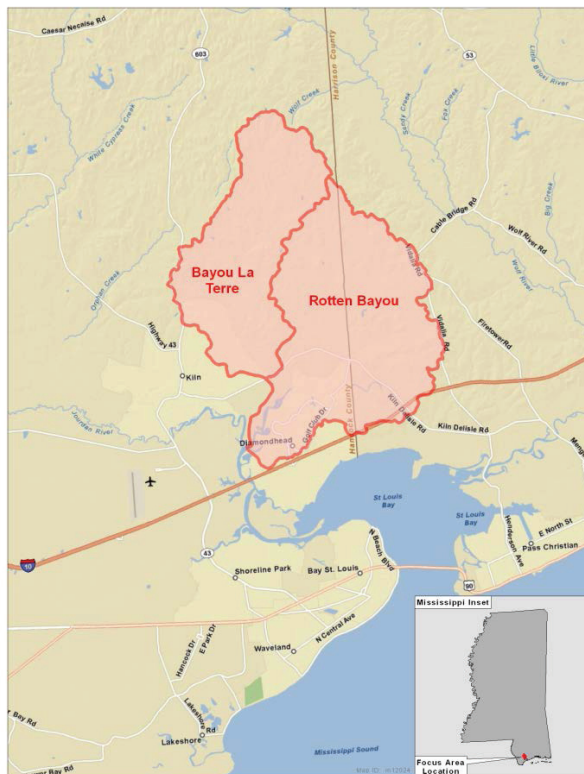
Sediment and nutrient-rich runoff associated with agricultural production negatively impacts water quality in Mississippi bayous, lakes, and the Gulf of Mexico. Some of the cultural practices used for hay and cattle production result in soil erosion and the movement of nutrients and sediments into adjacent waterways. Many of these practices are due to economics and some to tradition. The application of modern technology and the use of Best Management Practices (BMPs) as a result of the requested funding can make these grazing lands more environmentally friendly while maintaining the level of production.

The Rotten Bayou and Bayou La-Terre Watersheds consist of 47,671 acres. The major land uses are timberland, pastureland, and non-agricultural, including both urban and industrial uses. Agricultural run-off from these watersheds flow through drainage ditches, canals and bayous and eventually enters Bay St. Louis, which drains into the Gulf of Mexico. This point of entry into the Gulf of Mexico is known as a source of deposits of both sediments and nutrients significantly contributing to the hypoxic zone.

Mississippi Department of Environmental Quality listed Rotten Bayou and Bayou La-Terre on the 2006 303(d) as having impairments of low dissolved oxygen, turbidity, nutrients, and organic enrichment.

Goals / Objectives

This initiative will encourage adoption of a system of conservation practices aimed at reducing runoff and nutrient rich sediments leaving pasture land, and limit cattle access to streams. These practices will assist in preventing nitrogen and phosphorus from contributing to impairments in Bay St. Louis and the Gulf of Mexico. The reduction in sediment will decrease turbidity and slow the process of sedimentation, which will improve aquatic habitat and reduce environmental stresses associated with higher temperatures and lower dissolved oxygen content.



Resource Concern	Total Acres Needing Treatment
Water Quality – Excessive Suspended Sediment and Turbidity in Surface Water and Excessive Nutrients and Organics in Surface Water	13,395
Water Quality – Harmful Levels of Pathogens in Surface Water	16,547
Soil Erosion – Classic Gully and Ephemeral Gully	1,000
Wildlife – Food & Cover	7,530

State Proposal - Mississippi

Actions

- Increase adoption of residue and tillage management, cover crops, and conservation crop rotations to reduce sediments and nutrients in runoff
- Stabilize eroding gullies
- Create model farms on grazing operations for field days and tours
- Promote the use of precision agriculture techniques to apply nutrients
- Promote the use of prescribed grazing systems
- Develop and encourage adoption of a plan to address all resource concerns with the latest technology and BMPs at the tract level
- Restore longleaf pine habitat
- Promote the establishment of permanent vegetation
- Improve wildlife habitat

Outcomes and Impacts

Anticipated long-term outcomes of this initiative are: a significant decrease in sediment deposited into Rotten Bayou, Bayou La-Terre and the Gulf of Mexico, resulting in decreased turbidity, decreased levels of adsorbed nutrients, and improved dissolved oxygen content; an increased awareness of the benefits of adopting conservation plans, and the effect on sustaining the natural resource base; and a renewed cooperative relationship between NRCS and operators in planning, implementing, evaluating, and potential customization of conservation practices to meet conservation needs.



The NRCS has helped producers to utilize prescribed grazing to minimize the agricultural footprint in local watersheds.



Cross-fencing and cattle guards to facilitate resource management systems to reduce sediment and pathogen input in local watersheds.

Partners

Mississippi Soil and Water Conservation Commission (MSWCC) will provide technical assistance to program participants with our MSWCC field staff and local Soil and Water Conservation District technicians.

Mississippi Department of Environmental Quality (MDEQ) will continue to monitor water sources in the project area for nutrients, suspended sediments, and pathogens.

Harrison County Soil and Water Conservation District will provide technical assistance to program participants.

Hancock County Soil and Water Conservation District will provide technical assistance to program participants.

Coastal Plains Resource Conservation and Development Council (CPRC&D) will provide technical assistance to program participants.

The Nature Conservancy will provide technical assistance to program participants.

Wildlife Mississippi will provide technical assistance to program participants.

Gulf of Mexico Initiative

GoMI



Lower San Antonio River

Texas

Background

The Coastal Prairie Region of South Texas is known for its production of cattle, hay, cotton, corn, sorghum, soybeans, and sesame. Recreational opportunities abound in this region with fishing, birding, hunting and nature tourism. The region holds the Aransas National Wildlife Refuge, which provides vital resting, feeding, wintering, and nesting grounds for migratory and aquatic birds and native Texas wildlife. The refuge and surrounding areas provide winter habitat for threatened and endangered species such as the whooping crane, peregrine falcon, and piping plover.

The warm shallow waters of San Antonio Bay provide shrimp, oysters, and crabs for commercial harvest, and excellent fishing for redfish, speckled trout, black drum, and flounder.

The greatest threats to the estuarine ecosystem come from contaminants and loss of habitat. Contamination may come from point sources, such as water treatment plants, or non-point sources, such as runoff. Habitat loss can result from alteration of the bay bottom, typically by dredging and trawling, development of wetlands and bay shorelines, and restricting fresh water inflow.

Runoff from cropland, rangeland, and pastureland contributes to sediments affecting the water quality of the three watersheds that run into the confluence of San Antonio River and Guadalupe River. This contributes to the critical health of the San Antonio Bay and estuary system, which flows into the Gulf of Mexico.

The three focus watersheds contain 150,000 acres, which includes 12,300 acres of cropland; 61,000 of rangeland; 8,000 acres of pastureland; 3,100 acres of the Aransas National Wildlife Refuge; 64,000 acres of water; and 1,300 acres of urban lands.

Goals / Objectives

Through this initiative, NRCS and its partners will help cooperators voluntarily implement a combination of core and supporting practices that reduce nutrient runoff, conserve water, protect fish and wildlife habitat including threatened and endangered species, reduce emissions of carbon and improve air quality, maintain agricultural productivity in a conservation "systems approach," and increase outreach and education on the benefits of implementing these practices to land managers and the public.

Kuy Creek – Guadalupe River

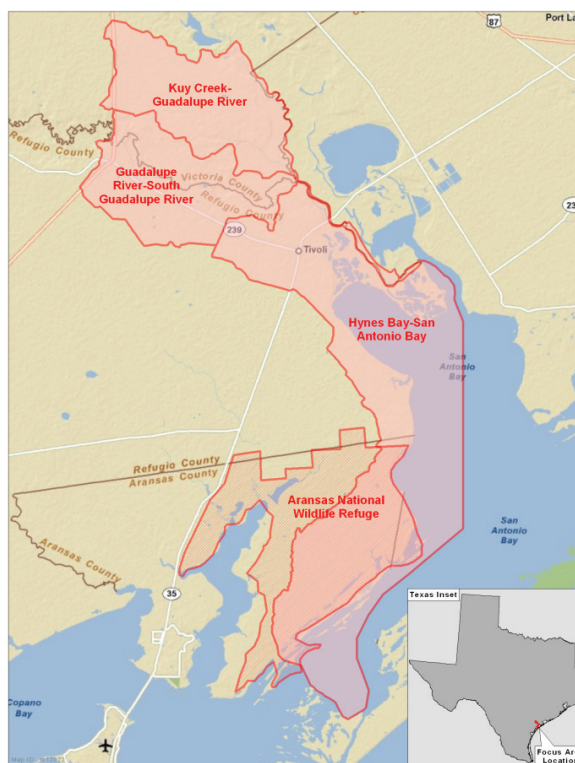
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Guadalupe River – South Guadalupe River

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Hynes Bay – San Antonio Bay

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Resource Concern	Total Acres Needing Treatment
Water Quality Surface Water – Excessive Nutrient Runoff of Pesticides, Organics, Sediment and Bacteria into Surface Water	50,000
Fish & Wildlife – Threatened and Endangered Species: Declining Species, Species of Concern	35,000

Actions

This initiative will focus on reducing nutrient runoff to protect and enhance water quality and fish and wildlife habitat on agricultural lands in the Coastal Prairie Region of South Texas by:

- Implementing Prescribed Grazing Systems on whole operating units
- Applying nutrients according to a nutrient management plan
- Reducing tillage on agricultural fields to improve air quality, conserve energy, and increase carbon sequestration
- Implementing Integrated Pest Management to reduce chemical application
- Installing riparian buffers, wildlife corridors, and native habitat to improve diversity for watershed health
- Protecting impaired areas along the watershed
- Restoring/enhancing wetlands for expanded habitat along San Antonio Bay and estuary system
- Implementing Upland Wildlife Habitat Management according to a Wildlife Management Plan with land managers
- Applying Prescribed Burns to improve/maintain coastal prairie habitat

Outcomes and Impacts

Anticipated long-term outcomes of this initiative are: a significant decrease in sediment deposited into the Gulf of Mexico, resulting in improved water quality, decreased turbidity, decreased levels of adsorbed nutrients, and improved dissolved oxygen content; an extensive network of riparian buffers for improved wildlife habitat including food sources for threatened and endangered species; improved recreational opportunities with reduced bacteria; and land managers and public educated in holistic management of our natural resources.



Overgrazing of pastures increases erosion and nutrient runoff.



Increase fish and wildlife, including federally listed threatened and endangered species. (Photo: TPWD)

Partners

United States Fish and Wildlife Service (USFWS) will provide technical assistance to program participants as well as biological and habitat guidance when dealing with federally listed threatened and endangered species and their habitats found within the watersheds.

Texas Parks and Wildlife Department (TPWD) will provide technical assistance to program participants as well as biological and habitat recommendations when dealing with state-listed threatened and endangered species and their habitats which are found within the watersheds.

Coastal Bend Bays and Estuaries Program (CBBEP) will assist with monitoring efforts in and around the San Antonio Bay and will consult with Federal, State, and local units of governments in addition to providing educational opportunities for the public and program participants on their efforts, studies, and plans for the Coastal Bend region of Texas.

Texas Soil and Water Conservation Board (TSSWCB) will assist with providing technical assistance and conservation program information to the landowners and land operators in the affected watersheds, in addition to holding stakeholder meetings and facilitating the implementation of the Upper San Antonio River Watershed Protection Plan.

San Antonio River Authority (SARA) will assist with continued monitoring of the San Antonio River in addition to providing educational and financial assistance to landowners and operators in the upper watershed. They will also hold stakeholder meetings that help facilitate the implementation of the Upper San Antonio River Watershed Protection Plan.

United States Geological Survey (USGS) will assist with sharing hydrological data as well as modeling information to Federal, state, and local agencies.

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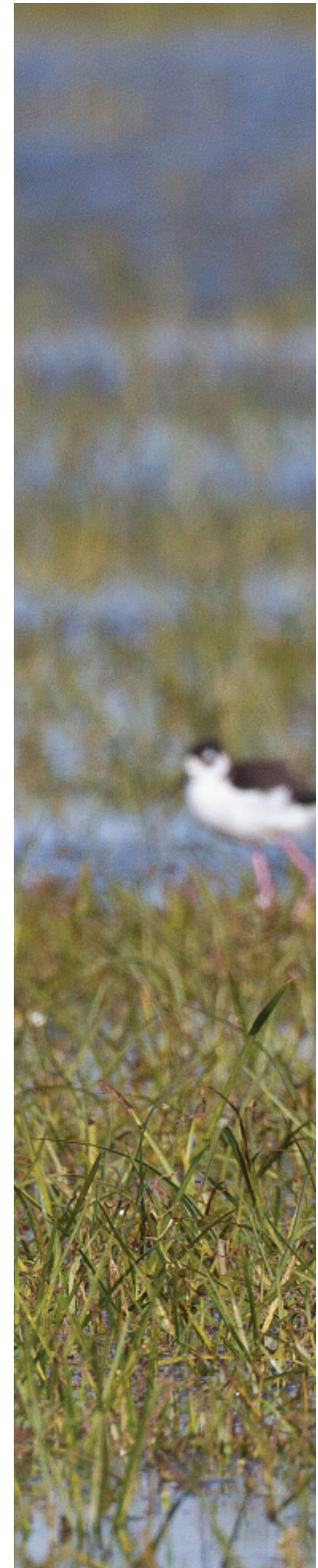
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Gulf of Mexico Initiative

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