State of Alabama

DEEPWATER HORIZON OIL SPILL

RESTORATION PROGRESS REPORT

2022 UPDATE

OFFICE OF THE GOVERNOR
STATE OF ALABAMA

CONSERVATION AND NATURAL RESOURCES
ALABAMA

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> ... we continue to implement a wide array of restoration projects that will not only provide benefits to those of us who call Alabama home today, but that will also preserve our resources and strengthen the economy for future generations of Alabamians.

LETTER FROM GOVERNOR KAY IVEY

Since our last update on *Deepwater Horizon* restoration progress in 2018, we have faced a number of changes and challenges as a state and as a nation. But one thing remains unchanged—we continue to be blessed and fortunate to live in one of the most beautiful and biodiverse states in the country.

In collaboration with our state, federal, and local partners as well as thousands of Alabamians, we continue to implement a wide array of restoration projects that will not only provide benefits to those of us who call Alabama home today, but that will also preserve our resources and strengthen the economy for future generations of Alabamians.

In this report, the Governor's Office and the Alabama Department of Conservation and Natural Resources are providing Alabama coastal stakeholders with an update of restoration activities occurring in coastal Alabama. Since 2011, Alabama has invested over $925 million in 158 projects ranging from habitat preservation to oyster reef restoration to infrastructure projects. These projects, collectively, are transforming the environment and economy of Coastal Alabama in ways that we couldn't have imagined only a few short years ago.

I hope you are as proud as I am to see the progress we are making together and that we will continue to work together to preserve, enhance and protect the natural resources, people and economy of Alabama the Beautiful.

Best regards,

Kay Ivey

Kay Ivey
Governor

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LETTER FROM CHRISTOPHER M. BLANKENSHIP

I am pleased to present to you the 2022 report on *Deepwater Horizon* (DWH) related restoration activities in Alabama. We have made significant strides since our last update in 2018, and I hope you are as excited as I am to see the progress we have made across all of the State's restoration goals. This report provides updates on our activities to date as well as information regarding how restoration priorities will continue to evolve over time. In future updates we will continue to report on the progress of the program as a whole so that we can track where we have been and what we still want to accomplish, together.

We have once again organized this report by restoration goal, so that you can see the big picture of what we are working to achieve without the need to take a deep dive into the various restoration funding streams and timelines that often make the benefits of restoration projects.

As we review this progress report and celebrate the work accomplished to date, we know that there is still work to be done in the coming years. We will continue to engage our stakeholders as we make important decisions regarding how to invest future restoration funds and build on past success. I look forward to your continued partnership as we implement restoration activities that support our coastal economy, environment, and communities.

> "We have made significant strides since our last update in 2018, and I hope you are as excited as I am to see the progress we have made across all of the State's restoration goals."

Regards,

Christopher M. Blankenship
Commissioner
Alabama Department of Conservation and Natural Resources

EXECUTIVE SUMMARY

On or about April 20, 2010, the *Deepwater Horizon* (DWH) mobile drilling unit exploded, caught fire, and eventually sank in the Gulf of Mexico, resulting in a massive release of oil and other substances from British Petroleum Exploration and Production (BP) Macondo well and causing loss of life and extensive natural resource injuries. Approximately 3.19 million barrels (134 million gallons) of oil were released into the ocean. Oil spread from the deep ocean to the surface and nearshore environment from Texas to Florida. The oil came into contact with and injured natural resources as diverse as deep-sea coral, finfish and shellfish, productive wetland habitats, sandy beaches, birds, sea turtles, and other protected marine life. The oil spill prevented people from fishing, going to the beach, and enjoying typical recreational activities along the Gulf of Mexico. The oil spill also significantly affected the health of the Gulf States' economies, impacting a wide-array of industries such as tourism, the maritime industry, and the commercial and recreational fishing industries. Extensive response actions, including cleanup activities and actions to try to prevent the oil from reaching sensitive resources, were undertaken to try to reduce harm to people and the environment. However, the extent of impacts was very significant, leading to a large and diverse restoration effort that began after the spill and that will continue for decades to come.

The State of Alabama will receive a minimum of nearly $1.6 billion dollars resulting from the payment of claims and penalties associated with the oil spill. These dollars are to be paid in 15 annual installments, which began in April 2016. The Governor, along with the Alabama Department of Conservation and Natural Resources (ADCNR) and the Alabama Gulf Coast Recovery Council (AGCRC) is tasked with overseeing this funding for the benefit of Alabama's natural resources and economy. Restoration is well underway in the state, with projects being funded across a wide-array of goals that, collectively, will significantly contribute to the improvement of Alabama's coastal resources and strengthen our state economy while improving the health and resiliency of our coastal communities.

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Deepwater Horizon Restoration in Alabama

To date, Alabama and partners have committed funding to 158 projects totaling over $926 million.

This money has funded and will continue to fund Alabama's restoration goals:

- **Replenishing and Protecting Living Coastal and Marine Resources;**
- **Supporting and Enhancing Community Resilience;**
- **Providing and Enhancing Economic Development and Infrastructure;**
- **Restoring, Conserving, and Enhancing Habitat;**
- **Providing and Enhancing Recreation and Public Access;**
- **Restoring Water Quality;**
- **Providing Planning Support, and**
- **Conducting Science, Research, and Monitoring.**

Funding Approved to Date, by Restoration Goal
$926,302,715.30 Total

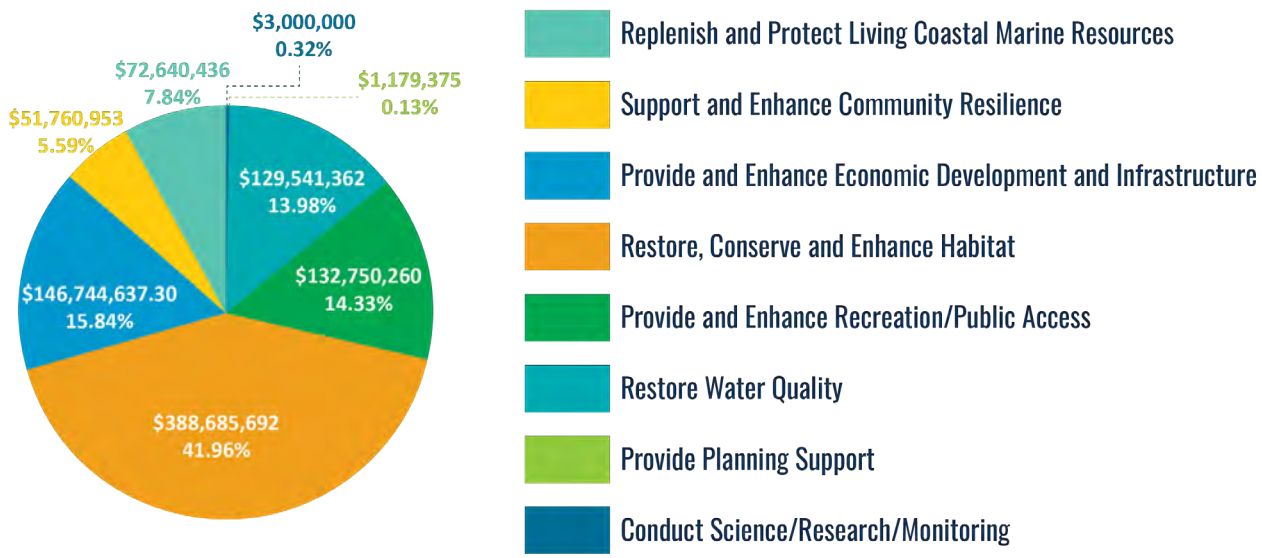


Figure 1: Funding to date for Alabama projects, by restoration goal

Funding Approved to Date, by Restoration Process
$926,302,715.30 Total

Figure 2: Total dollars approved, by restoration process

UNDERSTANDING THE DWH RESTORATION PROCESSES IN ALABAMA

The *Deepwater Horizon* (DWH) oil spill resulted in several settlements with responsible parties, leading to subsequent payments of fines and claims related to a number of statutes including the Oil Pollution Act and the Clean Water Act.

A number of different entities oversee the distribution and oversight of these funds, and the processes for decision-making varies from state to state. Below is an overview of the DWH restoration funding processes in Alabama. These processes are described in more detail on the following pages.

Restoration Process	Alabama Coordinating Entity	Total Funding for Alabama	Funding Approved as of April 15, 2022
Direct Component "RESTORE Bucket 1"	Alabama Gulf Coast Recovery Council	$373 million	$192 million
Council-Selected Restoration Component "RESTORE Bucket 2"	Alabama Department of Conservation and Natural Resources	$1.6 billion across five Gulf States*	$101 million
Spill Impact Component "RESTORE Bucket 3"	Alabama Gulf Coast Recovery Council	$326 million	$132 million
RESTORE Centers of Excellence	Marine Environmental Sciences Consortium & Alabama Gulf Coast Recovery Council	$26 million	$7.9 million
Natural Resource Damage Assessment (NRDA)	Alabama Department of Conservation and Natural Resources	$296 million	$195 million
National Fish & Wildlife Foundation Gulf Environmental Benefit Fund (NFWF GEBF)	Alabama Department of Conservation and Natural Resources	$356 million	$306 million

Table 1: Summary of DWH Restoration Processes in Alabama

**The total funding available for projects across the five gulf states is $1.6 billion, supplemented by interest generated by the Trust Fund.*

Billy Pope

RESTORE Act

The Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States (RESTORE) Act designated five different funding sources, of which the State of Alabama receives direct funding through four allocations: 1) the Direct Component, 2) the Council-selected restoration component, 3) the Spill Impact Component, and 4) the Centers of Excellence. Each allocation has different priorities for funding, operates under different administration governances, has varying levels of funding, and functions on differing time lines for project implementation. Visit www.outdooralabama.gov for more information.

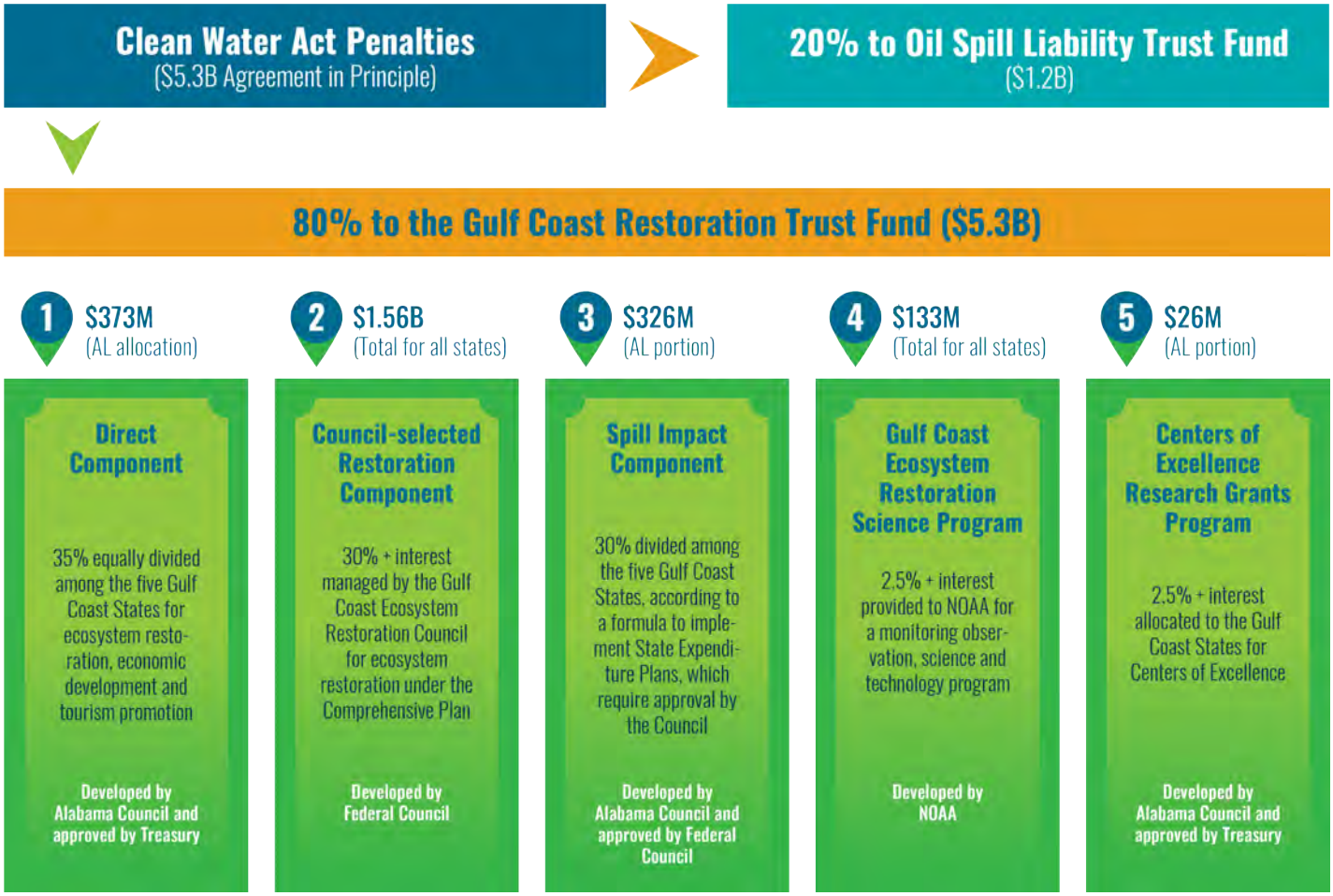


Table 2: RESTORE Act Allocations

RESTORE Act

RESTORE Act Funding Priorities:

The priorities for RESTORE Act funding are tied to the respective component from which the funding is allocated. The following are the general priorities, by allocation:

- **Direct Component and Spill Impact Component**: natural resources, infrastructure, economic development, and tourism.
- **Council-Selected Restoration Component**: Habitat, water quality and quantity, living coastal and marine resources, community resilience, and the Gulf economy.
- **Centers of Excellence**: science and research.

Coordinating Entity (State):

- Direct Component and Spill Impact Component: The Alabama Gulf Coast Recovery Council (ADCNR serves as Administrator)
- Council-Selected Restoration Component: The Alabama Department of Conservation and Natural Resources
- Center of Excellence: Marine Environmental Sciences Consortium

Total Funding:

$725 million (Direct Component + Spill Impact Component + Center of Excellence)
$1.6 billion across five Gulf States (Council-Selected Restoration Component)

Funding Approved to Date for Alabama:

Direct Component: $192,416,758.74
Council-Selected Restoration Component: $101,130,543.00
Spill Impact Component: $131,971,802.00
Center of Excellence: $7,900,000.00

Funding Process:

Each of the allocations have different funding processes. The Alabama Gulf Coast Recovery Council administers the Direct and Spill Impact Components as well as the Center of Excellence. ADCNR is the State's representative on the Gulf Coast Ecosystem Restoration Council for the Council-Selected Restoration Component process, decision making, and project selection.

Further Information:

https://www.outdooralabama.com
https://www.alabamacoastalrestoration.org
https://restorethegulf.gov

Sophia Charlotte Haines

Natural Resource Damage Assessment (NRDA)

In April of 2016 a settlement was reached between the DWH NRDA Trustees and BP for an additional $7.8 billion in natural resource damages above and beyond the $1 billion early restoration funding that previously had been provided. The objective of NRDA funding is to make the environment and public whole for injuries to natural resources and services resulting from the *Deepwater Horizon* oil spill. The trustees developed a Programmatic Damage Assessment and Restoration Plan (PDARP) that addressed impacts, as a whole, identified how and where funds were to be invested, and provided details associated with what types of restoration are most needed and the priority geographical areas for restoration – which included Alabama.

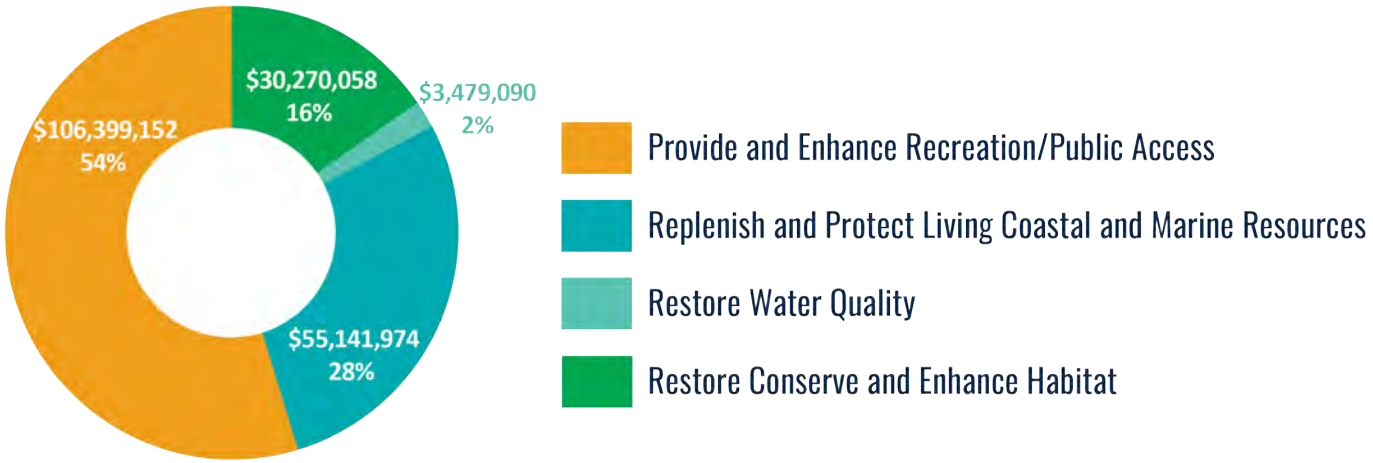


Figure 3: Alabama NRDA Allocations by Resource Type

Funding Priorities:

The priorities for NRDA expenditures are set forth in the PDARP. These funds were allocated to five categories in the State of Alabama:

- Restore and conserve habitat;
- Restore water quality;
- Replenish and protect living coastal and marine resources;
- Provide and enhance recreational opportunities; and
- Monitoring, adaptive management, and administrative oversight.

Coordinating Entity: The Alabama Department of Conservation and Natural Resources, and the members of the Alabama Trustee Implementation Group (TIG). The TIG includes representatives from ADCNR, Geological Survey of Alabama, U.S. Environmental Protection Agency, U.S. Department of the Interior, National Oceanic and Atmospheric Administration, and the U.S. Department of Agriculture.

Total Funding Allocated to AL TIG:

$296 million

Funding Approved to Date:

$195,290,274*

Funding Process:

www.gulfspillrestoration.noaa.gov

Further Information:

http://www.gulfspillrestoration.noaa.gov/restoration-areas/alabama
https://www.alabamacoastalrestoration.org/NRDA

** Includes Alabama component of projects funded in the Regionwide TIG.*

National Fish and Wildlife Foundation Gulf Environmental Benefit Fund

In early 2013, two plea agreements resolving criminal cases against BP and Transocean created the Gulf Environmental Benefit Fund (GEBF) within the National Fish and Wildlife Foundation (NFWF). A total of $2.5 billion was directed into this account to fund projects benefiting the natural resources of the Gulf that were impacted by the *Deepwater Horizon* oil spill. The $2.5 billion was allocated differently to each of the Gulf States (see Table 2 below). The State of Alabama will ultimately receive $356 million.

	Payment (in millions of dollars)	Louisiana	Alabama	Florida	Mississippi	Texas
Apr. 2013	$158.00	$79.00	$22.12	$22.12	$22.12	$12.64
Feb. 2014	353.00	176.50	49.42	49.42	49.42	28.24
Feb. 2015	339.00	169.50	47.46	47.46	47.46	27.12
Feb. 2016	300.00	150.00	42.00	42.00	42.00	24.00
Feb. 2017	500.00	250.00	70.00	70.00	70.00	40.00
Feb. 2018	894.00	447.00	125.16	125.16	125.16	71.52
Totals	**$2,544.00**	**$1,272.00**	**$356.16**	**$356.16**	**$356.16**	**$203.52**

Table 3: NFWF GEBF Allocation to Alabama

BP = $2,394M
Transocean = $150M

Funding Priorities:

The funded priorities for NFWF GEBF include, but are not limited to:

- Restore and maintain ecological function of landscape-scale coastal habitats including barrier islands, beaches and coastal marshes;
- Restore and maintain ecological integrity of priority coastal bays and estuaries; and
- Replenish and protect living resources including oysters, red-snapper and other reef fish, gulf coast bird populations, sea turtles, and marine mammals.

Coordinating Entity:

Alabama Department of Conservation and Natural Resources, in coordination with NFWF-GEBF

Total Funding Allocated to Alabama:

$356 million

Funding Approved to Date:

$306,493,337 (as of April 15, 2022)

Funding Process:

ADCNR, in coordination with NFWF GEBF, submits projects for consideration of funding on an annual funding cycle. ADCNR puts out a call for project ideas annually and selection is made based on the NFWF GEBF plea agreement. Additional criteria for consideration include science, advancement of ADCNR natural resource priorities, and cost effectiveness of environmental benefits of projects.

Further Information:

https://www.nfwf.org/gulf-environmental-benefit-fund
https://www.nfwf.org/gulf-environmental-benefit-fund/alabama
https://www.alabamacoastalrestoration.org/NFWF

Update on DWH Restoration in Alabama

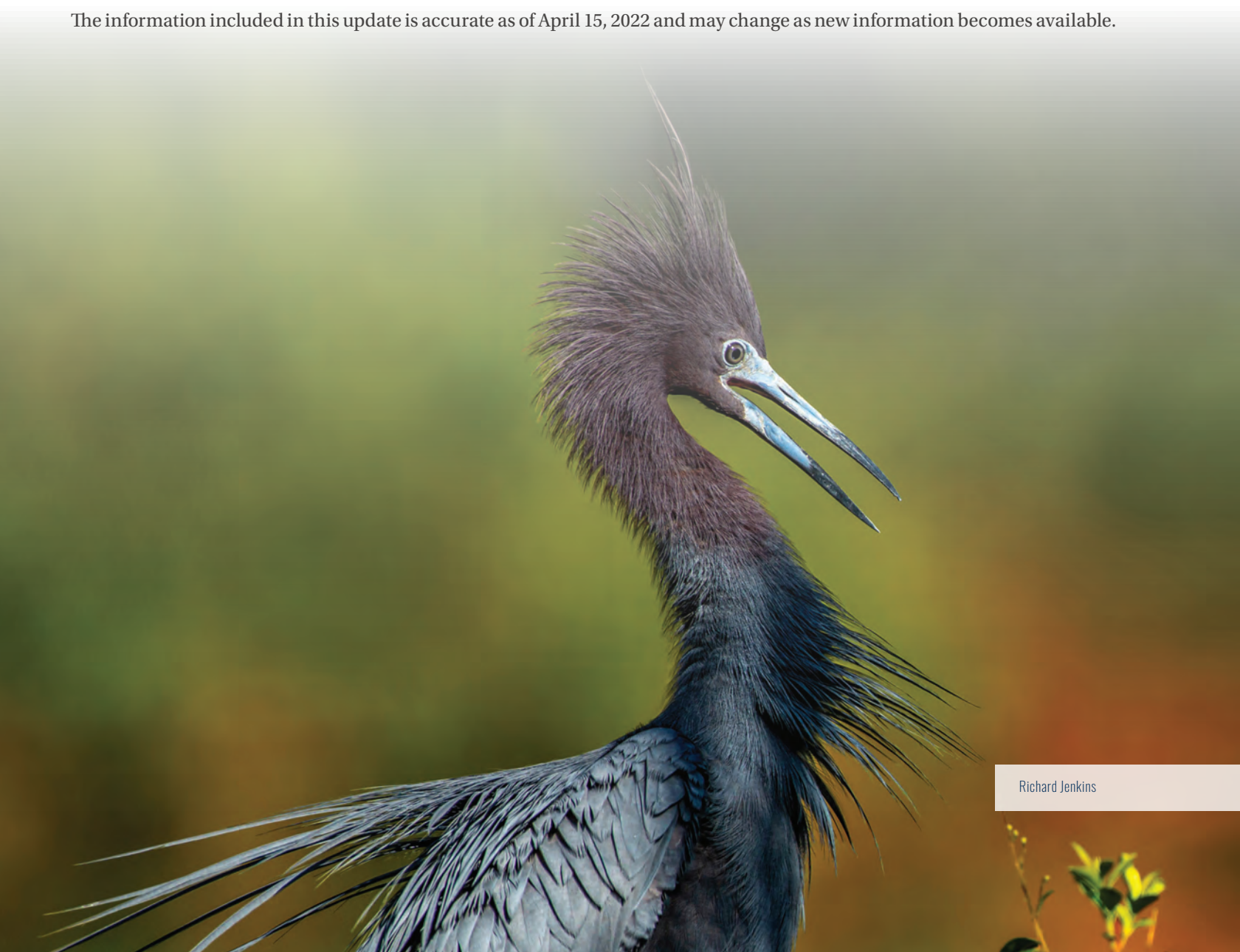
This update of Alabama's DWH restoration efforts will provide information on projects funded, their status, and information on primary project benefits. In order to facilitate an understanding of the scope of investment, as well as how projects are related to and build on each other, information is presented in a number of ways, including maps organized by restoration goal, project descriptions and funding graphs. We have purposely moved away from discussing projects according to their funding source in order to provide a clearer picture of the breadth of work being conducted across a multitude of resources, but you can still identify projects by funding source by reviewing their descriptions.

About this Restoration Update

This document is an update of the 2018 *Deepwater Horizon* Restoration Report. It includes information on all projects approved to date for implementation in Alabama by all *Deepwater Horizon* Funding entities, through April 15, 2022.

Projects implemented by Federal entities with DWH funds that have implementation components in Alabama are included in this update, and are denoted with an "*". Funding amounts listed for these projects only include the Alabama portion of the project.

The information included in this update is accurate as of April 15, 2022 and may change as new information becomes available.



Richard Jenkins

REPLENISH AND PROTECT LIVING COASTAL AND MARINE RESOURCES

The coastal and marine resources of Alabama and the northern Gulf of Mexico provide important economic and social opportunities for residents and visitors. The recent global move towards development of Blue Economy strategies highlights the increased focus on coastal resources to address a range of growth industries. Understanding the need to manage sustainable development and future exploitation of coastal and marine resources, the State has made significant investments, on behalf of stakeholders, in gathering more information and developing a greater understanding of population status, biodiversity, ecosystem health, human interactions and resource protection measures.

Although these projects are discrete resource-specific projects, ADCNR closely coordinates terrestrial habitat restoration, land conservation and water quality improvement efforts in order to leverage investments in Alabama coastal waters.

Activities focused on replenishing and protecting living coastal and marine resources include:

- **Stewardship of Coastal Alabama Beach Nesting Bird Habitat (NRDA-RPIII)**

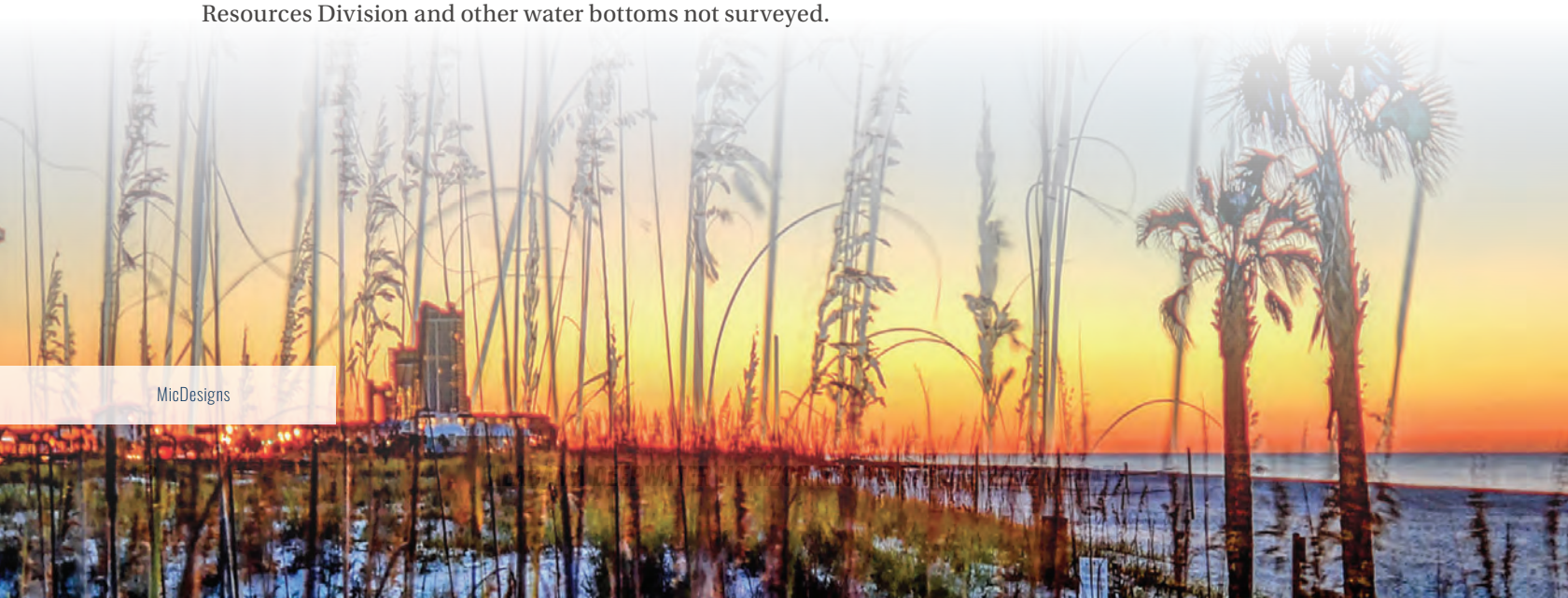
  This program consists of five synergistic components implemented to reduce stressors affecting coastal bird populations and to provide information in support of future restoration decision-making. Specific activities and target locations vary from year to year based on several factors including, but not limited to: where nesting occurs, where evidence of stressors is detected, what management activities are most successful at each area and where access to habitat is permitted.

- **Assessment of Alabama Estuarine Bottlenose Dolphin Populations and Health (NRDA-RPII)**

  These efforts will reduce injury and mortality for Alabama estuarine bottlenose dolphins by: increasing resources for Marine Mammal Protection Act (MMPA)-related activities and increasing patrol hours; increasing awareness and understanding of the MMPA; conducting social science studies to help characterize the nature and extent of the illegal feeding of dolphins, vessel-based harassment, and interactions with hook-and-line fishing gear in Alabama; conducting systematic fishery surveys to help characterize the nature and extent of dolphin interactions with commercial fishing vessels and hook-and-line gear in Alabama; and developing and implementing a comprehensive and targeted outreach plan. Resources dedicated to state law enforcement of the Marine Mammal Protection Act of 1972 (MMPA) are augmented. In addition, capability and capacity to promote awareness and understanding of the MMPA through education, training, and outreach have also been improved.

- **Side-scan Mapping of Mobile Bay Relic Oyster Reefs (NRDA-RPII)**

  This project uses sonar technology to identify benthic areas of mid- to lower-Mobile Bay suitable to support cultch material for oyster reef restoration. Depending on the side-scan results, these areas may be used to reestablish oyster populations through initial efforts to seed reef areas with hatchery-raised, high-density oyster spat setting. The project will survey the current extent and conditions of the relic oyster reefs identified in the 1968 reef surveys contracted by ADCNR - Marine Resources Division and other water bottoms not surveyed.



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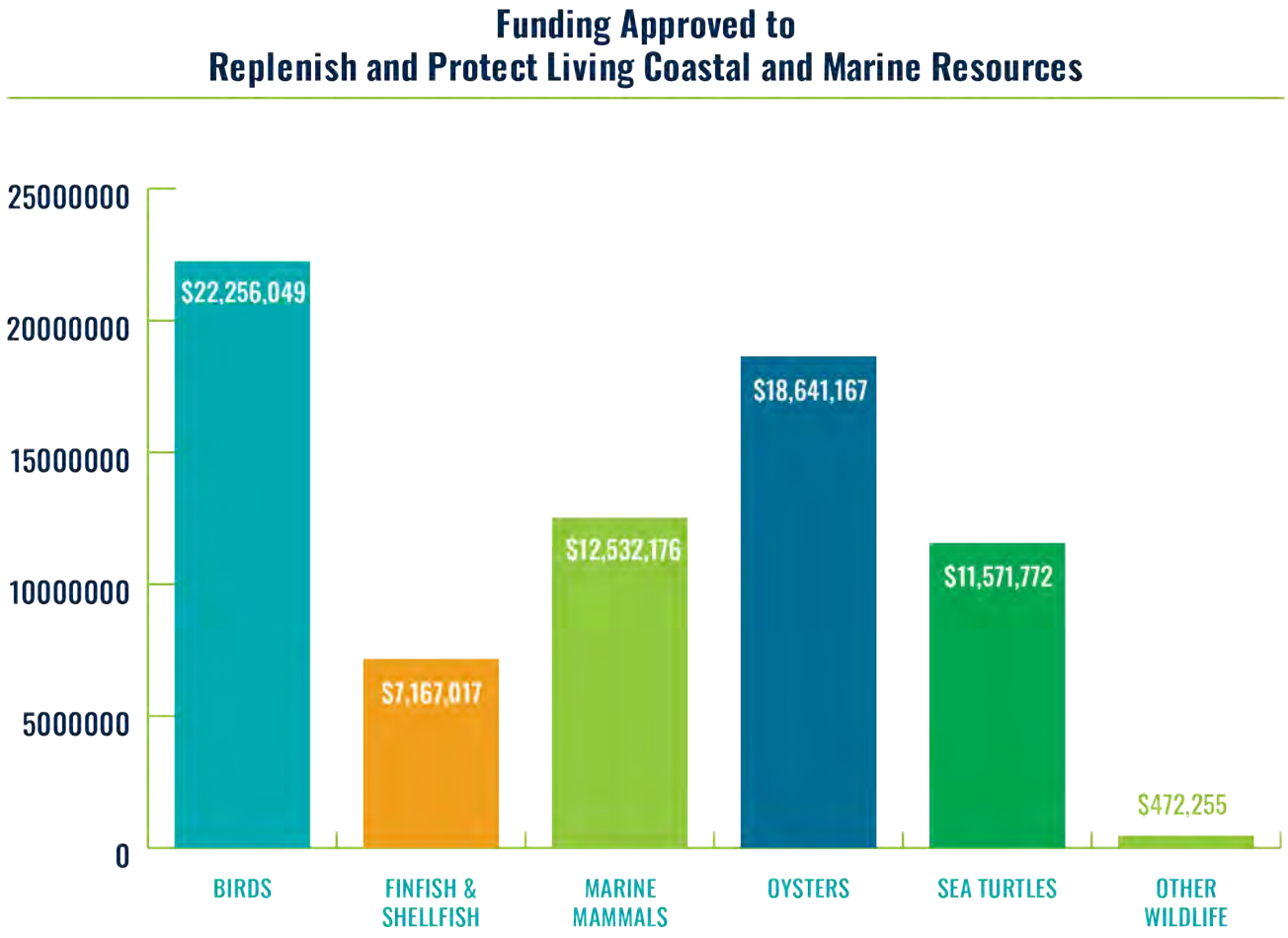
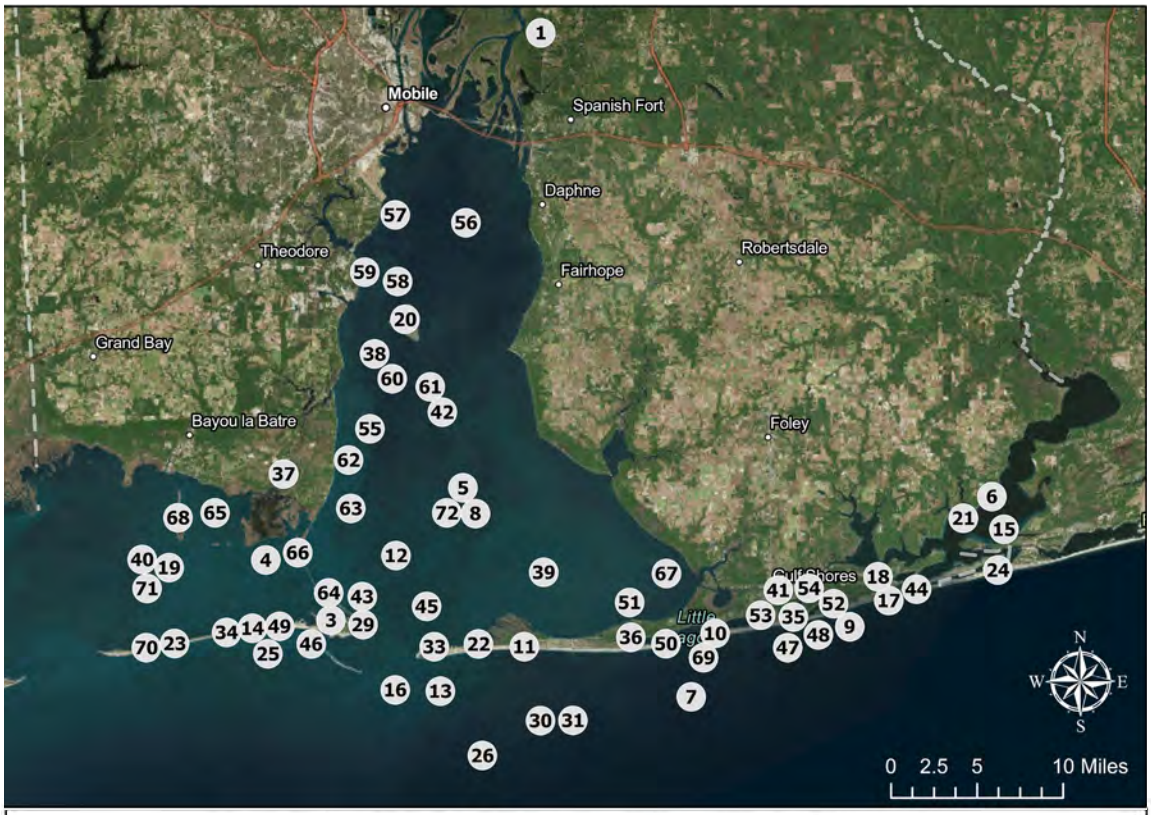


Figure 4: Funding Approved to Replenish and Protect Living Coastal and Marine Resources, 2011-2022

Project Locations: Replenish and Protect Living Coastal and Marine Resources



Replenish and Protect Living Coastal and Marine Resources

PROJECT NAME

1 Alabama Coastal Bird Stewardship Program

2 Alabama Estuarine Bottlenose Dolphin Protection: Enhancement and Education

3 Alabama Marine Mammal Conservation and Recovery Program

4 Alabama Oyster Cultch Restoration

5 Alternative 1: Improving Resilience for Oysters by Linking Brood Reefs and Sink Reefs (Large-scale) Component 4: Lower-Mid Mobile Bay

6-8 Assessment of Alabama Estuarine Bottlenose Dolphin Population and Health

9-10 Avian Breeding Habitat Project

11 CAST Conservation Program

12-13 CAST Habitat Usage and Population Dynamics

14-16 CAST Protection: Enhancement and Education

17 CAST Triage

18 City of Orange Beach - Expansion of the Orange Beach Wildlife Rehabilitation and Education Center

19-21 Colonial Nesting Bird Assessment

22 Conservation and Enhancement of Nesting and Foraging Habitat for Birds Component 2: Pilot Town, AL

23 Dauphin Island West End Acquisition

24-25 Enhance Capacity, Capability, and Consistency of Marine Mammal Stranding Networks (MMSN) in the Gulf of Mexico: Alabama Component

26 Enhanced Fisheries Monitoring in Alabama - Marine Waters

27 Enhancing Capacity for the Alabama Marine Mammal Stranding Network

28 Expansion of the Orange Beach Wildlife Rehabilitation and Education Center/Gulf Coast Wildlife Recovery and Interpretative Center: Feasibility, Planning & Preliminary Design

29 Gulf of Mexico Marine Mammal Stranding Database-- Data Diplomat Positions Phase II (FL)

30 Multifaceted Fisheries and Ecosystem Monitoring in Alabama - Marine Waters and the Gulf of Mexico - Phase II

31 Multifaceted Fisheries and Ecosystem Monitoring in Alabama - Marine Waters and the Gulf of Mexico - Phase III

32 Multifaceted Fisheries and Ecosystem Monitoring in Alabama - Marine Waters and the Gulf of Mexico - Phase IV

33-37 Osprey Restoration in Coastal Alabama

38 Oyster Cultch Relief and Reef Configuration

39-40 Oyster Grow-Out and Restoration Reef Placement

41 Oyster Hatchery at Claude Peteet Mariculture Center

42 Pilot Implementation of AIS in the GOM Inshore Shrimp Fishery to Better Understand Fishing Effort to Inform Efforts to Reduce Sea Turtle Bycatch: Alabama Component

43-44 Reducing Injury and Mortality of Bottlenose Dolphins from Hook and Line Fishing Gear by Utilizing Fishery Surveys, Social Science, and Collaborative Problem Solving: Alabama Component

45-46 Reducing Marine Debris Impacts on Sea Turtles Gulf-wide : Alabama Component

47 Reducing Sea Turtle Bycatch at Recreational Fishing Sites: Alabama Component

48-49 Region-wide Bird Nesting and Foraging Area Stewardship: Alabama Component

50 Region-wide Enhancements to the Sea Turtle Stranding and Salvage Network, and Enhanced Rehabilitation: Alabama Component

51 Restoration and Enhancement of Oyster Reefs in Alabama

52 Restore and Enhance Sea Turtle Nest Productivity on Gulf of Mexico Beaches: Alabama Component

53 Restoring the Night Sky (Early Restoration)

54 Restoring the Night Sky - Assessment, Training, and Outreach (E&D)

55-67 Side-scan Mapping of Mobile Bay Relic Oyster Reefs (E&D)

68 Southwestern Coffee Island Habitat Restoration Project-Phase I

69-70 Stewardship of Coastal Alabama Beach Nesting Bird Habitat

71-72 Voluntary Modifications to Commercial Shrimp Lazy Lines to Reduce Dolphin Entanglements: Alabama Component

*No map location

Spotlight On: Sea Turtle Restoration

U.S. Fish and Wildlife Service

Three species of sea turtles regularly nest on Alabama beaches. The loggerhead sea turtle (*Caretta caretta*) accounts for nearly all nests in the state each year, with occasional Kemp's ridley sea turtle (*Lepidochelys kempii)* and less frequent green sea turtle (*Chelonia mydas*) nests found. Adult leatherbacks (*Dermochelys coriacea*) are regular visitors to the coast, foraging for food in blooms of jellyfish in the Gulf of Mexico. All species of sea turtles using the Gulf of Mexico and Alabama beaches to forage, mate and/or nest are listed as threatened or endangered under the Endangered Species Act (ESA).

The Threats:

Coastal Alabama communities are engaged in reducing threats to and protecting sea turtles, in particular nesting females and hatchlings. Even with the efforts of local municipalities and volunteer groups, sea turtles still face significant anthropogenic threats, including:

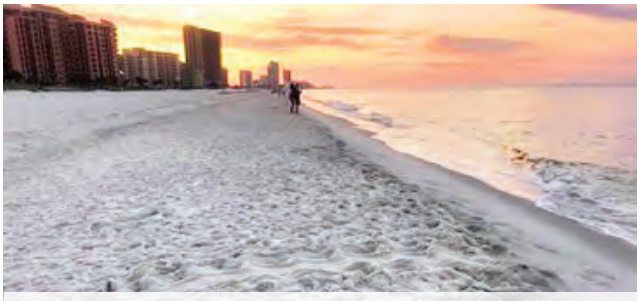
- Encounters (entanglement and ingestion) with derelict fishing gear
- Unintended capture (bycatch)
- Vessel strikes
- Entanglement in and ingestion of marine debris
- Reduced water quality
- Coastal development leading to loss of critical nesting habitat
- Artificial lighting impacts on nesting females and hatchlings
- Warming water and beach sand temperatures
- Changing beach morphology

A warming climate is likely to change beach morphology and contribute to increased sand temperatures which subsequently impacts the ratio of male and female hatchlings. Rising seas and storm events cause beach erosion which submerges or completely washes nests away. Changes in the temperature of the marine environment may lead to changes in migratory, foraging and reproductive behavior of sea turtles.

Conservation projects funded to reduce threats to sea turtles include:

- **Improving Habitat Injured by Spill Response: Restoring the Night Sky (NRDA-Phase II Early Restoration and NRDA-RPII)**

  This project improves nesting habitat for loggerhead sea turtles in Alabama by reducing artificial lighting impacts on nesting habitat for loggerhead sea turtles. Activities include assessment of existing lights visible from the beaches on project areas as well as adjacent properties prior to lighting retrofits; coordination with site managers to develop plans to eliminate, retrofit or replace existing light fixtures on the property or to otherwise decrease the amount of light reaching the loggerhead sea turtle nesting beach; retrofitting streetlights and parking lot lights; promoting increased efforts by local governments to ensure compliance with local lighting ordinances; and implementation of a public awareness campaign including educational materials.



Volkert, Inc.

- **Restoring the Night Sky–Assessment, Training, and Outreach (E&D) (NRDA-RPII)**

  This project involves an analysis of coast-wide light pollution impacts on federally managed lands and nearshore waters in Baldwin and Mobile counties. The long-term goal is to reduce the impacts of light pollution causing disorientation of nesting sea turtles and hatchlings, thereby reducing disruption of reproductive activities and increasing reproductive success.

- **Coastal Alabama Sea Turtle (CAST) Conservation Program (NRDA-RPII)**

  This project supports existing sea turtle programs in Alabama, providing funding for the continued operation, expansion, and enhancement of the existing volunteer Share the Beach Sea Turtle Nest Monitoring Program.

- **Coastal Alabama Sea Turtle (CAST) Habitat Usage and Population Dynamics (NRDA-RPII)**

  This project involves the study of migration patterns, habitat use and distribution patterns of sea turtles along the Alabama coast. Project activities include sampling and evaluation of sea turtles in-water to initiate a long-term monitoring program designed to determine distribution and habitat use, vital rates (including survival rates), connectivity, and potential impacts of anthropogenic activities for sea turtles in coastal and nearshore waters of Alabama.

Volkert, Inc.

- **Coastal Alabama Sea Turtle (CAST) Protection: Enhancement and Education (NRDA-RPII)**

  This project funds enhancement of state enforcement capabilities, allowing enhanced turtle protections in Alabama state waters through increased awareness and understanding of the Endangered Species Act (ESA), as well as an increase in resources dedicated to ESA-related activities for state enforcement agencies. Stakeholder engagement focuses on reducing fisheries bycatch and human disturbance impacts on nesting turtles.

Spotlight On: Oyster Restoration

David Rainer

Oysters have played an important role in the cultures of coastal Alabama's inhabitants for over many centuries and have been a driver of economic development in the region during the 19th and 20th centuries. Oysters and oyster reefs are not only important to the economy of coastal Alabama but are also an essential component of the local ecosystem. Oysters filter pollutants and nutrients from the water column, contributing to cleaner water and potentially avoiding or mitigating harmful algal blooms while also supporting carbon sequestration. An individual adult oyster can filter plankton, removing nitrogen and pollutants from as much as 50 gallons of water per day, providing an enormous benefit to Alabama coastal waters impacted by runoff and pollution.

Oyster reefs protect shorelines from erosion, stabilize sediments and provide habitat for commercially and ecologically important species of fish and invertebrates, including future generations of oysters. Oyster reefs buffer coastal areas from wave energy, not only reducing erosion, but also guarding submerged aquatic vegetation (SAV) and coastal wetlands which in turn provide their own hazard mitigation benefits.

In 2010, the DWH oil spill caused unprecedented damage to oyster resources along the Gulf Coast. An estimated total of 8.3 million adult equivalent oysters were lost due to marsh oiling along Gulf Coast shorelines where oyster cover was removed or reduced by oiling or cleanup actions. The loss of oyster shell cover also meant that an estimated 5.7 million oysters per year (adult equivalents) would be unable to settle and grow in nearshore areas across the northern Gulf of Mexico. The DWH NRDA Trustees also concluded that oil spill-related mortality of subtidal and intertidal oysters in 2010 and 2011 also resulted in several years of recruitment loss or failure in the Northern Gulf of Mexico.

In response to these impacts, Alabama has invested in a number of oyster restoration projects including:

Oyster Grow-out and Restoration Reef Replacement (NRDA RP-II)

This project involves establishment of up to three protected oyster gardening grow-out areas located in Grand Bay, Portersville Bay, and Bon Secour Bay and the use of these adult sized oysters for restoration reef placement. The project will grow out oysters to at least one year old, place oysters on existing reef sites, including existing complementary living shoreline sites in Mobile Bay and Mississippi Sound as well as cultched sites, and identify and prioritize future restoration reef locations.

Side-scan Mapping of Mobile Bay Relic Oyster Reefs (E&D) (NRDA RP-II)

This project involves using sonar technology to identify benthic areas of mid- to lower-Mobile Bay suitable to support cultch material for oyster reef restoration. Depending on the side-scan results, these areas may be used to reestablish oyster populations through initial efforts to seed reef areas with hatchery-raised, high-density oyster spat setting. The project will survey the current extent and conditions of the relic oyster reefs identified in the 1968 reef surveys contracted by AMRD and other water bottoms not surveyed.

Alternative 1: Improving Resilience for Oysters by Linking Brood Reefs and Sink Reefs (Large-scale) Component 4: Lower-Mid Mobile Bay (RWTIG RP I)*

This project will increase oyster abundance and restore resilience to oyster populations by increasing connectivity through larval transport and the construction of oyster reefs over a range of habitats and salinities. This project will create a network of high-vertical relief brood (protected) reefs linking to existing or created sink (harvest or protected) reefs through larval transport and increase oyster population sustainability and oyster reef resilience. Based on siting studies (e.g., bathymetry, geologic surveys, etc.) reef design will increase the likelihood that larvae produced on the brood reefs will be transported to the sink reefs.

Ben Stern

Spotlight On: Bird Conservation

Stephanie Pluscht

The State of Alabama has sixteen Important Bird Areas (IBA) encompassing over 760,000 acres. The highest priority category sites regularly hold significant numbers of endangered, threatened, vulnerable or declining avian species. Of the sixteen IBA's, seven are located in either Mobile or Baldwin Counties. Benefiting residents and visitors, the Coastal Birding Trail features six birding loops in the coastal counties totaling over 200 miles. Each loop covers different ecological regions, enabling birders to experience different assemblages of bird species within each region.

In addition to the aesthetic value of having healthy bird populations with a high degree of species diversity, bird conservation along the Alabama coast protects a range of important ecological functions. Birds are bioindicators of ecosystem health. Insectivorous species and raptors regulate disease vectors, such as insects and rodents. Scavenger birds contribute to biomass recycling and reduce levels of disposable wastes. Birds are also important in seed distribution and plant pollination. To ensure birds can fulfill these biological roles at an appropriate level for current and future generations, there is a pressing need to study and protect birds using the Alabama coast.

The leading threat to coastal and migratory bird species is the destruction and degradation of habitats. Habitat loss includes fragmentation, destruction and alteration of the natural areas needed for an annual or seasonal cycle. Natural areas can be detrimentally impacted by a combination of anthropogenic factors including coastal Alabama: development, coastal armoring, sea level rise, and erosion, to name a few.

Conservation projects funded to reduce threats to coastal and migratory birds include:

Osprey Restoration in Coastal Alabama *(NRDA-Phase IV Early Restoration)*

Licensed stock photography

This project involved installation and subsequent maintenance of five osprey nesting platforms along the coast in Mobile and Baldwin Counties in order to provide enhanced nesting opportunities for pisciverous (fish-eating) raptors. Osprey require nest sites in open surroundings for easy approach, with wide, sturdy bases and safety from ground predators. Osprey readily builds nests on manmade structures in suitable habitat areas, such as telephone poles, channel markers, duck blinds and nest platforms designed especially for them. A typical design was used for this project: a 3 foot by 3 foot nesting platform installed on a pole approximately 10 to 20 feet high. Poles were placed 3 to 6 feet deep into the ground. Sheet metal was attached approximately 3 to 6 feet above the ground to prevent predators from accessing the nests

Projects to Replenish and Protect Living Coastal and Marine Resources

BIRDS

Alabama Coastal Bird Stewardship Program
Cost: $1,410,368.00
Funding Source: NFWF (2016)

This conservation project established a two-year bird stewardship, monitoring, and outreach program in coastal Alabama, where beaches, marshes and islands provide critical nesting, wintering and migratory stopover habitat for many species of shorebirds and coastal waterbirds. With a goal of improving the status of bird species of conservation concern, project activities will include training volunteers in stewardship and monitoring at key nesting sites in the state.

Enhanced Management of Avian Breeding Habitat Injured by Response in the Florida Panhandle, Alabama, and Mississippi
Cost: $279,000.00
Funding Source: NRDA (Phase II Early Restoration)

This project benefits nesting habitat for beach nesting birds in Florida, and on DOI lands in Alabama and Mississippi. Restoration activities include symbolic fencing, predator control and stewardship around important nesting areas to prevent disturbance.

Osprey Restoration in Coastal Alabama
Cost: $62,580.00
Funding Source: NRDA (Phase IV Early Restoration)

This project involves installation of five osprey nesting platforms along the coast in Mobile and Baldwin Counties, Alabama in order to provide enhanced nesting opportunities for pisciverous (fish-eating) raptors.

Colonial Nesting Wading Bird Tracking and Habitat Use Assessment—Two Species
Cost: $1,547,500.00
Funding Source: NRDA (RPII)

This project initiates monitoring studies along the Alabama coast to inform and enhance future restoration planning for key colonial nesting wading bird species injured by the DWH oil spill. This project proposes a telemetry tracking study of the movements of two bird species breeding along the Alabama coast—tricolored heron and either little blue heron or white ibis.

Southwestern Coffee Island Habitat Restoration Project—Phase I
Cost: $1,650,450.00
Funding Source: NRDA (RPII)

This project involves planning activities related to the restoration and creation of colonial nesting bird breeding habitat and tidal wetlands along the southwestern shoreline of Coffee Island, located in Mississippi Sound in south Mobile County, Alabama. Phase 1 activities include a synthesis of colonial wading bird and shorebird nesting data in coastal Alabama, as well as E&D and permitting for the restoration of habitat on Coffee Island to evaluate whether the project should be considered for further development in a later plan.


Brett Eanes

Stewardship of Coastal Alabama Beach Nesting Bird Habitat
Cost: $2,067,381.00
Funding Source: NRDA (RPIII)

This program consists of five synergistic components implemented to reduce stressors affecting coastal bird populations and to provide information in support of future restoration decision-making. Specific activities and target locations may vary from year to year based on several factors including, but not limited to: where nesting occurs, where evidence of stressors is detected, what management activities are most successful at each area, and where project implementers are able to gain access.

Conservation and Enhancement of Nesting and Foraging Habitat for Birds Component 2: Pilot Town, AL*

Cost: $6,500,000.00
Funding Source: NRDA (RWTIG RPI)

This project involves acquisition and management of the Pilot Town tract, located on the southern edge of St. Andrews Bay on the Fort Morgan peninsula, adjacent to a unit of the Bon Secour NWR. It is located on the north side of State Highway 180 in Gulf Shores, AL. The objective for this project is to conduct nesting and foraging habitat conservation through planning and implementation (e.g., acquisition, creation, restoration, and enhancement) activities, for the benefit of multiple bird species across a range of habitats.

Region-wide Bird Nesting and Foraging Area Stewardship: Alabama Component*

Cost: $800,000.00
Funding Source: NRDA (RWTIG RPI)

This project involves stewardship and monitoring of beach and bay shorebirds by reducing human disturbance and predation of nests and chicks of coastal nesting shorebird species injured by the DWH oil spill. Project activities will also reduce disturbances to birds during stopover and overwintering periods, which could help increase bird productivity and survival. Project activities will directly address anthropogenic stressors, protect and restore habitat, and reduce other stressors impacting birds using beaches for nesting, rearing, foraging, resting, and refueling during migratory stopovers and overwintering. Stakeholder engagement will increase public awareness of bird conservation issues.

FINFISH AND SHELLFISH

Enhanced Fisheries Monitoring in Alabama's Marine Waters

Cost: $1,456,472.00
Funding Source: NFWF (2014)

This project involves data collection to: improve ecosystem-based management capabilities; assess the recovery of reef fish stocks in association with other fisheries restoration efforts; and improve and expand single-species stock assessments for managed fish species. Project activities include the implementation of both fisheries-dependent and fisheries-independent data collection, as well as a finfish data collection efforts focused on developing appropriate methods for reporting discards of reef fish species bycatch in the recreational fishery.

Sean C. Grizzle

Multifaceted Fisheries and Ecosystem Monitoring in Alabama's Marine Waters and the Gulf of Mexico – Phase II

Cost: $1,916,603.00
Funding Source: NFWF (2015)

This project represents the second year of the fisheries monitoring effort in the state of Alabama and continues the implementation and meaningful expansion of the collection of data on catch effort and reef fish stock assessment in coastal Alabama. Data will be used to improve ecosystem-based management capabilities, assess the recovery of reef fish stocks in association with other fisheries restoration efforts, and improve and expand single-species stock assessments for managed fish species. This project provides critical baseline data to inform future fisheries management and restoration actions for species impacted by the spill.

Multifaceted Fisheries and Ecosystem Monitoring in Alabama's Marine Waters and the Gulf of Mexico – Phase III

Cost: $3,793,942.00
Funding Source: NFWF (2016)

This project funds years three and four of the Alabama Gulf of Mexico fisheries assessment program and builds upon previous investments in both fisheries-dependent and -independent data collection. Data collected will be used by fisheries management agencies to: foster improved ecosystem-based assessment capabilities; assess the recovery of reef fish stocks in association with other restoration efforts implemented in response to the *Deepwater Horizon* oil spill; and improve and expand single-species stock assessments for managed fish species.

The project includes the implementation of both fisheries-dependent and fisheries-independent data collection and will provide greater understanding of the potential long-term impacts of the *Deepwater Horizon* spill on fisheries.

Multifaceted Fisheries and Ecosystem Monitoring in Alabama's Marine Waters and the Gulf of Mexico – Phase IV

Cost: $2,800,000.00
Funding Source: NFWF (2018)

This project will expand the temporal and spatial coverage for monitoring the long-term sustainability and recovery of marine resources into its fifth and final year. Alabama's Marine Resources Division will work collaboratively with Florida and Mississippi state resource agencies, the University of South Alabama, and the Dauphin Island Sea Lab to continue to implement standardized fishery-independent and -dependent surveys for broad scale data. Data from fishery-independent studies will provide rates and indices of population level parameters for future stock assessments. Fishery-dependent work will include blue crab and recreational finfish data collection.

MARINE MAMMALS

Alabama Marine Mammal Conservation and Recovery Program

Cost: $1,902,689.00
Funding Source: NFWF (2014)

The Alabama Marine Mammal Stranding Network (ALMMSN) project will enhance the survival of live stranded animals and provide continuous, consistent and scientifically rigorous data collection from stranded marine mammals. Project activities will allow the ALMMSN to more rapidly and effectively define causes of death and relationships between environmental variables and stranding patterns, thereby contributing to their long-term recovery. Funding is used to operate the ALMMSN and train dedicated personnel for future stranding response and research on marine mammals.

Gulf of Mexico Marine Mammal Stranding Database-- Data Diplomat Positions Phase II (FL)

Cost: $29,778.00
Funding Source: NFWF (2021)

This project will improve capacity and data collection efforts for 7 marine mammal stranding response and research organizations working in the Gulf of Mexico, including Alabama.

Alabama Estuarine Bottlenose Dolphin Protection: Enhancement and Education

Cost: $686,374.00
Funding Source: NRDA (RPII)

This project will reduce injury and mortality in Alabama estuarine bottlenose dolphins by: increasing resources for MMPA-related activities and increasing patrol hours; increasing awareness and understanding of the MMPA; conducting social science studies to help characterize the nature and extent of the illegal feeding of dolphins, vessel-based harassment, and interactions with hook-and-line fishing gear in Alabama; conducting systematic fishery surveys to help characterize the nature and extent of dolphin interactions with commercial fishing vessels and hook-and-line gear in Alabama; and developing and implementing a comprehensive and targeted outreach plan.

U.S. Fish and Wildlife Service

Assessment of Alabama Estuarine Bottlenose Dolphin Populations and Health

Cost: $3,245,129.00
Funding Source: NRDA (RPII)

The project will provide increased resources for state enforcement and education concerning a variety of bottlenose dolphin protection issues in Alabama. First, the project will increase resources dedicated to state law enforcement of the Marine Mammal Protection Act of 1972 (MMPA). Second, it will foster awareness and understanding of the MMPA through education, training, and outreach.

Enhancing Capacity for the Alabama Marine Mammal Stranding Network

Cost: $2,432,389.00
Funding Source: NRDA (RPII)

This project will enhance the capacity of the Alabama Marine Mammal Stranding Network (ALMMSN) by providing funding for staff time, equipment and supplies, and sample analyses. This project will allow ALMMSN to use and expand existing infrastructure for cetacean stranding response and communications and data management to enhance the ALMMSN's operations. This project continues funding for the program after the NFWF project is complete.

Reducing Injury and Mortality of Bottlenose Dolphins from Hook and Line Fishing Gear by Utilizing Fishery Surveys, Social Science, and Collaborative Problem Solving: Alabama Component*

Cost: $340,000.00
Funding Source: NRDA (RWTIG RPI)

This project involves conducting systematic fishery surveys, characterizing hook-and-line gear found on stranded dolphins, conducting human dimension social science studies, and holding collaborative workshops to identify potential solutions (e.g., gear modifications, fishery practice changes, and deterrence measures) that will reduce interactions between dolphins and fishing gear and illegal feeding. Systematic fishery surveys could be conducted by a professional contractor and include selecting a portion of anglers (for-hire/private) in each Gulf of Mexico (GOM) state to voluntarily participate in surveys.

Enhance Capacity, Capability, and Consistency of Marine Mammal Stranding Networks (MMSN) in the Gulf of Mexico: Alabama Component*

Cost: $460,000.00
Funding Source: NRDA (RWTIG RPI)

This project involves activities that support or enhance MMSN diagnostic capabilities to improve treatment and care for live stranded cetaceans and support data collection, reporting, and management consistency across the GOM MMSN as a whole. Specific project activities include: improving diagnostic capabilities, providing auditory testing equipment and training, and improving access to laboratory testing.

OYSTERS

Restoration and Enhancement of Oyster Reefs in Alabama

Cost: $3,716,355.00
Funding Source: NFWF (2013)

This project involves restoration of 600 acres of oyster reefs in Mobile Bay, Mississippi Sound, and Bon Secour Bay by enhancing the quantity and quality of cultch material currently available on existing oyster reefs and potential new reef sites. Through the planting of 50,000 cubic yards of new cultch material, dissemination of seed oysters, and cultivation of existing reef beds, this project will increase Alabama's oyster reefs by nearly 30 percent.

Alabama Oyster Cultch Restoration

Cost: $3,239,485.00
Funding Source: NRDA (Phase III Early Restoration)

This project will benefit oyster populations in the estuarine waters of Alabama. The project will place approximately 30,000 to 40,000 cubic yards of suitable oyster shell cultch over approximately 319 acres of subtidal habitat in Mobile County, Alabama, in proximity to other oyster reefs currently managed by the ADCNR and within the historic footprint of oyster reefs in the area.

Oyster Cultch Relief and Reef Configuration

Cost: $480,262.00
Funding Source: NRDA (RPII)

This project involves investigating the merits of deploying different types of cultch material in various configurations to facilitate positive settlement and growth of oysters on selected reef areas in Mobile Bay, building on work previously conducted with Dauphin Island Sea Lab (DISL). This project has three primary objectives: identification of differences in oyster settlement, growth, and survival on reefs of differing levels of relief and/or orientation relative to currents (if any), determination of optimum reef material relief needed to restore oyster density on specific reefs within historical reef areas in which hydrology parameters such as oxygen and salinity and oyster recruitment and survival are highly variable, and estimation of the cost/benefits of deploying cultch in certain configurations as opposed to traditional cultch broadcast methods. The project will include the deployment of oyster shell, limestone rock, and fossilized oyster shell in three experimental configurations

including mounding, elongated furrows, and control plots using typical cultch broadcasting methods.

Oyster Grow-out and Restoration Reef Placement

Cost: $962,370.00
Funding Source: NRDA (RPII)

This project involves establishment of up to three protected oyster gardening grow-out areas located in Grand Bay, Portersville Bay, and Bon Secour Bay, and the use of these adult sized oysters for restoration reef placement. The project will grow out oysters to at least one year old, place oysters on existing reef sites, including existing complementary living shoreline sites in Mobile Bay and Mississippi Sound as well as cultched sites, and identify and prioritize future restoration reef locations.

Outdoor Alabama

Oyster Hatchery at Claude Peteet Mariculture Center–High Spat Production with Study

Cost: $2,949,472.00
Funding Source: NRDA (RPII)

The project involves the construction of an oyster hatchery at the existing Claude Peteet Mariculture Center in Gulf Shores, as well as operation and maintenance funding for the facility for a 4-year project period. Project components include remote setting and deployment from an Alabama Marine Resources Division (AMRD) facility. Additionally, the project will deploy cultch material, including spat on shell, to areas identified as suitable for oyster growth. A comprehensive oyster restoration plan was developed to identify a long-term strategy to develop and sustain stable and resilient oyster populations in coastal Alabama. The plan will characterize local oyster populations, including an understanding of larval transport and recruitment trends, as well as environmental factors that affect them.

Side-scan Mapping of Mobile Bay Relic Oyster Reefs

Cost: $104,229.00
Funding Source: NRDA (RPII)

This project involves using sonar technology to identify benthic areas of mid- to lower-Mobile Bay suitable to support cultch material for oyster reef restoration. Depending on the side-scan results, these areas may be used to reestablish oyster populations through initial efforts to seed reef areas with hatchery-raised, high-density oyster spat setting. The project will survey the current extent and conditions of the relic oyster reefs identified in the 1968 reef surveys contracted by AMRD and other water bottoms not surveyed.

Alternative 1: Improving Resilience for Oysters by Linking Brood Reefs and Sink Reefs (Large-scale) Component 4: Lower-Mid Mobile Bay*

Cost: $7,163,994.00
Funding Source: NRDA (RWTIG RPI)

This project will increase oyster abundance and restore resilience to oyster populations by increasing connectivity through larval transport and the construction of oyster reefs over a range of habitats and salinities. This project will create a network of high-vertical relief brood (protected) reefs linking to existing or created sink (harvest or protected) reefs through larval transport and increase oyster population sustainability and oyster reef resilience. Based on siting studies (e.g., bathymetry, geologic surveys, etc.) reef design will increase the likelihood that larvae produced on the brood reefs will be transported to the sink reefs.

SEA TURTLES

Improving Habitat Injured by Spill Response: Restoring the Night Sky

Cost: $3,889,126.00
Funding Source: NRDA (Phase II Early Restoration)

This project improves nesting habitat for loggerhead sea turtles in Florida and state lands in Alabama by reducing artificial lighting impacts on nesting habitat for loggerhead sea turtles. Activities include assessment of existing lights visible from the beaches on project areas as well as adjacent properties prior to lighting retrofits; coordination with site managers to develop plans to eliminate, retrofit or replace existing light fixtures on the property or to otherwise decrease the amount of light reaching the loggerhead sea

turtle nesting beach; retrofitting streetlights and parking lot lights; promoting increased efforts by local governments to ensure compliance with local lighting ordinances; and implementation of a public awareness campaign including educational materials.

NOAA Fisheries

Coastal Alabama Sea Turtle (CAST) Conservation Program

Cost: $935,061.00
Funding Source: NRDA (RPII)

The CAST Conservation Program project is designed to support existing sea turtle programs in Alabama to strengthen efforts to protect nesting sea turtles and enhance the survival of sea turtle hatchlings in Alabama. The project will provide funding for the continued operation, expansion, and enhancement of the existing Share the Beach Sea Turtle Nest Monitoring Program, which as of January 2018 is being managed by the Alabama Coastal Foundation.

Coastal Alabama Sea Turtle (CAST) Habitat Usage and Population Dynamics

Cost: $1,631,696.00
Funding Source: NRDA (RPII)

This project involves the study of migration patterns, habitat use and distribution patterns of sea turtles along the Alabama coast. Project activities include sampling and evaluation of sea turtles in-water to initiate a long-term monitoring program designed to determine distribution and habitat use, vital rates (including survival rates), connectivity, and potential impacts of anthropogenic activities for sea turtles in coastal and nearshore waters of Alabama. This project will study migration patterns, habitat use, and distribution patterns of sea turtles along the Alabama Coast.

Coastal Alabama Sea Turtle (CAST) Protection: Enhancement and Education

Cost: $906,874.00
Funding Source: NRDA (RPII)

This project involves enhancement to state enforcement capabilities, allowing enhanced turtle protections in Alabama state waters through increased awareness and understanding of the Endangered Species Act (ESA); increase in resources dedicated to ESA-related activities for state enforcement agencies; and stakeholder engagement focused on reducing fisheries bycatch and human impacts on nesting turtles.

Coastal Alabama Sea Turtle (CAST) Triage

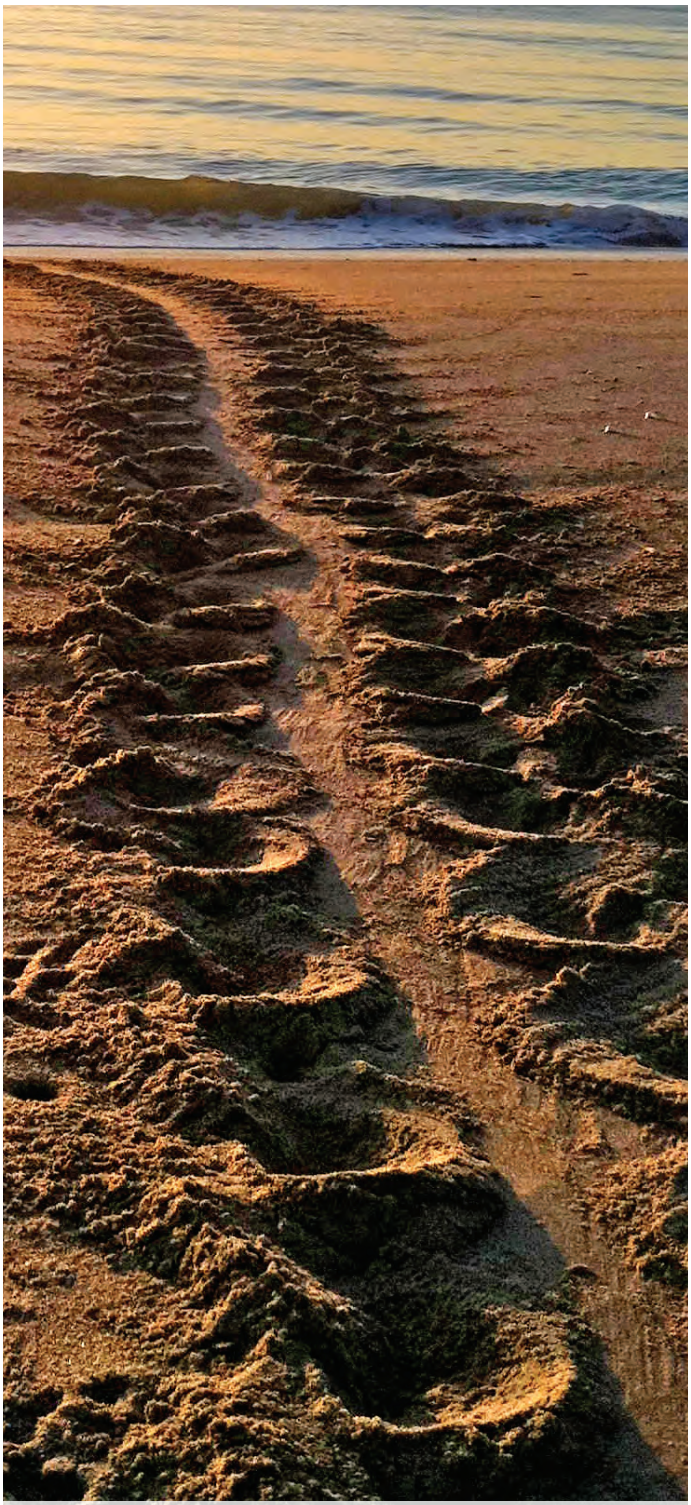
Cost: $622,915.00
Funding Source: NRDA (RPII)

This project involves the planning, engineering and design, permitting, and construction of a new, appropriately equipped facility and program for the initial triage, treatment, release, and/or transfer of injured or ill sea turtles. Currently, Alabama has no facilities equipped for handling sea turtle strandings. The project will construct a new facility on property owned by the City of Orange Beach and establish a program supported by the City of Orange Beach in the future.

Restoring the Night Sky–Assessment, Training, and Outreach (E&D)

Cost: $183,003.00
Funding Source: NRDA (RPII)

This project involves producing an Alabama coast-wide analysis of the impacts of light pollution on federally managed lands and nearshore waters in Baldwin and Mobile counties in Alabama, helping to guide future work to mitigate this issue. The long-term goal of the project is to reduce the impacts of light pollution which disorients nesting sea turtles and hatchlings, disrupting their reproductive activities and reducing their reproductive success.



Keenan Adams/U.S. Fish and Wildlife Service

Restore and Enhance Sea Turtle Nest Productivity on Gulf of Mexico Beaches: Alabama Component*

Cost: $1,000,000.00
Funding Source: NRDA (RWTIG RPI)

To mitigate the loss of sea turtles due to the DWH oil spill, this project involves development and implementation of restoration actions to improve hatchling production for loggerhead, Kemp's ridley, and green sea turtles on sandy beaches throughout the northern GOM.

Pilot Implementation of AIS in the GOM Inshore Shrimp Fishery to better Understand Fishing Effort to Inform Efforts to Reduce Sea Turtle Bycatch: Alabama Component*

Cost: $446,225.00
Funding Source: NRDA (RWTIG RPI)

This pilot project involves assessing inshore and nearshore vessel activity to better understand spatiotemporal fishing effort. Bycatch in the GOM shrimp trawl fishery, which operates in inshore, nearshore, and offshore waters, is a known critical threat to sea turtles. Data collected through this project would enhance the Trustees' understanding of the overlap of fishing effort, sea turtle distribution, and sea turtle mortality. Enhanced understanding of these areas of overlap will inform actions to restore sea turtles by reducing bycatch in this fishery regionwide.

Reducing Marine Debris Impacts on Sea Turtles Gulf-wide: Alabama Component*

Cost: $715,000.00
Funding Source: NRDA (RWTIG RPI)

This project involves removing marine debris to reduce the threat and impacts (e.g., entanglement, entrapment, and/or ingestion)to DWH-injured bird and sea turtle species across the proposed project area. This project will coordinate effort among Trustees, non-governmental organizations, and other partners to compile data on marine debris to identify hotspots, conduct marine debris removal, engage in prevention through public outreach, and conduct monitoring.

Reducing Sea Turtle Bycatch at Recreational Fishing Sites: Alabama Component*

Cost: $729,872.00
Funding Source: NRDA (RWTIG RPI)

This project will help restore injured sea turtles by reducing bycatch of sea turtles at shore-based recreational fishing locations, such as fishing piers, bridges, and other shoreline structures. Activities include identifying and assessing factors contributing to sea turtle bycatch at shore-based recreational fishing sites and implementation of voluntary angler education and other programs to reduce bycatch and associated sea turtle injuries.

Region-wide Enhancements to the Sea Turtle Stranding and Salvage Network, and Enhanced Rehabilitation: Alabama Component*

Cost: $512,000.00
Funding Source: NRDA (RWTIG RPI)

Sea Turtle Stranding Networks (STSSNs) located in each of the five GOM Coast states create an extensive regionwide network that provides critical support and care for injured sea turtles, as well as valuable information about mortality sources. This project enhances the capabilities of project partners conducting stranding and rehabilitation activities in the GOM by supporting critical enhancement needs for STSSN response efforts that are not already being addressed through other funding sources. Project funding would provide support for equipment and supply needs (e.g., additional tanks, water filtration equipment, medical equipment) for existing sea turtle rehabilitation facilities.

OTHER WILDLIFE

Expansion of the Orange Beach Wildlife Rehabilitation and Education Program

Cost: $472,255.00
Funding Source: RESTORE B3 (2018)

This project involves the construction of a permanent wildlife rehabilitation facility. The new facility will expand the capacity and capabilities of the current program, accommodating more animals and additional species.

Madelyn Carr Bonnett

SUPPORT AND ENHANCE COMMUNITY RESILIENCE

Community resilience is the ability of a community to utilize available resources to respond to, withstand, and recover from adverse situations. Coastal Alabama is all too familiar with the importance of being prepared when disaster strikes. The State has funded a number of projects that will support and enhance the State's ability to prepare for and respond to events in a way that ultimately makes our communities stronger in spite of adversity.

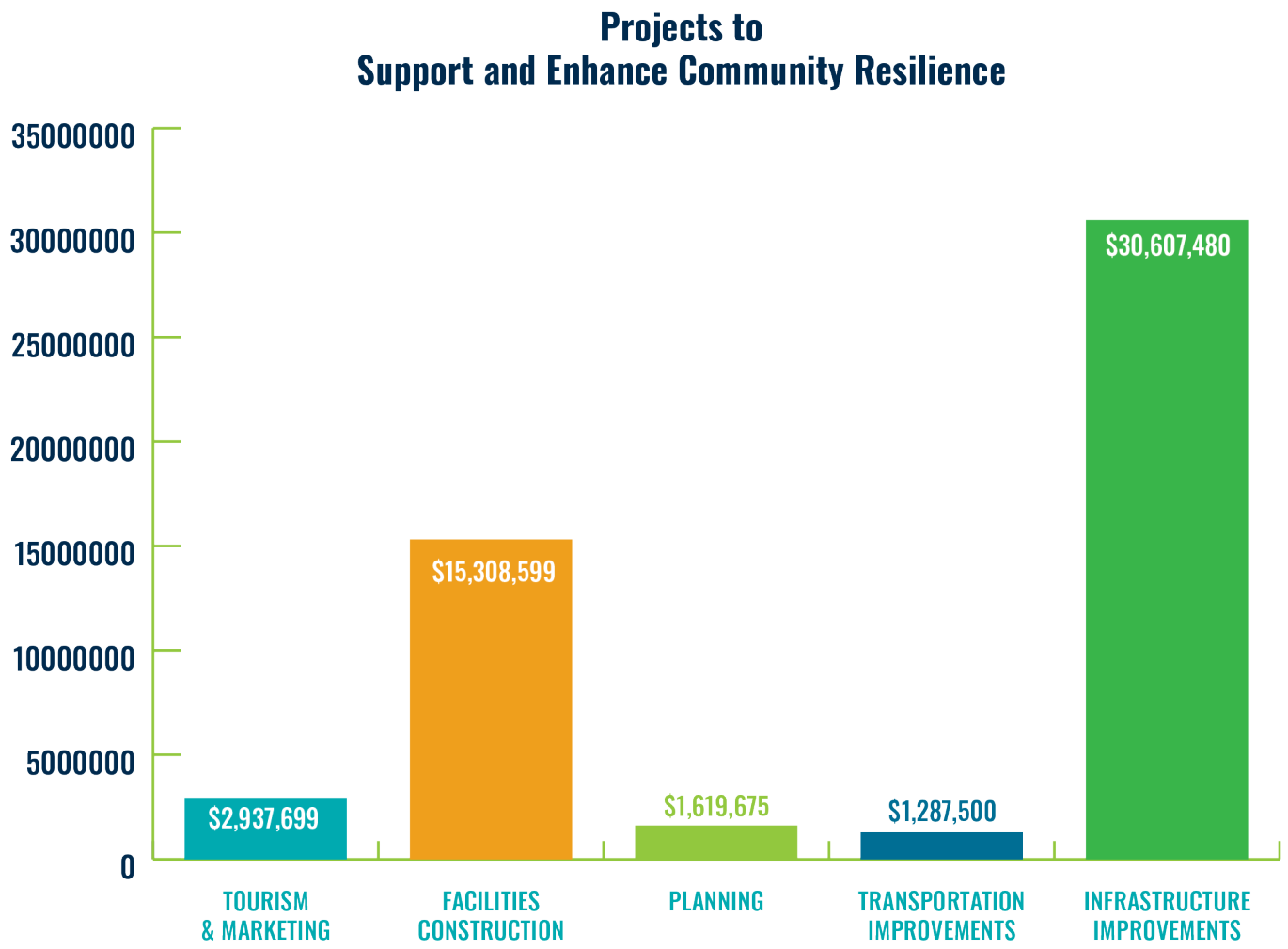


Figure 5: Funding Approved to Support and Enhance Community Resilience, 2011-2022

Project Locations: Support and Enhance Community Resilience

Support and Enhance Community Resilience

PROJECT NAME

1. ADCNR - Alabama Gulf Seafood Marketing Program
2. ADEM - Replacement of Sustandard Facilities at the ADEM Coastal Office & Mobile Field Office
3. Auburn University - Gulf Coast Engineering Research Station
4. City of Bayou LaBatre - Redevelop City Docks
5. City of Fairhope - Fairhope Area Community-Based Comprehensive Land Use Plan
6. City of Gulf Shores - Ambassadors of the Environment
7. City of Mobile - One Mobile: Reconnecting People, Work and Play through Complete Streets
8. City of Orange Beach - Alabama Point Seawall Repair
9. Geological Survey of Alabama - Characterization and Delineation of Significant Sand Resource Areas Essential for Beach Restoration, Offshore Alabama

*No map location

Projects to Support and Enhance Community Resilience

ADCNR - Alabama Gulf Seafood Marketing Program

Cost: $2,937,699.00
Funding Source: RESTORE B3 (2018)

This project is a continuation of Alabama's Gulf Seafood Marketing Program for a period of 5 years, focusing strategies on expanding the value, brand and global market share of Alabama seafood. This program was created by the Alabama Seafood Marketing Commission (ASMC) which was established in 2011 to increase business for Alabama's seafood industry. Alabama seafood is defined as any seafood product sold by Alabama businesses and sourced from Gulf and local waters.

ADEM - Replacement of Substandard Facilities at the ADEM Coastal Office & Mobile Field Office

Cost: $6,038,599.00
Funding Source: RESTORE B3 (2018)

This project involves land acquisition, engineering/design, and construction of a new Coastal Office for the Alabama Department of Environmental Management (ADEM). Tasked with the statutory mandate to protect Alabama's air, land, and water resources, an updated facility will facilitate ADEM's delivery of efficient and effective service.

Auburn University - Gulf Coast Engineering Research Station

Cost: $9,270,000.00
Funding Source: RESTORE B3 (2018)

This project involves construction of the GCERS facility in Orange Beach to support fundamental and applied engineering research for coastal issues in Alabama, including water quality, restoration and protection of natural resources, and coastal emergency management. This project includes two years' funding for operations and maintenance (O&M) of the facility. Activities include planning, engineering & design, construction, and O&M.

City of Bayou La Batre - Redevelop City Docks

Cost: $21,658,840.00
Funding Source: RESTORE B1 (2018)

This project will provide ecotourism opportunities and facilities for public use. The purpose of the project is to redevelop the "City Docks" into a functional, civic, and commercial space. Redevelopment of the City Docks will support several areas of the local economy, as well as serve as a public place for festivals and water access, benefiting area residents and visitors. Redevelopment of the City Docks will occur in three phases: the first phase of the project will be to develop a feasibility study and master plan; the second phase will include permitting and engineering and design; and the final phase will be construction.

City of Fairhope - Fairhope Area Community-Based Comprehensive Land Use Plan

Cost: $669,500.00
Funding Source: RESTORE B3 (2018)

This project involves the creation of a community-driven comprehensive land use plan for the City of Fairhope to address growth with an emphasis on environmental stewardship and legal foundation for implementation. The community-based comprehensive land use plan will recognize community concerns and issues and translate this information into a clear framework, plan, and course of actions supporting community growth in a responsible, sustainable, and resilient manner. A Fairhope area community-based comprehensive land use plan will recognize the interconnectivity of all community concerns and issues to guide future land use activities and code updates for the purpose of preserving the culture, heritage, and natural resources within the planning jurisdiction of the City of Fairhope and broader Mobile Bay watershed. Plan development envisions sustainable community growth infused with aspects of green infrastructure.

City of Fairhope - Working Waterfront and Greenspace Restoration Project

Cost: $6,386,000.00
Funding Source: RESTORE B1 (2018)

This project involves improving the Fairhope Municipal Pier, Pier Landing, and South Beach Park to ensure resiliency, sustainability, and human interaction of the City of Fairhope's waterfront. This project will be implemented with design and construction plans intended to incorporate low impact development (LID) standards and green infrastructure methodologies.

Licensed stock photography

City of Mobile - One Mobile: Reconnecting People, Work and Play through Complete Streets

Cost: $1,287,500.00
Funding Source: RESTORE B3 (2018)

The project involves engineering, design, permitting, and reconstruction of the road bed, utilities, and bike/pedestrian amenities within the Broad/Beauregard/MLK right-of-way in the City of Mobile. Combined with other City initiatives, this project will rectify decades of disinvestment in both the physical infrastructure of Broad Street and the surrounding built environment. Reconstruction of the existing infrastructure will result in a safe, code compliant, environmentally responsible, and aesthetically inviting streetscape, and will guide the creation of a vibrant, economically sustainable community.

City of Orange Beach - Alabama Point Seawall Repair

Cost: $2,562,640.00
Funding Source: RESTORE B3 (2018)

This project involves planning, designing, and rebuilding the Alabama Point Seawall with a more resilient method of construction for the tidally-influenced marine environment. Implementation of this project will protect a unique and valuable public access point at Perdido Pass Seawall Park, as well as investments in recent improvements on the upland portion of the area.

Geological Survey of Alabama - Characterization and Delineation of Significant Sand Resource Areas Essential for Beach Restoration, Offshore Alabama

Cost: $950,175.00
Funding Source: RESTORE B3 (2018)

This project involves updating the Offshore Alabama Sand Information System (OASIS) platform. Activities include collaboration with interested governing and private parties; acquisition of data and characterization of offshore sand resource areas through the use of the OASIS update. Work will be disseminated through the OASIS platform, publication(s), and presentations.

PROVIDE AND ENHANCE ECONOMIC DEVELOPMENT AND INFRASTRUCTURE

Within the RESTORE Act there are certain funding sources (Bucket 1 and Bucket 3, specifically) that have eligible activities tied directly to supporting economic development and infrastructure. Alabama is investing in a number of projects to enhance economic development in Alabama's coastal counties, support the growth of jobs, and support the value of culture and heritage of the area.

In Alabama, we understand that our natural resources and our economy are intertwined—by investing oil spill funds wisely, we can improve the health of our natural resources and our economy.

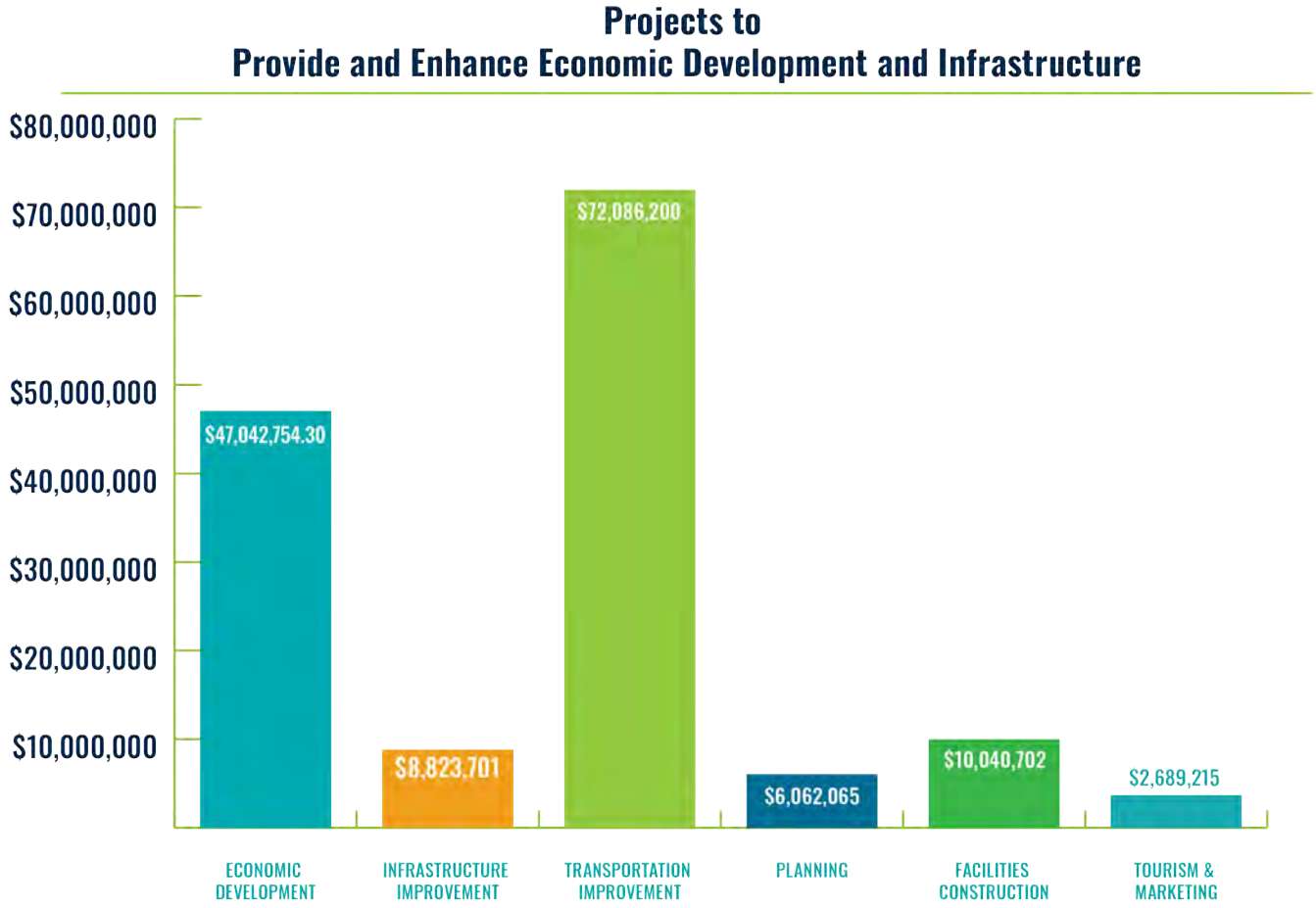


Figure 6: Funding Approved to Provide and Enhance Economic Development and Infrastructure, 2011-2022

Project Locations:
Provide and Enhance Economic Development and Infrastructure

Provide and Enhance Economic Development and Infrastructure

PROJECT NAME

1. Alabama State Port Authorty - Automotive Logistics /RO-RO Terminal
2. Baldwin Beach Express I-10 to I-65 Extension Right-of-Way Acquisition
3. Baldwin County ALDOT Capacity Improvements
4. City of Bayou La Batre - Water Distribution System Upgrades
5. City of Fairhope - Working Waterfront and Greenspace Restoration Project
6. City of Mobile - Innovating St. Louis Street: Mobile's Technology Corridor
7. City of Orange Beach - Canal Road Improvements East of State Road 161
8. City of Satsuma - Northwest Satsuma Water and Sewer Project
9. Historic Africatown Welcome Center
10. Town of Dauphin Island - Aloe Bay Harbour Town, Phases I, II, & III
11. Town of Mount Vernon - Mount Vernon Water Treatment Plant

Spotlight On: Alabama State Port Authority (ASPA) Automotive Logistics/RO-RO Terminal Project

ASPA

The United State Army Corps of Engineers (USACE) ranked the Port of Mobile as the 11th largest port by tonnage in the nation in 2020, with a trade volume of 53.2 million tons. A deep water port, the port has public terminals with direct access to 1,500 miles of inland and intracoastal waterways serving the Great Lakes, the Ohio and Tennessee river valleys, and the Gulf of Mexico, as well as immediate access to two interstate systems and five Class I railroads. The public terminals handle containerized, bulk, break bulk, roll-on/roll-off, and heavy lift cargoes.

Completed in 2021, the Automotive Logistics/RO-RO Terminal project converted a derelict former Bulk Handling Facility into a state-of-the-art Roll On-Roll Off (RO-RO)/Mobile Vehicle Processing Facility (MVPF). The new Facility will give the Port capacity for 139,000 RO-RO units and 180,000 at full build-out, supporting the emergence of automotive import and export supply chains through the Port of Mobile. Automobile and equipment manufacturers in Alabama and neighboring states will now have access to a more cost-effective deepwater gateway for exporting American-made products, as well as importing commodities and components supporting those manufacturers. This will help the nation compete in the global economy, creating jobs and improving the regional and national economy.

RESTORE Act Direct Component funds were used for the construction of the approximately 57.4-acre Automotive RO/RO Terminal and associated port features.

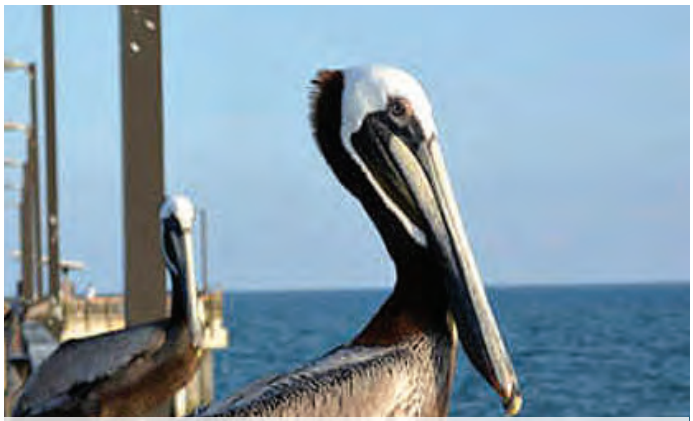
Projects to Provide and Enhance Economic Development and Infrastructure

FACILITIES CONSTRUCTION

City of Gulf Shores - Gulf Coast Center for Ecotourism & Sustainability

Cost: $10,040,702.00
Funding Source: RESTORE B1 (2018)

This project involves the planning, design, permitting, and construction of a state-of-the-art facility, utilizing the latest green building technologies, on 11.86 acres of City of Gulf Shores-owned property located adjacent to Gulf State Park. The architecture will mimic functional natural cycles found in the easily accessible habitat types in coastal Alabama. The purpose of this project is to create a sustainably-designed ecotourism program where participants can learn about the ecology, biodiversity, sustainability, and resource management of the northern Gulf of Mexico in order to promote conservation and stewardship of natural resources.



Romi Novriadi

ECONOMIC DEVELOPMENT ACTIVITIES

Alabama State Port Authority - Automotive Logistics/RO-RO Terminal (35)

Cost: $29,630,741.30
Funding Source: RESTORE B1 (2018)

This project involves conversion of a derelict former Bulk Handling Facility into a state-of-the-art Roll On/Roll Off (RO-RO)/Mobile Vehicle Processing Facility at the Port of Mobile. The development of the Facility will allow automobile and equipment manufacturers in Alabama and other neighboring states access to more cost-effective deep water gateway for exporting American made products, as well as importing commodities and components that support those manufacturers, creating jobs and improving the regional and national economy.

Aloe Bay Harbour Town, Phase I, II, III

Cost: $17,412,013.00
Funding Source: RESTORE B1 (2018)

This project involves development of a business district with public facilities along Aloe Bay to enhance economic and tourism opportunities for the Town of Dauphin Island. Phase I activities include planning, feasibility study, and environmental assessment. Phase II activities include design, engineering, and permitting. Phase II activities include construction and facility commissioning.

City of Mobile - Innovating St. Louis Street: Mobile's Technology Corridor

Cost: $6,062,065.00
Funding Source: RESTORE B1 (2018)

This project involves the planning, design, permitting, and reconstruction of infrastructure (utility, streetscape, roadway and storm drainage) within the St. Louis Street right-of-way in the City of Mobile. This phased initiative correlates with broader objectives for fostering additional business development and economic revitalization opportunities within the corridor and surrounding area.

TRANSPORTATION IMPROVEMENTS

Baldwin Beach Express I-10 to I-65 Extension Right-of-Way Acquisition

Cost: $11,678,482.00
Funding Source: RESTORE B1 (2018)

This project involves Right-of-Way (ROW) property acquisition to accommodate the proposed 24.5 mile Baldwin Beach Express extension between I-10 and I-65. The objective is to acquire all rights-of-way necessary to move to the construction phase. Regional economic recovery, tourism, industrial growth, and public safety will be supported and enhanced with the completion of this project.

Baldwin County ALDOT Capacity Improvements
Cost: $58,504,000.00
Funding Source: RESTORE B1 (2018)

The Alabama Department of Transportation, Baldwin County, and the cities of Spanish Fort, Daphne, Fairhope, Orange Beach, and Gulf Shores are cooperatively pursuing the completion of five major infrastructure projects in the Gulf Coast Region to reduce congestion and enhance access to and between the surrounding areas.

City of Orange Beach - Canal Road Improvements East of State Road 161
Cost: $1,903,718.00
Funding Source: RESTORE B3 (2018)

This project consists of road construction/enhancements to promote community resilience and economic growth by addressing roadway limitations on Canal Road east of and near the State Road 161 (SR-161) intersection in Orange Beach. Growth of businesses and the tourism industry in Orange Beach have led to increased traffic volumes, resulting in a need to enhance capacity, efficiency, and safety. This project will provide sufficient infrastructure improvements to allow the City of Orange Beach to safely address economic growth to benefit the local economy.

INFRASTRUCTURE IMPROVEMENTS

City of Bayou La Batre - Water Distribution System Upgrades
Cost: $5,465,180.00
Funding Source: RESTORE B1 (2018)

This project involves replacement of 86,200 linear feet of 2-inch water lines with 6-inch or larger lines to improve water pressure and fire protection. This increased capacity will allow the City to be prepared for residential and commercial developments and will result in lower insurance rates for residents due to more adequate fire protection. Activities include planning, design, permitting, and construction.

Mobile County - Northwest Satsuma Water and Sewer Project
Cost: $1,813,521.00
Funding Source: RESTORE B1 (2018)

This project involves extending water and sewer infrastructure under I-65 to provide potable water, fire protection, and gravity sanitary sewer to households currently relying on individual wells and on-site septic tanks. This project will improve water quality with the removal of approximately 100 septic tanks and will provide growth opportunities for the City of Satsuma. Activities include design and engineering, permitting, and construction of sewer infrastructure improvements.

Mobile County - Mount Vernon Water Treatment Plant Upgrades
Cost: $1,545,000.00
Funding Source: RESTORE B1 (2018)

This project involves planning and construction of significant upgrades to Mount Vernon's water treatment facility, including a concrete clearwell and baffles, draft aeration, a new treatment building, electrical and HVAC, and chemical feed system. The construction of new components at the Water Treatment Plant will enable the Town to comply with ADEM and EPA minimum standards and regulations and will improve water quality.

TOURISM AND MARKETING ACTIVITIES

Amy Walker

City of Mobile - Historic Africatown Welcome Center
Cost: $2,689,215.00
Funding Source: RESTORE B1 (2018)

This project involves planning, engineering/design, permitting, and construction for the Africatown Welcome Center and tourism program. The Welcome Center will provide the public with information about the Africatown community and the surrounding Gulf Coast Region in addition to providing a stand-alone location for the preservation and viewing of historical documents and relics significant to the Africatown community.

RESTORE, CONSERVE AND ENHANCE HABITAT

Land acquisition and conservation are a cornerstone of coastal restoration, as are habitat enhancement and restoration. Together, these activities significantly contribute to the restoration and recovery of habitats and resources impacted by the DWH oil spill. Land conservation, in conjunction with appropriate habitat restoration provides habitat services for wildlife, birds, and flora as well as downstream ecosystem service benefits of water quality and quantity improvement. Indirectly, those benefits impact living coastal marine resources such as oysters, SAV, and inland fisheries.

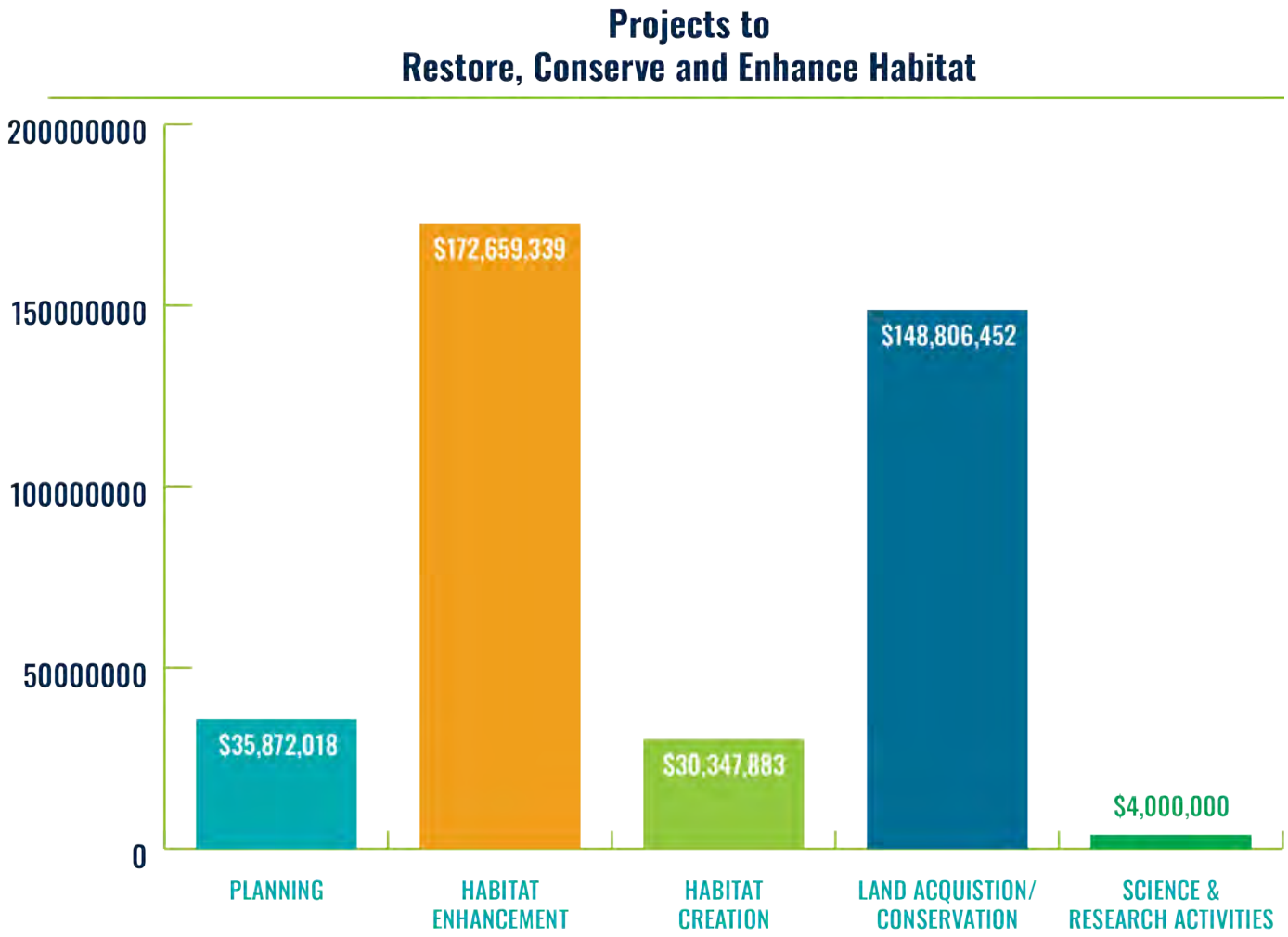
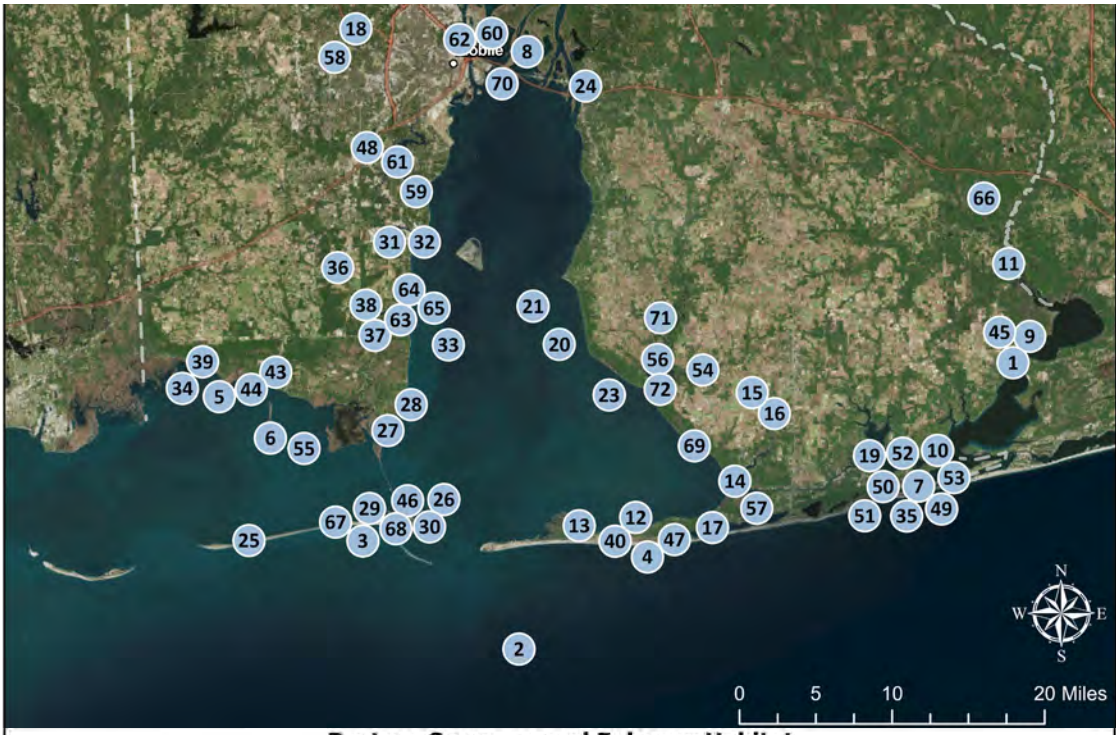


Figure 7: Funding Approved to Restore, Conserve and Enhance Habitat, 2011-2022

Project Locations: Restore, Conserve and Enhance Habitat



Restore Conserve and Enhance Habitat

PROJECT NAME

1 Alabama Artificial Reef and Habitat Enhancement
2 Alabama Artificial Reef and Habitat Enhancement Plan, Phase II
3 Alabama Barrier Island Restoration Assessment
4 Alabama Dune Restoration Cooperative Project
5-7 Alabama Living Shorelines Program
8-10 Alabama Submerged Aquatic Vegetation Restoration and Monitoring Program
11 Blackwater River South Tract Acquisition
12 Bon Secour National Wildlife Refuge Acquisition
13 Bon Secour National Wildlife Refuge Acqusition - Three Rivers Parcel
14 Bon Secour Oyster Bay Wetland Acquisition Project
15 Bon Secour River Headwater Restoration - Phase I
16 Bon Secour River Headwater Restoration - Phase II
17 City of Gulf Shores - Little Lagoon Restoration Project
18 City of Mobile - Three Mile Creek Watershed Restoration
19 City of Orange Beach - Environmental Restoration of Cotton Bayou and Terry Cove
20 Coastal Alabama Comprehensive Watershed Restoration Planning Project
21 Coastal Habitat Restoration Planning Initiative
22 Colonial Nesting Wading Bird Tracking and Habitat Use Assessment - Two Species
23 Comprehensive Living Shoreline Monitoring
24 D'Olive Watershed Restoration
25 Dauphin Island Beach Nourishment Engineering and Design
26 Dauphin Island Bird Habitat Acqusition and Enhancement Program
27 Dauphin Island Causeway Shoreline Restoration: Engineering and Design
28 Dauphin Island Causeway Shoreline and Habitat Restoration Project - Phase II
29 Dauphin Island Conservation Acquisition
30 Dauphin Island East End Beach and Dune Restoration - Phase I
31 Deer River Coastal Marsh Stabilization & Restoration - Phase I
32 Deer River Coastal Marsh Stabilization & Restoration - Phase II
33-35 Enhancing Opportunities for Beneficial Use of Dredge Sediments
36 Fowl River Watershed Restoration
37 Fowl River Watershed Restoration: Coastal Spits and Wetlands Project - Phase I
38 Fowl River Watershed Restoration: Coastal Spits and Wetlands Project - Phase II
39 Grand Bay Acquisition
40 Gulf Highlands Conservation Acquisition
41-42 Gulf of Mexico Coast Conservation Corps (GulfCorps) Program: Alabama Component
43 Lightning Point Acquisition and Restoration Project - Phase I
44 Lightning Point Acquisition and Restoration Project - Phase II
45 Lillian Park Beach Habitat and Shoreline Protection
46 Little Dauphin Island Restoration Assessment
47 Little Lagoon Living Shorelines
48 Lower Halls Mill Creek Protection
49 Lower Perdido Islands Restoration Phase I (E&D) - Bird Island
50 Lower Perdido Islands Restoration Phase I (E&D) - Boggy Point
51 Lower Perdido Islands Restoration Phase I (E&D) - Gilchrist Island
52 Lower Perdido Islands Restoration Phase I (E&D) - Robinson Island
53 Lower Perdido Islands Restoration Phase I (E&D) - Walker Island
54 Magnolia River Land Acquisition - Holmes Tract
55 Marsh Island (Portersville Bay) Marsh Creation
56-57 Marsh Restoration in Fish River, Weeks Bay, Oyster Bay and Meadows Tract
58 Mobile Bay National Estuary Program -12 Mile Creek
59-60 Mobile Bay Shore Habitat Conservation and Acquisition Initiative - Phase I
61-62 Mobile Bay Shore Habitat Conservation and Acquisition Initiative - Phase II
63-64 Mobile County Conservation Acquisition and Salt Aire Shoreline Restoration - Phase I
65 Mobile County Conservation Acquisition and Salt Aire Shoreline Restoration - Phase II
66 Perdido River Land Conservation and Habitat Enhancements
67 Restoration of the North Side of Dauphin Island - Phase I
68 Restoration of the North Side of Dauphin Island - Phase II (Graveline Bay Marsh Restoration)
69 Swift Tract Living Shoreline Project
70 Upper Mobile Bay Beneficial Use Wetland Creation Site
71 Weeks Bay Land Acquisition (Lloyd Tract)
72 Weeks Bay Land Acquisition East Gateway Tract

*No map location

Spotlight On: Marsh Island Restoration

The Marsh Island restoration design, construction, and monitoring activities are funded by the Natural Resource Damage Assessment (NRDA) Early Restoration Plan (Phase I). Marsh Island is a state-owned property located in the Portersville Bay portion of the Mississippi Sound. The island is salt marsh habitat with some areas of concentrated oyster shell hash and salt-tolerant shrubs. Historic navigation charts depict an island over 175 acres in size.

Prior to restoration, factors such as sea level rise, wave action, and severe storms had reduced the island to less than 24 acres. The goal of this project was to restore at least 50 acres of salt marsh and tidal creeks on the north side of the island, while constructing a breakwater along the southern shore to reduce wave energy and further erosion.

The creation of salt marsh and intertidal habitat in this location has many ecological benefits including providing essential food, refuge and nursery habitat for shorebirds, migratory birds, fish, and shellfish. By filtering pollutants, marshes help oyster reefs and seagrass beds, which need clean water to thrive. Salt marshes and coastal wetlands sequester and store carbon at a rate 10 times that of mature tropical forests, helping to moderate the effects of climate change.

ADCNR

Spotlight On: Dauphin Island West End Acquisition

Funded in NRDA Restoration Plan/Environmental Assessment III in 2021, the Alabama TIG and ADCNR completed the acquisition of a large parcel of land on the west end of Dauphin Island. The acquisition conserves habitat for coastal bird populations that are dependent on the area. Located near the mouth of Mobile Bay, Dauphin Island is a 166 square mile barrier island.

The island's western end includes about 838 acres of coastal habitat, which until recently was privately owned. Habitats include dunes, marshes, and beaches. Sea turtle and several bird species use these habitats for nesting. Neotropical migratory birds use the area as a prime resting spot during migrations.

Among the bird species present at the west end of Dauphin Island is the piping plover. Piping plovers are a threatened species within their Alabama range, and are protected under the Endangered Species Act. Conserving this parcel of land will ensure that the sensitive coastal habitat is protected for years to come.

Along with providing habitat, barrier islands protect natural and human communities against ocean storms. Waves expend their energy as they break on the islands' beaches. Because they buffer the Gulf's wave action, barrier islands also protect salt marshes and seagrass beds, which are nurseries for valuable marine species.

In partnership with the Department of the Interior and ADCNR, Mobile County and the Town of Dauphin Island will develop a bird conservation and management plan which will guide future implementation of management activities on the parcel. These activities are designed to support productive bird populations and will likely include improvements to the habitat, temporary protective closures immediately surrounding nests, education and outreach activities, and protections from predators.

Roland Arhelger

Bethany Kraft

Gene Nieminen

Spotlight On: Land Conservation and Acquisition

To date, Alabama has used *Deepwater Horizon* restoration funding to acquire and protect over 10,590 acres of habitat in coastal Alabama. Land conservation and protection preserves important ecosystem services provided by undisturbed habitat, including water quality protection, biodiversity, recreation, and wildlife protection. ADCNR, in close coordination with the Forever Wild Land Trust program, as well as State and Federal partners, will continue to prioritize investment in land conservation and restoration efforts across South Alabama.

Laguna Cove Little Lagoon Natural Resource Protection (NRDA-RPI)

The project involves the acquisition of two underdeveloped tracts of land and construction of recreational use improvements (boardwalk, kayak launch, parking, and restrooms). The two tracts, located in Gulf Shores, total approximately 53 acres and border approximately 6,100 feet of shoreline on Little Lagoon. Considered highly desirable for development, this project protects the land, including Alabama beach mouse critical habitat, from such development. Public environmental awareness and stewardship will be promoted through educational signage.

Mid-Island Parks and Public Beach Improvements (Parcels B and C) (NRDA-RPI)

This project involves the acquisition of two acres of land and construction of access improvements on the property (such as public parking and restroom facilities). The two parcels are approximately .94 and 1.15 acres, respectively, and are zoned for resort-commercial, multi-family, and commercial general use. The parcels will be owned and amenities maintained by the Town of Dauphin Island. Acquisition will protect these parcels from future development, increasing public access and enhancing the quality of the visitor experience to the Alabama shoreline, including Gulf-facing beaches.

Magnolia River Land Acquisition (Holmes Tract) (NRDA-RPII)

The project involves the acquisition of an approximately 80-acre tract. The Holmes Tract is one of the largest undeveloped tracts on Magnolia River that has not been timbered. It contains more than one mile of frontage on Magnolia River and Weeks Creek, including a perimeter of salt marsh and forested wetland fringe. The property is protected in perpetuity and will have restoration needs addressed to ensure that it provides the best habitat for native and endemic species. Restoration activities proposed for the Holmes Tract include invasive species control (prescribed fire or other methods), native vegetation planting, and limited erosion control measures.

South Alabama Land Trust

Weeks Bay Land Acquisition (East Gateway Tract) (NRDA-RPII)

This project involved the acquisition, protection, and restoration of a 175-acre undeveloped tract at the mouth of Weeks Bay in Baldwin County, including over 100 acres of wetlands. The land tract includes micro-dune habitat, tidal streams, marshland and forested wetlands. The marsh edge provides valuable nursery habitat for a host of estuarine organisms, including shrimp, crabs, and fish. Hundreds of species of migratory and non-migratory birds use the habitat, while more than a dozen resident species of shorebirds are found at the edges and within the property, along with a representative array of wetland plants and animals. The diamondback terrapin, an Alabama species of concern, has been found in upland areas of the site.

Weeks Bay Land Acquisition (Lloyd Tract) (NRDA-RPII Supplement)

This project involves the acquisition, protection, and restoration of approximately 60-acres known as the Lloyd Tract, transferring it into state ownership, and protecting its existing and restored ecological value through a deed restriction. This tract contains approximately 17 acres of freshwater forested/shrub wetlands along the riverfront. The 6,000 feet of shoreline area along Fish River is wooded with pine and hardwood trees. The northern, eastern and central portion of the tract contain open farmland (approximately 30 acres), considered at high risk for development because of its proximity to waterfront at the southern and eastern edges. Acquisition and maintenance of this property with restoration improvements will benefit riparian and wetland ecosystems and further restoration goals in Alabama.

Alabama Trustee Implementation Group (AL TIG)

Dauphin Island West End Acquisition (NRDA-RPII)

This project involves the acquisition of approximately 838 acres of privately owned beach/dune habitat at the west end of Dauphin Island, development of a management plan, and implementation of management actions. The western end of Dauphin Island encompasses a diversity of coastal habitats—sweeping dunes, salt marsh, and beach flats. Sea turtles and several bird species use these habitats for nesting. Neotropical migratory birds use the area as a prime resting spot during migrations.

Conservation and Enhancement of Nesting and Foraging Habitat for Birds Component 2: Pilot Town, AL (NRDA RW RPI)*

The project involves the acquisition and management of the Pilot Town tract, located on the southern edge of St. Andrews Bay on the Fort Morgan peninsula, adjacent to a unit of the Bon Secour NWR. It is located on the north side of State Highway 180 in Gulf Shores, AL. The objective for this project is to conduct nesting and foraging habitat conservation through planning and implementation (e.g., acquisition, creation, restoration, and enhancement) activities, for the benefit of multiple bird species across a range of habitats.

Perdido River Land Conservation and Habitat Enhancements (RESTORE Council-Selected Restoration Component-Bucket 2)

This project involves the acquisition and placement into state conservation management of approximately 10,000 - 12,000 acres of habitat that will serve as a cornerstone for advancing the vision of a large-scale, coordinated program in the Perdido watershed. Parcel(s) will supplement an existing 17,337 acres in public ownership in Alabama, and roughly 12,400 acres in public ownership in Florida. Alabama has identified an initial potential parcel for acquisition, referred to as Magnolia South. This property has extensive frontage along the Perdido River and is located adjacent to existing publicly-owned conservation lands. The property is currently in silviculture (timber management) and contains inland forested wetlands, riparian buffers (stream buffers) and tributaries of both the Styx and Perdido Rivers.

Projects to Restore, Conserve and Enhance Habitat

Alabama Artificial Reef and Habitat Enhancement
Cost: $11,726,883.00
Funding Source: NFWF (2015)

This project funds the enhancement and expansion of the state's artificial reef program. Two new reef structures will be constructed and existing reefs will be restored within Alabama's nearshore waters; 125 structures will be deployed 3 miles offshore; 600 concrete and limestone pyramids will be deployed within 6-9 miles from shore; 20 acres of seabed in the Gulf of Mexico will be enhanced as a juvenile reef fish recruitment: and up to 140 high relief reef modules constructed of concrete and limestone will be deployed in the offshore waters of the Gulf of Mexico.

Alabama Artificial Reef and Habitat Enhancement Plan, Phase II
Cost: $22,499,000.00
Funding Source: NFWF (2018)

This project will build on Phase I (Planning) and construct enhancements of artificial reef habitat in Alabama's coastal waters. Phase II (Construction) of the project will increase connectivity between habitats used by fish in early and adult life through creation or enhancement of inshore, nearshore, and offshore reef habitats. Analysis of Phase I response monitoring suggests increases in the abundance of red snapper on artificial reefs post-deployment. Future analysis will include examination of responses in biomass, other species of interest, and the overall marine community.

Alabama Barrier Island Restoration Assessment
Cost: $4,277,600.00
Funding Source: NFWF (2014)

This project will accomplish assessment and evaluation of restoration alternatives, with the objective of improving understanding of restoration alternative success on improving barrier island resiliency to storm events, enhancing wildlife habitat, and mitigating property damage/loss.

Alabama Dune Restoration Cooperative Project
Cost: $737,202.00
Funding Source: NRDA (Phase I Early Restoration)

This project will restore 55 acres of primary dune habitat through the planting of native vegetation and installation of sand fencing in Baldwin County. Plants and natural resources will be used, rather than hard structures, to prevent erosion.

Alabama Living Shorelines Program
Cost: $6,250,000.00
Funding Source: RESTORE B2 (FPL 1)

This project involves preliminary planning associated with the potential future construction of three proposed Living Shorelines Projects (Coffee Island, Boggy Point, and Point aux Pins). Activities for this planning component will include field investigations, surveys, construction planning, engineering design, and regulatory compliance/permitting.

Alabama Submerged Aquatic Vegetation Restoration and Monitoring Program
Cost: $875,000.00
Funding Source: RESTORE B2 (FPL 1)

This effort involves implementation of two submerged aquatic vegetation (SAV) restoration and protection projects: The Lower Perdido Bay Sea Grass Protection and Restoration Project and the Upper Mobile Bay and Lower Mobile-Tensaw River Delta SAV Restoration Project. Activities include monitoring SAV coverage and species composition at least twice over a period of six to eight years.

Alabama Swift Tract Living Shoreline
Cost: $5,000,080.00
Funding Source: NRDA (Phase III Early Restoration)

This project involves constructing approximately 1.6 miles of breakwaters covered with oyster shell to reduce shoreline erosion, protect salt marsh habitat, and restore ecosystem diversity and productivity in Mobile Bay. The 615-acre state-owned Swift Tract site is located in Bon Secour Bay and is part of the Weeks Bay National Estuarine Research Reserve.

Blackwater River South Tract Acquisition
Cost: $4,836,701.00
Funding Source: NFWF (2019)

This project involves the acquisition and permanent protection of 2,300 acres of coastal habitat at the confluence of the Blackwater and Perdido rivers. The tract includes four miles of frontage along both rivers, over 1,200 acres of wetlands, and a 90+ acre lake. Wetlands and other diverse habitat types found on the property support a variety of bird species and other wetland-dependent species. The threat of future development of the parcel is significant, and substantial residential growth in the area is also noted. Protection of the subject property will maintain

water quality in the Perdido estuary and the living coastal and marine resources it supports. Once acquired, the property will be conveyed to the State of Alabama Forever Wild Land Trust.

Bon Secour - Oyster Bay Wetland Acquisition Project

Cost: $12,511,400.00
Funding Source: NFWF (2016)

This project involves the acquisition, protection, and restoration of approximately 935 acres of diverse coastal habitat in the City of Gulf Shores. The acquired land will be protected in perpetuity for conservation purposes, and a comprehensive habitat management plan will be developed and implemented. Restoration and management actions will include fire management, invasive species removal, improving hydrologic connectivity, and native vegetation plantings.

Bon Secour National Wildlife Refuge Acquisition

Cost: $5,866,177.00
Funding Source: NFWF (2017)

This project involves the acquisition of a 251-acre property on the Fort Morgan Peninsula identified as a high conservation priority in the State of Alabama. The parcel will be deeded to the U.S. Fish and Wildlife Service (USFWS) for inclusion and management within Bon Secour National Wildlife Refuge (BSNWR). The property represents an important priority area within the authorized acquisition boundary of the Refuge and includes scrub/shrub, pine flatwood, saltwater marsh and tidal creek habitats, with permanent and semi-permanent wetlands scattered across the parcel.

Benjamin Rollings

Bon Secour National Wildlife Refuge Acquisition - Three Rivers Parcel

Cost: $4,340,805.00
Funding Source: NFWF (2018)

This project involves the acquisition and restoration of 236 acres of estuarine and forested shrub wetlands on Fort Morgan Peninsula. The parcel is within the acquisition boundary of the Little Point Clear Unit of the Bon Secour National Wildlife Refuge (BSNWR), bordered on the east, west, and north by Bon Secour Bay. Following acquisition, the property will be transferred to the U.S. Fish and Wildlife Service (USFWS) to become part of the BSNWR. Habitats within this unit consist of scrub/shrub, pine flatwoods, saltwater marsh, and tidal creeks, scattered with permanent and semi-permanent wetlands. Fort Morgan Peninsula is under significant and consistent threat of commercial and residential development that would result in loss of habitat and negatively impact living coastal and marine resources.

Bon Secour River Headwater Restoration - Phase I

Cost: $1,504,526.00
Funding Source: NFWF (2018)

This project involves development of engineering and design plans for creating wetlands to treat urban runoff impacting downstream fisheries. The constructed wetlands will address nutrient, sediment, and debris flow to improve habitat quality in the lower Bon Secour River and Bon Secour Bay. These waterways have been south Alabama's most significant and productive shellfish habitats and nursery areas for juvenile finfish. This section of the Bon Secour River encompasses major headwaters and the main channel of the Bon Secour River immediately downstream from the City of Foley. Rapid development of the City over the past two decades has contributed significant nutrient and sediment loading to the Bon Secour River and Bay, with adverse effects to downstream fisheries. Under the proposal, the City will acquire 94 acres of undeveloped property along the Bon Secour River to construct the stormwater wetlands.

Bon Secour River Headwater Restoration - Phase II

Cost: $5,100,000.00
Funding Source: NFWF (2020)

This project involves the implementation phase of an effort to improve approximately one mile of streambank and construct a 70-acre wetland system designed to treat urban runoff currently adversely affecting downstream fisheries.

The constructed wetlands will address nutrient, sediment, and debris flow to improve water quality in the lower Bon Secour River and Bon Secour Bay. This section of the Bon Secour River encompasses major headwaters and the main channel of the Bon Secour River immediately downstream from the City of Foley.

City of Gulf Shores - Little Lagoon Restoration Project

Cost: $6,175,557.00
Funding Source: RESTORE B3 (2018)

This project will restore and improve approximately 2,500 acres of habitat within Little Lagoon by creating 1,000 feet of living shorelines, improving hydrologic connectivity of the existing canal system, converting approximately 200 septic systems, restoring shellfish and marsh/seagrass, and conducting ecological research and long-term monitoring. Project objectives include improvements to water quality, increased habitat area, and increased ecological productivity. The project will have secondary beneficial impacts to the region including improved and more resilient infrastructure and increased recreational ecotourism opportunities.

Troy Calvert

City of Mobile - Three Mile Creek Watershed Restoration

Cost: $12,081,900.00
Funding Source: RESTORE B3 (2018)

This project involves reducing further bank destabilization along upper portions of Three Mile Creek and reducing sedimentation to downstream features like Langan Park Lake and Three Mile Creek. Improvements in water quality, stormwater management, and flood control will restore Langan Park to its original capacity and usefulness. Activities include stabilization of Twelve Mile Creek from East Drive to Langan Park Lake, leveraging stream improvements occurring upstream (East Drive to the headwaters) and hydrologic modeling occurring for the sub-watershed, and dredging Langan Park Lake to alleviate flooding.

Coastal Alabama Comprehensive Watershed Restoration Planning Project

Cost: $4,342,500.00
Funding Source: RESTORE B2 (FPL1)

This project involves completing comprehensive Watershed Management Plans for 19 priority watersheds in coastal Alabama. The Mobile Bay National Estuary Program adopted the Watershed Management Planning Protocol and prioritized 31 coastal and intertidal watersheds for the development of standardized comprehensive management plans designed to guide future conservation and restoration efforts. To date, four watersheds are complete with implementation projects underway, eight others have been awarded funds through the National Fish and Wildlife Foundation's (NFWF) Gulf Environmental Benefit Fund (GEBF), and RESTORE funds are sought for the remaining 19 priority watersheds.

Coastal Habitat Restoration Planning Initiative

Cost: $4,219,242.00
Funding Source: NFWF (2014)

This project involves development of comprehensive plans to identify the highest priority restoration and conservation needs within the tidally influenced watersheds that directly feed into Mobile Bay. Activities include acquisition of high resolution mapping of the diverse habitats in Alabama's two coastal counties to identify the conditions of streams, rivers, riparian buffers, wetlands, intertidal marshes, and submerged aquatic vegetation of Mobile Bay and the nearshore Gulf and Mississippi Sound waters. Concurrent to data collection, watershed plans for seven of the state's tidally influenced watersheds will be created. These watersheds include: Bayou La Batre, Bon Secour, Dog River, Fish River, Tensaw-Apalachee, West Fowl River/Delchamps Bayou, and Wolf Bay. Data collection and planning information will be used to inform priority conservation and restoration projects for future implementation consideration under the Gulf Environmental Benefit Fund.

Comprehensive Living Shoreline Monitoring
Cost: $4,000,000.00
Funding Source: RESTORE B2 (FPL1)

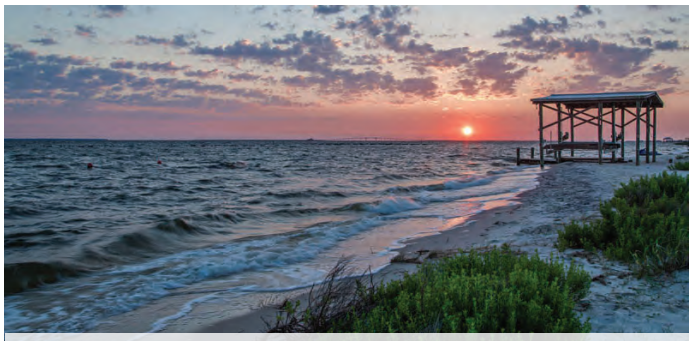
This project involves the development of a plan for monitoring and assessing the performance and efficacy of at least ten proposed and existing living shoreline projects in coastal Alabama. Project partners will also engage in extensive public outreach about living shorelines and will make results available to landowners, regulatory agencies, and coastal decision makers to support adaptive management of shoreline restoration efforts. This project is part of a larger effort being undertaken in Alabama and around the Gulf to promote living shorelines as an alternative to bulkheads and similar shoreline erosion abatement structures.

Dauphin Island Beach Nourishment Engineering and Design
Cost: $1,143,000.00
Funding Source: NFWF (2021)

This project involves completion of a 30% engineering and design package, as Phase I of a multiphase Dauphin Island beach and dune habitat restoration effort. Project activities will focus on field investigations, including geotechnical analyses, survey, and cultural resource assessments. Engineering and design tasks will include technical analysis, modeling, and 30% design drawings. The design will focus on Gulf-facing land from approximately mid-island west to Katrina Cut. Once constructed, the restored area will be naturally nourished as sand migrates westward from the east end of the island

Dauphin Island Bird Habitat Acquisition and Enhancement Program
Cost: $4,525,000.00
Funding Source: NFWF (2017)

This project involves acquisition and enhancement of coastal bird habitat along one mile of recently restored beach immediately adjacent to a 200-acre bird sanctuary on Dauphin Island. Project activities include sand fencing, dune plantings, signage, stewardship, and additional sand placement. Due diligence and landowner outreach will be undertaken as the first step to acquire an estimated 13 acres of undeveloped habitat to protect critically important migratory stopover habitat and facilitate management of contiguous blocks of conservation lands. Lands acquired through this project will be deeded to and managed by the Dauphin Island Bird Sanctuary (DIBS). DIBS will also undertake prescribed fire and invasive species management to enhance the ecological value of these newly-protected habitats.


Arthur J. Davis

Dauphin Island Causeway Shoreline and Habitat Restoration Project - Phase II
Cost: $28,362,000.00
Funding Source: NFWF (2020)

This project involves construction of a breakwater and coastal marsh in Mobile Bay on the east side of the Dauphin Island Causeway. This effort will create and protect critical coastal marsh habitat, enable natural processes to maintain nearshore habitats and reduce the force of wave energy to the shoreline. This is a large scale restoration project that will beneficially use material dredged from the Mobile Ship Channel to create marsh habitat. Installation of the breakwater will protect the wetland habitat against erosive forces, such as tidal actions, wave energy, and storms.

Dauphin Island Causeway Shoreline Restoration: Phase I
Cost: $250,000.00
Funding Source: NFWF (2018)

This project involves the engineering and design of breakwaters to enhance, protect, and improve resiliency of marsh and oyster habitat adjacent to the Dauphin Island Causeway. Erosive forces, like tidal action, wave energy and storms, provide a constant threat to the coastal habitats in this area. Productive wetland habitat has been lost along the Bay side of the Causeway, prompting the Alabama Department of Transportation to install and rely upon riprap revetment to protect the low-lying transportation corridor. The goal of the project is to stabilize the shoreline along the Bay side of the Dauphin Island Causeway and to create/enhance aquatic, wetland, and riparian habitats in the region.

Dauphin Island Conservation Acquisition
Cost: $3,600,000.00
Funding Source: NFWF (2016)

This project involves acquisition of eight acres of remaining undeveloped beachfront (1,200 linear feet) on a mid-island section of Dauphin Island. This primary barrier island provides important nesting, loafing, stopover and foraging habitats for a variety of coastal birds, shorebirds, neotropical migrants, and other avian species, as well as nesting habitat for endangered sea turtles.

Dauphin Island East End Beach and Dune Restoration - Phase I
Cost: $1,400,000.00
Funding Source: NFWF (2020)

This project involves completing engineering, design, and permitting for the restoration of nearly a mile of beach and dune habitat on the east end of Dauphin Island, a 14-mile long barrier island off the coast of Mobile County. Project concepts include placement of an estimated 1.2 million cubic yards of sand along 4,800 feet of shoreline to restore 35 acres of beach and dune habitat. Additional measures, such as planting and sand fencing, will be included as appropriate to assist in retaining sand on the restored beach and dune system. In 2016, the Town completed the first phase of this priority beach restoration project using Coastal Impact Assistance Program funds.

Deer River Coastal Marsh Stabilization and Restoration--Phase I
Cost: $750,000.00
Funding Source: NFWF (2018)

This project involves engineering and design plans to stabilize and restore the shoreline and intertidal salt marsh at the mouth of Deer River, adjacent to the Theodore Industrial Canal and Mobile Bay. Intertidal marsh at the mouth of Deer River has experienced significant deterioration and loss of natural function due to erosion from heavy storms, tides, and ship wakes. These habitats buffer wave energy and storm surges, protecting the shoreline and neighboring upland and wetland habitats, as well as preserving the long-term sustainability of the ecological services they provide. Once designed and constructed, this project will stabilize and enhance up to 5,600 feet of shoreline on Mobile Bay, resulting in the protection of over 275 acres of existing priority coastal saltmarsh and creation of additional marsh habitat.

Deer River Coastal Marsh Stabilization & Restoration - Phase II
Cost: $22,855,000.00
Funding Source: NFWF (2021)

This project implements Phase I engineering and design plans to stabilize one mile of Mobile Bay shoreline and restore the hydrology of over 275 acres of saltmarsh, one of the largest remaining expanses along the western shore of Mobile Bay. The project will help to ensure the long-term sustainability of the Deer River shoreline and marsh in the face of significant erosion from winds, tides, ship wakes, and storm surge. It will improve ecosystem function of the salt marshes and tidal creeks within the marsh system and create 30 acres of additional marsh and beach to replace what has been lost over recent decades

D'Olive Watershed Restoration
Cost: $12,410,898.00
Funding Source: NFWF (2013)

This project involves restoration of degraded streams and installation of management measures to reduce the downstream impacts in the D'Olive watershed through a combination of stormwater retrofits, stream restorations, and detailed monitoring. Stabilization of these stream segments will significantly reduce sediment loading in the northeast quadrant of Mobile Bay, improving the quality and clarity of the water necessary for re-establishing submerged aquatic vegetation (SAV) beds in the upper Bay.

Volkert, Inc.

Enhancing Opportunities for Beneficial Use of Dredge Sediments

Cost: $3,000,000.00
Funding Source: RESTORE B2 (FPL 1)

This project involves planning, design, engineering, and feasibility assessments for three project areas where future placement of dredged sediments would achieve habitat restoration. Coastal wetlands are suffering from the cumulative impacts of erosion and sea level rise. "Beneficial use" of dredged sediments can be a means of sustaining these valuable habitats and enhancing coastal resilience. Pairing navigation dredging projects with habitat restoration efforts can increase habitat quality and save on traditional dredge disposal costs.

Fowl River Watershed Restoration

Cost: $3,244,150.00
Funding Source: NFWF (2013)

This project involves implementation of measures to protect and restore 14 acres of coastal wetlands on Mon Louis Island, as well as the development of a watershed management plan for Fowl River Watershed. Future conservation investments to benefit the watershed will be identified and recommended.

Fowl River Watershed Restoration: Coastal Spits and Wetlands Project – Phase I

Cost: $1,640,597.00
Funding Source: NFWF (2016)

This project involves completion of engineering and design solutions to stabilize and protect four priority in-river wetland spits and restore marshland throughout the intertidal portions of lower Fowl River. This project will reduce the risk of future harm to habitats necessary for sustaining a healthy fishery and improve water quality from this significant watershed.

Fowl River Watershed Restoration: Coastal Spits and Wetlands Project – Phase II

Cost: $19,798,000.00
Funding Source: NFWF (2021)

This project will increase ecological resilience within the lower reach of the Fowl River by enhancing marsh elevation and stabilizing shorelines of five marsh-covered spits in the watershed's transitional zone between upstream fresh water and downstream brackish water. A staged restoration approach will be accomplished by applying thin layers of dredged material and strategic placement of wave attenuation structures. Project activities aim to stabilize up to 12,600 linear feet of shoreline and restore 40 acres of marsh habitat. Suitable dredged material will be used to increase marsh elevation and appropriate vegetation will be installed where necessary in the project area.

Grand Bay Acquisition

Cost: $7,477,500.00
Funding Source: NFWF (2015)

This project involves acquisition of three land parcels consisting of 674 acres of priority coastal habitat in southwestern Mobile County. Grand Bay is one of the most pristine and diverse areas remaining on the Alabama Gulf coast. The parcels proposed for acquisition are critical inholdings linking existing protected and managed areas, providing a more holistic approach to long-term management and stewardship for the Grand Bay system.

Gulf Highlands Conservation Acquisition

Cost: $37,957,100.00
Funding Source: NFWF (2016)

This project involves acquisition, conservation and management of 113 acres with 2,700 feet of Gulf frontage beach/dune habitat – the largest, privately held, undeveloped beachfront parcel remaining in coastal Alabama. In addition to continuing to function as refuge for the endangered Alabama beach mouse, protection of this key habitat would benefit nesting sea turtles, migratory birds, and shorebirds.

Gulf of Mexico Coast Conservation Corps (GulfCorps) Program: Alabama Component*

Cost: $1,600,000.00
Funding Source: RESTOREB2 (FPL 1)

This program will establish a regional workforce-training program to benefit local communities and support long-term Gulf Coast restoration project implementation. Individuals trained under the program will help to carry out fully compliant priority ecosystem restoration projects identified by Members on the RESTORE Council. Program activities will include recruiting and training local workers in a variety of habitat restoration techniques and providing paid, hands-on work experience in on-the-ground restoration projects. These jobs will vary depending

upon the scope of the project, but can include operators, machinists, welders, surveyors, and a variety of laborers, scientists, and managers.

Gulf of Mexico Coast Conservation Corps (GulfCorps) Program: Alabama Component*

Cost: $2,394,250.00
Funding Source: RESTOREB2 (FPL 3B)

This program involves implementation of the Gulf of Mexico Coast Conservation Corps (GulfCorps) Program, sponsored by the U.S. Department of Commerce, through the National Oceanic and Atmospheric Administration (NOAA). This program supports habitat restoration and conservation. Activities include recruitment, training, employment and mentoring of hundreds of young adults to produce habitat restoration benefits and become the Gulf of Mexico's future restoration workforce. GulfCorps will continue to collaborate with State, Federal and local agencies and non-profit organizations to manage natural resources and implement restoration, conservation, and resilience projects. Based on project input from RESTORE Council members and local experts, the GulfCorps will implement habitat restoration, conservation, and monitoring activities in a range of Gulf of Mexico habitats including marshes, prairies, forests, oyster reefs, and shorelines. GulfCorps crews will also facilitate public access to Gulf habitats by building and maintaining boardwalks and trails.

Steve Hillebrand/U.S. Fish and Wildlife Service

Lightning Point Acquisition and Restoration Project – Phase I

Cost: $5,902,536.00
Funding Source: NFWF (2016)

This project involves acquisition of more than 100 acres of coastal habitat and the engineering and design for restoring approximately 28 acres of marsh and 1.5 miles of intertidal nearshore breakwater. This project will result in protection and restoration of a key stretch of coastal shoreline at the mouth of Bayou La Batre River.

Lightning Point Restoration Project, Phase II

Cost: $16,578,000.00
Funding Source: NFWF (2018)

This project is the construction phase of a GEBF-funded engineering and design project to construct approximately 28 acres of coastal marsh and 1.5 miles of breakwaters at the mouth of the Bayou La Batre River. Restoration activities will also help protect the newly acquired 127 acres of coastal habitat in the Alabama Forever Wild Land Trust program and City of Bayou La Batre. Over time, the breakwaters are expected to develop into reefs that provide habitat for fish and shellfish. Consisting of more than 2 miles of nearly contiguous undeveloped waterfront, the project area provides a critical interface between land and water. These conservation lands are comprised of coastal marshes, upland buffers, and intertidal habitats serving as nursery habitat for coastal finfish and shellfish. The area is also home to many threatened and endangered species, including the West Indian manatee and Gulf sturgeon.

Lillian Park Beach Habitat and Shoreline Protection

Cost: $645,254.00
Funding Source: RESTORE B3 (2018)

Implementation of this project will establish a stable sand beach shoreline to improve public safety while mitigating wave energy contributions to beach erosion and habitat loss along Perdido Bay. Activities include planning, engineering/design, and construction, with the intension to increase the resilience of the estuarine and marine habitat.

Little Dauphin Island Restoration Assessment

Cost: $1,481,500.00
Funding Source: NFWF (2017)

This project involves the study of both nearshore and onshore restoration options for a future project to enhance and protect Little Dauphin Island. Located in the Bon Secour National Wildlife Refuge managed by the U.S. Fish and Wildlife Service (USFWS), Little Dauphin Island is an important nesting and foraging area for several coastal bird species, including several imperiled species.

Little Lagoon Living Shoreline
Cost: $260,999.00
Funding Source: NRDA (RPII)

The Little Lagoon Restoration Project will restore and improve approximately 2,500 acres of habitat within Little Lagoon by creating 1,000 feet of living shoreline, improving hydrologic connectivity of the existing canal system, converting approximately 200 septic systems to City sanitary sewer, restoring shellfish and marsh/seagrass, and conducting ecological research and long-term monitoring.

Lower Halls Mill Creek Protection
Cost: $2,687,000.00
Funding Source: NFWF (2019)

This project involves the acquisition and permanent protection of approximately 300 acres of wetland habitat in the Dog River Watershed. The target acquisition areas in Lower Halls Mill Creek comprises one of the largest contiguous undeveloped areas of bottomland hardwood wetlands remaining in the watershed. The area surrounding the subject tracts are under direct threat of development. Acquisition of the subject tracts will permanently protect them from commercial or residential development and preserve unique tidally influenced marshes in the Dog River watershed. These Dog River watershed marshes support many species of shellfish, finfish, birds, and other wildlife of the type directly impacted by the *Deepwater Horizon* oil spill. Protection of these natural wetland areas will ensure continued protection of downstream water quality and wetland habitats in the Dog River Watershed.

Lower Perdido Islands Restoration Phase I (E&D)
Cost: $994,523.00
Funding Source: NRDA (RPII)

This project involves the development of a unified strategy for protecting the ecological functions of the Perdido Islands complex while allowing for passive public recreation. A conservation management plan will provide an evaluation of the most appropriate methods for minimizing adverse impacts on sensitive habitats. A sediment modeling study will provide information on erosion to inform future habitat restoration activities on the islands. Project elements will include identifying and describing habitat concerns, evaluating and recommending shoreline protection and restoration, and developing submerged aquatic vegetation (SAV) protection and dune habitat protection strategies. Specific activities likely include habitat surveys, baseline monitoring, recreational use monitoring/behavioral observations, preliminary permit and compliance investigations, stakeholder coordination, identification of factors that may assist in restoration and improved conservation, installation of signage on the islands alerting visitors to nesting bird habitat, tree plantings for bird nesting habitat, and marine debris monitoring.

Magnolia River Land Acquisition (Holmes Tract)
Cost: $5,138,162.00
Funding Source: NRDA (RPII)

This project involves the acquisition of an approximately 80-acre tract with more than 1 mile of frontage on Magnolia River and Weeks Creek. Restoration management activities will also be implemented to enhance habitat for native and endemic species.

Marsh Island (Portersville Bay) Marsh Creation
Cost: $11,280,000.00
Funding Source: NRDA (Phase I Early Restoration)

This project involves the creation of salt marsh along Marsh Island, a state-owned island in the Portersville Bay portion of Mississippi Sound, Alabama. This project will restore approximately 50 acres of salt marsh through the placement of a permeable segmented breakwater, the placement of sediments and the planting of native marsh vegetation. Additionally, the breakwater will provide protection for the existing 24 acres of Marsh Island, which has been experiencing shoreline loss at the rate of 5-10' per year.

Marsh Restoration in Fish River, Weeks Bay, Oyster Bay and Meadows Tract
Cost: $3,158,043.00
Funding Source: RESTORE B2 (FPL1)

This project involves planning, design, and collaboration with local partners to restore natural hydrology to a total of 470 acres of wetlands at three sites within the Mobile Bay ecosystem in Alabama.

JodyB

Mobile Bay National Estuary Program-12 Mile Creek

Cost: $2,100,000.00
Funding Source: RESTORE B2 (FPL 1)

This project involves the engineering and design of stream restoration of Twelve Mile Creek, one of six main tributaries within the Three Mile Creek Watershed; development of an invasive species control program focused on aquatic vegetation in Three Mile Creek; preparation of necessary environmental compliance and regulatory clearances documentation; quality assurance; and pre-restoration monitoring.

Mobile Bay Shore Habitat Conservation and Acquisition Initiative – Phase I

Cost: $285,912.00
Funding Source: NFWF (2015)

This project advances goals of conserving and protecting coastal habitat through land acquisition in Mobile Bay. Gulf Environmental Benefit Funds will be utilized to perform the necessary due diligence activities to inform future acquisition and management of several key intact tidal marsh habitats within the jurisdiction of the City of Mobile. This project will focus on identification of specific, high-priority properties for future acquisition, with a goal of preserving intact undeveloped intertidal habitat within the City of Mobile.

Mobile Bay Shore Habitat Conservation Acquisition Initiative - Phase II

Cost: $8,923,800.00
Funding Source: NFWF (2017)

This project involves acquisition, restoration, and preservation of intact high-priority, undeveloped properties within three specific areas of the City of Mobile. These three priority intertidal habitat areas include riparian, wetland, and upland habitats used by a variety of fish and wildlife species injured by the *Deepwater Horizon* oil spill.

Mobile County Conservation Acquisition and Salt Aire Shoreline Restoration

Cost: $4,217,803.00
Funding Source: NFWF (2015)

This project involves acquisition of the 233-acre Salt Aire property which includes Goat Island and unprotected coastal wetlands on the western shore of Mobile Bay, near the outlet of the East Fowl River. Activities also include development of restoration and protection design alternatives for marsh habitat.

Ryan Hagerty/U.S. Fish and Wildlife Service

Mobile County Conservation Acquisition and Salt Aire Shoreline Restoration Phase II

Cost: $12,700,000.00
Funding Source: NFWF (2017)

This project leverages the earlier acquisition of the 233-acre Salt Aire property (2015 GEBF) and includes activities to protect degraded shoreline and restoration of 30 acres of associated coastal marsh on the western shore of Mobile Bay. The 2015 GEBF award funded both the acquisition of the property and engineering and design of the requested restoration work. Restoration of the Salt Aire shoreline will be accomplished by placement of approximately 5,600 linear feet of segmented low-profile breakwater structures, and the placement of approximately 150,000 cubic yards of dredge material from an existing nearby disposal area, resulting in an estimated 30 acres of restored marsh habitat.

Perdido River Land Conservation and Habitat Enhancements

Cost: $26,880,000.00
Funding Source: RESTOREB2 (FPL3A)

This project involves the acquisition and placement into state conservation management of approximately 10,000 - 12,000 acres of habitat that will serve as a cornerstone for advancing the vision of a large-scale, coordinated program in the Perdido watershed. Parcel(s) will supplement an existing 17,337 acres in public ownership in Alabama, and roughly 12,400 acres in public ownership in Florida. Alabama has identified a potential parcel for acquisition, referred to as Magnolia South. This property has extensive

frontage along the Perdido River and is located adjacent to existing publicly-owned conservation lands. The property is currently in silviculture (timber management) and contains inland forested wetlands, riparian buffers (stream buffers), and tributaries of both the Styx and Perdido Rivers.

Restoration of the North Side of Dauphin Island- Phase I

Cost: $904,000.00
Funding Source: NFWF (2018)

This project involves restoration of beach and marsh habitat on the north side of Dauphin Island and enhancement of the barrier island's resilience to future storms to improve habitat for shorebirds. Project activities include filling borrow pits previously excavated to supply sand for emergency barriers built along Gulf-facing beaches on Dauphin Island during the *Deepwater Horizon* oil spill. A portion of the sand used to build these barriers was mined from privately owned lots, creating "ponds" at those locations. Due to the rapid erosion of the north shore of the island typical during significant storm events, some of these ponds are now small embayments to the Mississippi Sound. These dredged areas have weakened the barrier island in these locations by significantly narrowing its width, making the island more susceptible to breaching should the island be subject to a major hurricane.

Restoration of the North Side of Dauphin Island- Phase II (Graveline Bay Marsh Restoration)

Cost:$6,437,000.00
Funding Source: NFWF (2020)

This project involves restoration of tidal wetland habitat, a natural first line of defense against storm surge and rising sea levels in Graveline Bay on Dauphin Island's north shore. The project is expected to provide habitat for coastal birds and other wildlife and create needed nursery habitat for fish and shellfish. Additionally, this project will enhance the resiliency of Dauphin Island to future coastal storms and hazards.

Upper Mobile Bay Beneficial Use Wetland Creation Site

Cost: $2,500,000.00
Funding Source: RESTOREB2 (FPL1)

This project involves the completion of the final design and permitting for the creation of a 1,200 acre wetland site in the Upper Mobile Bay south of the US Highway 90/98 causeway. The site concepts were developed in coordination with an Interagency Working Group (IWG) established to evaluate sediment management practices in Mobile Bay.

Weeks Bay Land Acquisition (East Gateway Tract)

Cost: $3,252,192.00
Funding Source: NRDA (RPII)

This project involves the acquisition, protection, and restoration of a 175-acre undeveloped tract at the mouth of Weeks Bay in Baldwin County, including over 100 acres of wetlands. Project activities include planning and design for removal of a bulkhead on the waterfront point of the property that splits Weeks Bay and Mobile Bay.

Billy Pope

Weeks Bay Land Acquisition (Lloyd Tract)

Cost: $3,606,900.00
Funding Source: NRDA (Supplement to RPII)

This project involves the acquisition, protection and restoration of approximately 60-acres known as the Lloyd Tract, transferring it into state ownership, and protecting its existing and restored ecological value through a deed restriction.

PROVIDE AND ENHANCE RECREATION AND PUBLIC ACCESS

Injury wasn't limited to natural resources as a result of the DWH oil spill, but also included recreational loss injury and loss of public access to our natural resources. For example, people couldn't access certain local beaches in Alabama during the response effort nor could they engage in recreational pastimes on the water like boating and fishing.

Alabama is investing and is proposing to invest in a number of projects that will enhance the recreational opportunities on our coast, including:

- Reconstruction of the Fort Morgan pier. The pier has been an iconic feature of the coastal landscape and funding is providing the needed upgrades to the pier to make it become functional once more.
- Improvements to the state parks to allow coastal residents and visitors alike to enjoy the states resources.
- Blueway and Greenway developments in the City of Mobile.

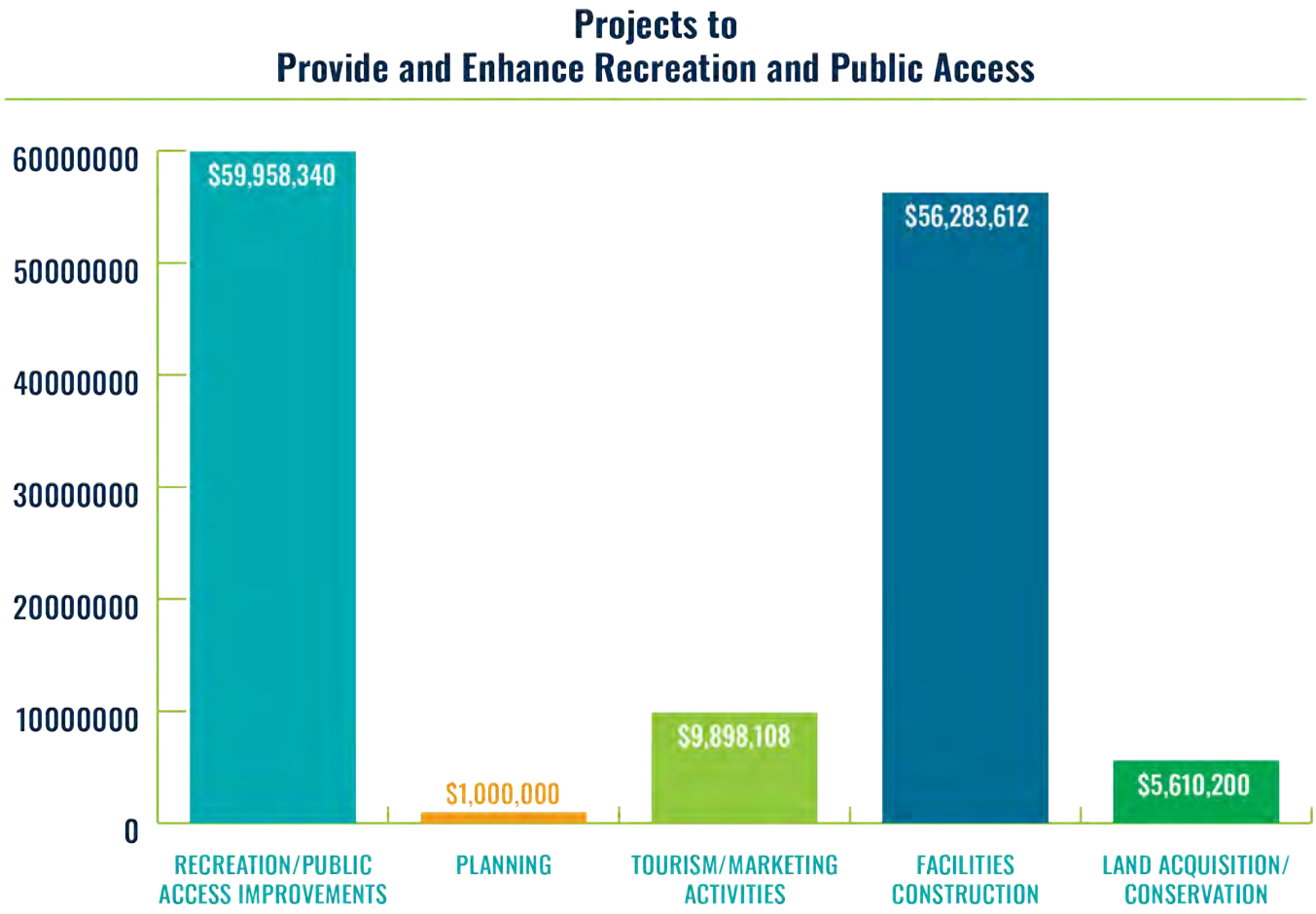


Figure 8: Funding Approved to Provide and Enhance Recreation and Public Access, 2011-2022

Project Locations: Provide and Enhance Recreation and Public Access

Provide and Enchance Recreation/Public Access

PROJECT NAME

1. ADCNR, State Parks - Fort Morgan Parkway Trail Extension
2. ADCNR, State Parks - Meaher Park Improvements
3. Bayfront Park Restoration and Improvement Phases IIa and IIb
4. Bayfront Park Restoration and Improvements (engineering and design only)
5. Bon Secour National Wildlife Refuge Recreation Enhancement - Mobile Street Boardwalk
6. Bon Secour National Wildlife Refuge Trail Enhancement
7. City of Mobile - Mobile Greenway Initiative
8. Dauphin Island Eco-Tourism and Environmental Education Area
9. Fort Morgan Pier Rehabilitation
10. Gulf State Park Enhancements
11. Gulf State Park Lodge and Associated Public Access Amenities
12. Gulf State Park Pier Renovation
13. Laguna Cove Little Lagoon Natural Resource Protection
14. Mid-Island Parks and Public Beach Improvements (Parcels B and C)
15. Mobile County - Mobile County Blueway Trail Development
16. Perdido Beach Public Access Coastal Protection

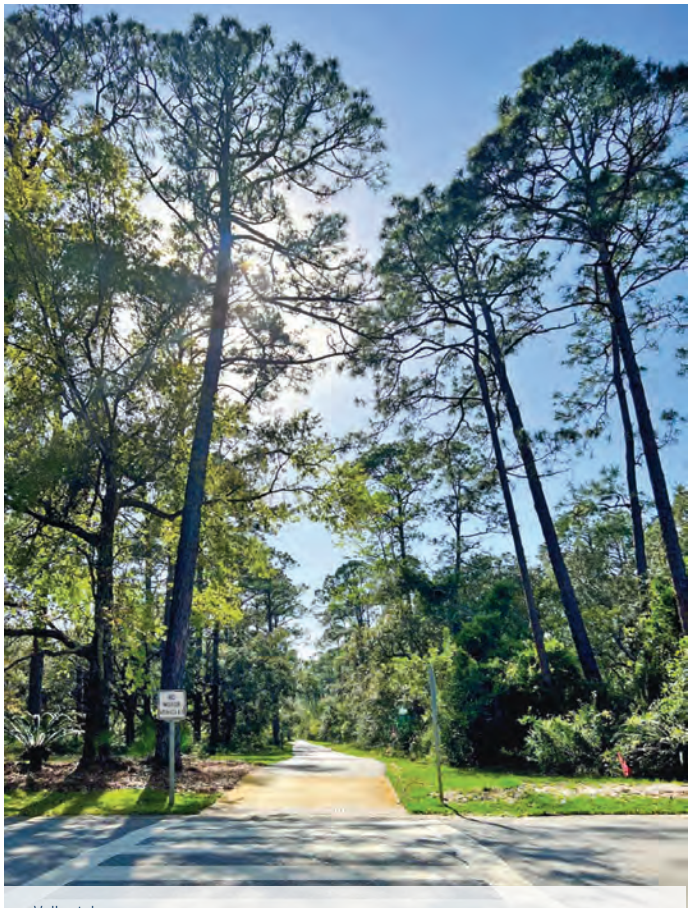
Spotlight On: Fort Morgan Trail Improvements

ADCNR

The Fort Morgan Parkway Trail Extension project will complete the Fort Morgan Parkway Trail from Fort Morgan Historical Park in the west to Gulf State Park and the Hugh Branyon Backcountry Trail in the east. The scope of work includes design, engineering, and construction of a 15-mile segment of trail and "mid-zone" trailhead facilities. The "mid-zone" trailhead facilities will include parking, restrooms, vending machines, interpretive signage, and kiosks. Boardwalks and bridges will be made of synthetic or composite material to span wetlands and ecologically sensitive areas.

Already part of Alabama's Coastal Connection Scenic Byway, this project will increase and improve safe access points for people to experience the natural, scenic, and cultural wonders of coastal Baldwin County, Alabama, while promoting environmental stewardship. Trails create healthy recreation and transportation opportunities by providing people of all ages with attractive, safe, accessible, and affordable places to cycle, walk, hike, or jog. Trails help residents and visitors incorporate exercise into daily routines by connecting them with places they want or need to go—a significant positive impact on public health and wellness.

Linking two Alabama State Parks (Fort Morgan Historical State Park and Gulf State Park) together and integrating other trails, trail spurs, trail loops, and sidewalks will produce an extensive trail system. The completion of this final 15-mile segment will create a 30-mile-long "destination trail" for Alabama's citizens and visitors, connecting Fort Morgan, Bon Secour National Wildlife Refuge, Gulf State Park, and the City of Orange Beach Backcountry Trail.



Volkert, Inc.

Spotlight on: Bayfront Park Improvements

Located in Mobile County on Dauphin Island Parkway, Bayfront Park is an approximately 20-acre park with public access to Mobile Bay and other public amenities, such as a playground, picnic areas, and restrooms. Approximately 50 percent of the park is estuarine marine wetland. The park is maintained and staffed by the Mobile County Commission.

Two projects have been funded with *Deepwater Horizon* NRDA funds to construct a number of improvements at the Park including creation of a pocket beach and other constructed amenities:

Mobile County

Bayfront Park Restoration and Improvements (E&D) $1,000,000

This project involved engineering and design (E&D) to prepare for the construction of a living shoreline and/or sandy beach along the Mobile Bay shoreline within the park. The E&D activities included the development of an engagement plan for additional signage and interpretive materials to promote environmental education at Bayfront Park.

Bayfront Park Improvements Phases IIa and IIb $4,683,304

This project involves implementation and construction of a number of shoreline and amenity improvements in the park. Phases IIa and IIb objectives include enhancing public access, stabilization of the shoreline, and creation of a pocket beach area to provide access to water and protect constructed amenities.

Projects to Provide and Enhance Recreation and Public Access

ADCNR, State Parks - Fort Morgan Parkway Trail Extension
Cost: $4,566,608.00
Funding Source: RESTORE B3 (2018)

This project involves extension and completion of the Fort Morgan Parkway Trail from Fort Morgan Historical Park to Gulf State Park and includes the construction of a midzone facility to provide parking, restroom facilities, and interpretive signage. When complete, the Fort Morgan Parkway Trail will provide approximately 30 miles of recreation trail from Fort Morgan to Orange Beach and will connect with numerous trail spurs and loops along the way.

ADCNR, State Parks - Meaher Park Improvements
Cost: $3,553,500.00
Funding Source: RESTORE B3 (2018)

This project involves adding 156 full service campsites, as well as parking, bath house, a fishing pier, and utility infrastructure to Meaher Park in Spanish Fort. In addition, 10 RV park model cabins will be installed along with appropriate skirting, decking, steps, and/or ramps. This project will greatly increase and enhance outdoor recreation opportunities along a major east-west corridor used heavily by citizens and guests of Alabama.

ADCNR

Bayfront Park Restoration and Improvements (Engineering and Design Only)
Cost: $1,000,000.00
Funding Source: NRDA (RPI)

This project involves engineering and design (E&D) to prepare for the construction of a living shoreline and/or sandy beach along the Mobile Bay shoreline within the park. The E&D activities include the development of an engagement plan for additional signage and interpretive materials to promote environmental education at Bayfront Park.

Bayfront Park Restoration and Improvements Phases IIa and IIb
Cost: $4,683,304.00
Funding Source: NRDA RPI (2017)

This project involves implementation and construction of a number of shoreline and amenity improvements in the park. Phases IIa and IIb objectives include enhancing public access, stabilization of shoreline, and creation of a pocket beach area to provide access to water and protect constructed amenities

Bon Secour National Wildlife Refuge Recreation Enhancement - Mobile Street Boardwalk
Cost: $1,189,899.00
Funding Source: NRDA (RPIII)

This project involves replacement or repair of public boardwalks and trailhead parking lots at the BSNWR and enhancement of directional and informational signage to facilitate public use, consistent with the BSNWR's Comprehensive Conservation Plan and visitor use objectives. Activities include engineering and design, deconstruction and demolition of existing boardwalk and parking lot, and construction of new boardwalk and parking lot.

Bon Secour National Wildlife Refuge Trail Enhancement
Cost: $545,110.00
Funding Source: NRDA (Phase IV Early Restoration)

This project involves repair and enhancement of the existing Jeff Friend Trail located on the Bon Secour National Wildlife Refuge (NWR). The aged boardwalk and gravel trail will be repaired and improved to enhance access by persons with disabilities and the quality of visitor experience. Construction of an observation platform along the trail and

the widening of two handicapped parking spaces to better accommodate visitors are also planned. The project is not expected to significantly increase visitation, but to provide a safe and enhanced experience for visitors to the refuge.

City of Mobile - Mobile Greenway Initiative

Cost: $9,991,000.00
Funding Source: RESTORE B1 (2018)

This project involves planning, engineering and design (E&D), and permitting in preparation for the construction of a living shoreline and/or sandy beach along the Mobile Bay shoreline. Additional signage and interpretive materials will be developed to promote environmental education. The Three Mile Creek Greenway Trail, once constructed, will provide a continuous, 12-mile path for runners, walkers and cyclists immediately adjacent to Three Mile Creek in the City of Mobile. This project will re-connect neighborhoods with designated access along the Trail and includes artwork which interprets the historical significance of Three Mile Creek while providing the opportunity to combine recreation, commuting, and culture.

Dauphin Island Eco-Tourism and Environmental Education Area

Cost: $1,778,000.00
Funding Source: NRDA (RPI)

This project involves acquisition and development of amenities on approximately 95 acres on Dauphin Island, a barrier island at the mouth of Mobile Bay in south Mobile County. The property includes coastal salt marsh, privately owned water bottom, and upland habitats. The overall goal of the project is to improve access to and enjoyment of both the marsh and water, including the wetland habitats adjacent to Aloe Bay. The property will be owned and maintained by the Town of Dauphin Island.

Fort Morgan Pier Rehabilitation

Cost: $3,256,993.00
Funding Source: NRDA RPI (RPI)

This project involves the restoration of the fishing pier located at the Fort Morgan State Historic Site that collapsed and closed in 2014. The project will rehabilitate the pier on its existing foundations, increasing publicly available opportunities for pier-based fishing in Baldwin County. Activities include planning, engineering and design, permitting, and construction.

Gulf State Park Enhancement Project

Cost: $29,221,713.00
Funding Source: NRDA (Phase III Early Restoration)

This project involved construction of a coastal ecosystems interpretive center, environmental research and education facility, trails, and dune restoration.

Volkert, Inc.

Gulf State Park Lodge and Associated Public Access Amenities

Cost: $56,283,612.00
Funding Source: NRDA (RPI)

This project provides (1) partial funding for the reconstruction of the Gulf State Park Lodge, which was destroyed in 2004 by Hurricane Ivan, and (2) funding for a host of public access amenities such as public beach access, public restrooms, a bike share program, and other public amenities. Overall, the project is designed to be an integral part of the restoration and public utilization of Gulf State Park, furthering the restoration efforts conducted as part of the Gulf State Park Enhancement Project during Phase III of Early Restoration.

Gulf State Park Pier Renovation

Cost: $2,447,021.00
Funding Source: NRDA (RPIII)

This project involves replacement of the entire pier deck with more sustainable and resilient material. The new decking will be removable for severe storm preparation. In addition to the replacement of the decking panels, this project will enhance the existing lighting at the pier and in the parking lot and replace the weathered pine handrails and light poles. The improved lighting would feature narrow

spectrum amber LEDs combined with special shielding, making it a wildlife-friendly lighting solution.

Laguna Cove Little Lagoon Natural Resource Protection

Cost: $4,400,000.00
Funding Source: NRDA (RPI)

The project involves acquisition of two underdeveloped tracts of land (53 acres total) and development for recreational use (boardwalk, kayak launch, parking, and restrooms). Public environmental awareness and stewardship will be promoted through educational signage.

Mid-Island Parks and Public Beach Improvements (Parcels B and C)

Cost: $1,210,200.00
Funding Source: NRDA (RPI)

This project involves acquisition of two acres of land and construction of access improvements on the property (such as public parking and restroom facilities). This project will enhance access to the Alabama shoreline, including Gulf-facing beaches.

Mobile County Blueway Trail Development

Cost: $8,240,000.00
Funding Source: RESTORE B1 (2018)

This project involves development and implementation of a comprehensive Mobile County Blueway Trail Project that integrates conservation and protection of coastal resources into increased public access for the entire community. Phase I of this project includes a planning process to inform the development of a Blueway Master Plan which will include a facility/infrastructure construction element. Phase II includes implementation of the trail construction and promotional media campaign.

Perdido Beach Public Access Coastal Protection

Cost: $383,300.00
Funding Source: NRDA (RPIII)

This project involves permitting, design, and construction of shoreline protection breakwaters at two areas of public access to the water in Perdido Beach (Mobile Avenue and Escambia Avenue). Coastal storms and surges and residential hardening of the seawall adjacent to the public access points have resulted in the loss of a large amount of sand at the public access areas, leaving little to no beach for the public to enjoy. Once breakwaters are in place, sand will be hauled in to stabilize and renourish beach areas, and native vegetative planting will be added to further stabilize the shoreline.


MicDesigns

RESTORE WATER QUALITY

Improving water quality is an important issue in coastal Alabama. The improvement of water quality conditions has multiple environmental benefits. Through water quality improvement (i.e., nutrient and other pollutant reduction) multiple living coastal marine resources benefit, including humans. A decrease in nutrient loads into downstream receiving water bodies reduces the development of algal blooms (as well as harmful algal blooms) reducing the opportunity for hypoxia to develop and result in mortality of sedentary benthic organisms and harm to mobile marine resources such as fisheries. Water quality degradation of coastal water bodies in Alabama is a both an economic (recreational and commercial) and environmental stressor. Bacterial and nutrient loading from pollutant sources results in harmful algal blooms, oyster reef closures, hypoxia development, and thus indirect consequences on coastal workforce and economies.

Water quality improvements can come from both direct implementation of restoration projects targeted at water quality improvement or indirectly from restoration actions targeted to improving living coastal marine resources, restoring and conserving habitat, and other activities that enhance the conditions of our coastal environment. The conservation of habitats and the subsequent return of those habitats to their natural functions have indirect benefits to water quantity and water quality delivery to downstream ecosystems. For example, the implementation of oyster-specific habitat projects can result in an increased filtering capacity in coastal waters, thus improving water quality.

Water quality can also be directly targeted with restoration projects that are specifically tailored to address stormwater and wastewater infrastructure failures. To date, ADCNR and partners have invested close to $130,000,000 in projects that directly benefit water quality through wastewater and stormwater management improvements, planning activities, nutrient reduction, and transportation improvements such as paving dirt roads that contribute sediment to local waterways. These funds are often used to supplement other funding sources such as the Gulf of Mexico Energy Security Act (GOMESA) to maximize funding and implement as many projects as possible across Coastal Alabama.

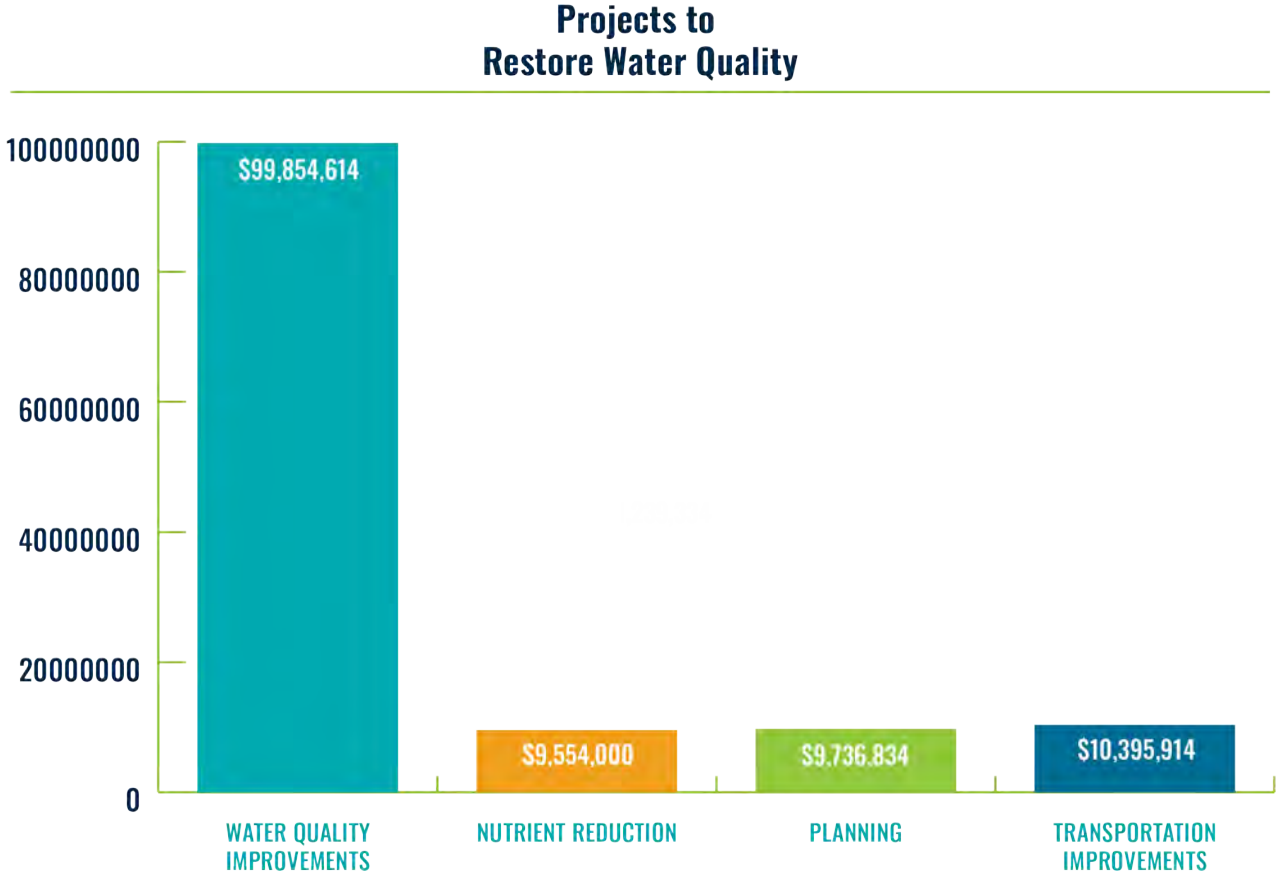
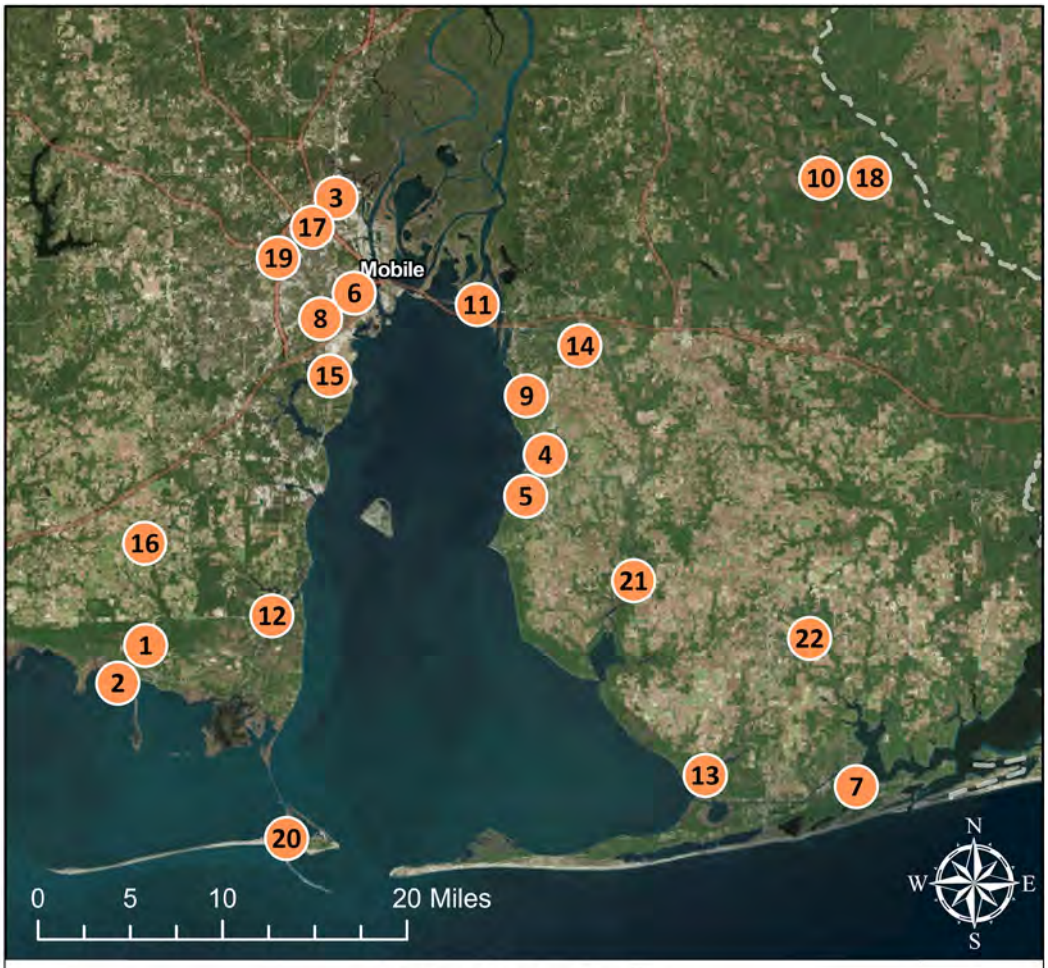


Figure 9: Funding Approved to Restore Water Quality, 2011-2022

Project Locations: Restore Water Quality



Restore Water Quality

PROJECT NAME

1 City of Bayou La Batre - Collection System/Lift Station Upgrades

2 City of Bayou La Batre - Extension of Effluent Force Main from Bayou La Batre WWTF

3 City of Chickasaw Sewer Rehabilitation Project

4 City of Fairhope - Eastern Shore Sanitary Sewer Overflows (SSOs) Prevention Plan

5 City of Fairhope - Fairhope Sewer Upgrade Phase I

6 City of Mobile - Mobile Area Storm Water Mapping & Resiliency Planning

7 City of Orange Beach - Orange Beach North Sewer Force Main Upgrade

8-9 Coastal Alabama Regional Water Quality Program

10 Develop Ecological Flow Decision-Support for Mobile River and Perdido River Basins (DOI/USGS): Alabama Component

11 Enhancing Hydrologic Connectivity in Justin's Bay (Mobile Bay)-

12 Fowl River Nutrient Reduction

13 Longevity, Stability, & Water Quality Improvements, Bon Secour DMDA

14 Lower Fish River Watershed Restoration

15 MAWSS - Perch Creek Area Sanitary Sewer Trunk Line CIPP

16 Mobile County - Dirt Road Paving (Sediment Reduction) Program

17 Mobile County - Implementing Storm Water Management Improvements for Toulmin Springs Branch and Gum Tree Branch

18 Perdido Watershed Water Quality Improvements and Restoration Assessment Program

19 Toulmins Spring Branch (E&D)

20 Town of Dauphin Island - Aloe Bay/Mississippi Sound Water Quality Enhancement Project

21 Weeks Bay Nutrient Reduction

22 Wolf Creek Headwaters Restoration - Phase I

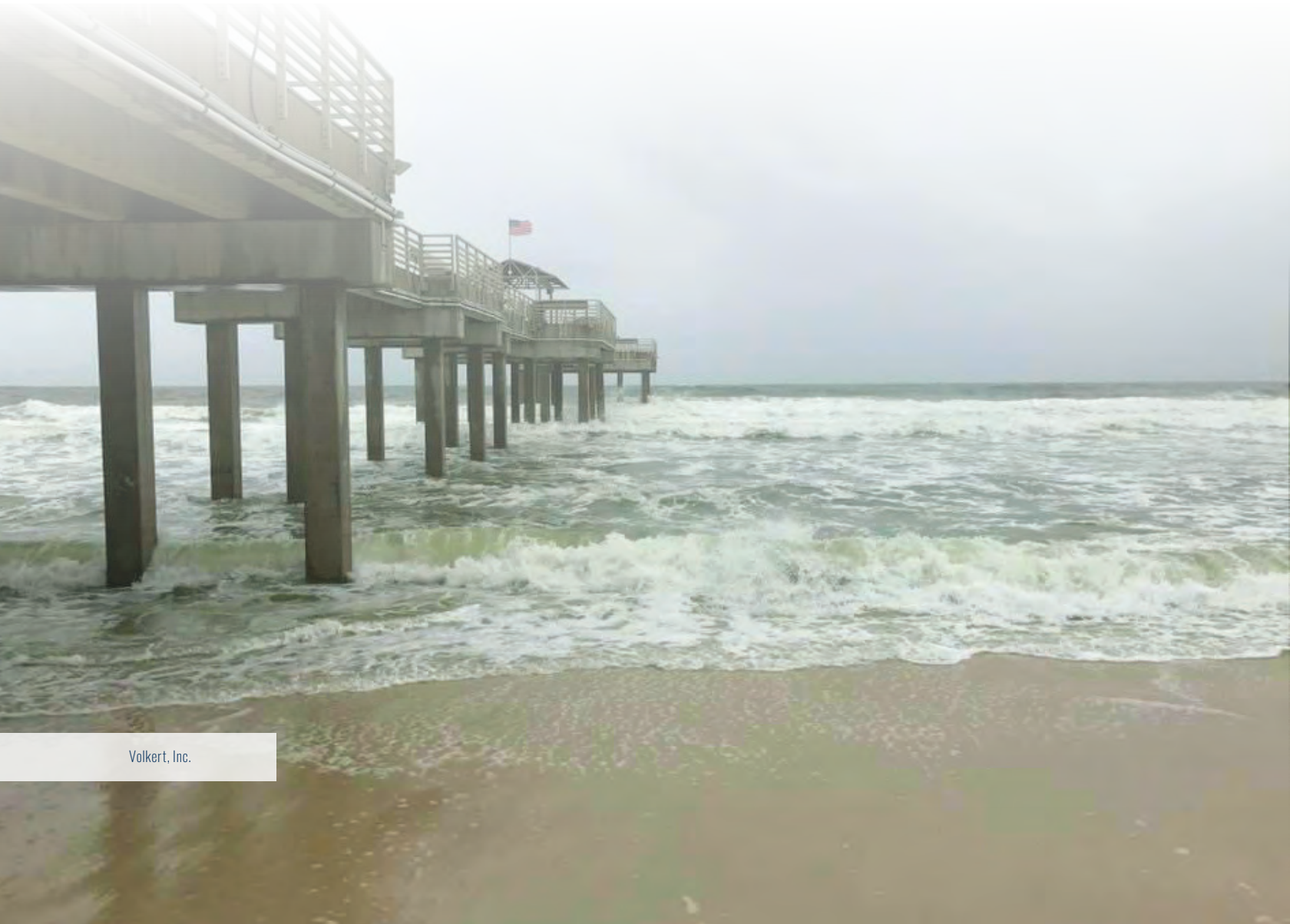
Spotlight On: Coastal Alabama Regional Water Quality Program

Multiple stakeholder forums in coastal Alabama have prioritized the improvement of water quality for promoting ecosystem health as an important driver of restoring the environment and economy of coastal Alabama. Bacterial and nutrient loading from pollutant sources results in harmful algal blooms, oyster reef closures, hypoxia development, and thus has indirect consequences on coastal workforce and economies.

In 2021, the Federal RESTORE Council approved $16,130,750 for planning and engineering and design activities for the Coastal Alabama Regional Water Quality Program. In addition, the Council has also identified a separate $19M implementation component as an FPL Category 2 priority for potential future funding for construction activities. The program supports the primary RESTORE Comprehensive Plan goal to restore water quality and quantity.

The program and projects included for implementation may include, but are not limited to: planning related work (e.g., project prioritization and selection, engineering and design (E&D), and permitting and compliance activities), construction of or upgrades to stormwater and wastewater management systems, low impact development/green infrastructure activities, and septic to sewer conversions.

Initial project selection activities are underway as of 2022 and the program will continue for 10 years.



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Spotlight On: Mobile County Dirt Road Paving

This project involves prioritization/planning, engineering and design, environmental compliance, and construction of paved roads in south Mobile County. Waterways and wetlands in the Bayou La Batre, West Fowl River, and Fowl River are intersected by approximately 57 miles of unpaved roads. The County Public Works/Engineering Department maintains these roads by placing material, smoothing/grading, maintaining, and repairing eroded ditches.

The purpose of this project is to protect water quality and the beneficial functions of the floodplain by developing and implementing a dirt road paving program to reduce the number of miles of unpaved roads in environmentally sensitive areas. Grass shoulders and ditches that erode and carry sediment into sensitive areas will also be stabilized. Mobile County commissioned an assessment and investigation by a licensed Alabama Professional Geologist to provide information for incorporation into an alternatives analysis showing current environmental impacts of subject unpaved roads.

Unpaved roads in coastal environments present unique environmental and engineering challenges to local governments. Remediation of these roads with improved drainage and habitat connectivity and asphalt road surfaces that reduce maintenance costs and environmental impacts, while improving user access, is a wise use of available funding.

Volkert, Inc.

Projects to Restore Water Quality

City of Bayou La Batre - Collection System/Lift Station Upgrades

Cost: $12,805,000.00
Funding Source: RESTORE B3 (2018)

This project involves replacement of 15 miles of outdated and leaking sewer pipe with new, reliable materials to prevent sewer leaks and upgrade of 16 major pump stations in the Bayou La Batre area. Implementation of this project will result in fewer overflows and an overall reduction of contaminants into local soil and water.

City of Bayou La Batre - Extension of Effluent Force Main from Bayou La Batre WWTF

Cost: $16,068,000.00
Funding Source: RESTORE B3 (2018)

This project involves design, permitting and construction/extension of the Bayou La Batre Wastewater Treatment Facility's (WWTF) outfall line to promote better mixing, thereby resulting in reduction of shellfish closures when flow rates are exceeded.

City of Chickasaw Sewer Rehabilitation Project

Cost: $1,339,000.00
Funding Source: RESTORE B3 (2018)

This project involves rehabilitation of aged and deteriorated gravity sewers to reduce inflow and infiltration resulting from wet weather events. Implementation activities will include closed-circuit television (CCTV) inspection of the gravity sewers, evaluation of the physical condition of the pipe, and identification of the most cost-effective rehabilitation method. Successful implementation of this project will protect the water quality of Chickasaw Creek, Mobile River, and Mobile Bay Estuary system.

City of Fairhope - Eastern Shore Sanitary Sewer Overflows (SSOs) Prevention Plan

Cost: $1,030,000.00
Funding Source: RESTORE B3 (2018)

This project will result in a plan with strategies to minimize, or eliminate altogether, sanitary sewer overflows on the Eastern Shore resulting from insufficient capacity and inflow and infiltration from excess stormwater. The plan will include alternative activities resulting in overall improvement of water quality in Mobile Bay by protecting runoff to the Bay from sanitary sewer and sediment from stormwater erosion. Activities include development of maps and models to project growth patterns along the Eastern Shore, identify areas of wastewater and stormwater needs to address this anticipated growth, and develop short-term strategies for dealing with current capacity issues related to growth and long-term plans for capacity improvements.

City of Fairhope - Fairhope Sewer Upgrade Phase I

Cost: $10,300,000.00
Funding Source: RESTORE B3 (2018)

This project consists of planning to address the most urgent needs within the sewer system by instituting major rehabilitation measures for the complete replacement of 4 main pump stations and rehabilitation of the major gravity outfall lines utilizing cost-effective and environmentally sensitive engineering solutions. Activities include engineering, design, and permitting. The implementation of the plans will protect the water quality of Mobile Bay by reducing the frequency of Sanitary Sewer Overflows (SSOs) that occur within the City of Fairhope's public sewer system.

City of Mobile - Mobile Area Storm Water Mapping & Resiliency Planning

Cost: $3,090,000.00
Funding Source: RESTORE B3 (2018)

This project involves developing the information and tools necessary to successfully plan and cost-effectively manage communities and economies in the Mobile region to be more resilient in the face of flooding, extreme weather events, climate hazards, and changing ocean conditions. Project activities include completion of a GPS digital inventory/database and map of storm water infrastructure that flows through the City of Mobile into Mobile Bay, identification of properties within the City of Mobile subject to repetitive flood loss, and development of a strategy to address and effectively remedy prospective losses.

City of Orange Beach - Orange Beach North Sewer Force Main Upgrade

Cost: $5,350,850.00
Funding Source: RESTORE B3 (2018)

This project involves replacement of approximately 8 miles of sewer force main from a point on Highway 180 in Orange Beach to an existing lift station on County Road 12. The areas benefited by this upgrade will include areas north and east of Wolf Bay to Josephine as well as areas directly served by

the force main. Implementation of this project will improve water quality in Wolf Bay by preventing failures in the exiting main and decreasing the use of on-site septic systems.

ADCNR

Coastal Alabama Regional Water Quality Program

Cost: $35,130,750.00
Funding Source: RESTORE B2 (FPL3B)

This program involves forming partnerships with coastal cities, counties, and/or local utilities to implement water quality improvement projects that align with the 2019 Planning Framework approach to reduce excess nutrients and other pollutants to watersheds and downstream receiving waters. This program will include: (1) planning (e.g., project prioritization and selection, engineering and design, and permitting and compliance activities); (2) construction of stormwater and wastewater management systems (including upgrades and repairs to existing systems); (3) low impact development/green infrastructure activities; and (4) septic to sewer conversions.

Develop Ecological Flow Decision-Support for Mobile River and Perdido River Basins (DOI/USGS): Alabama Component

Cost: $3,400,000.00
Funding Source: RESTORE B2 (FPL3B)

This project involves development and implementation of an Ecological Flow Decision Support tool for Mobile River and Perdido River Basins project, sponsored by the U.S. Department of the Interior, on behalf of the U.S. Geological Survey (USGS). This project will help restore water quality and quantity through activities by creating a decision support model to provide information on freshwater inflows to streams, bays, and wetlands. The Operational Analysis and Simulation of Integrated Systems (OASIS) model will simulate the routing of water through watersheds in the river basins, providing a tool for resource managers to evaluate questions of concern, such as the influence of water resource alteration on restoring and conserving habitat, water quality, and living coastal resources. New gaging stations will be installed to fill critical freshwater inflow data gaps and support data needs for future monitoring assessments.

Enhancing Hydrologic Connectivity in Justin's Bay (Mobile Bay)

Cost: $1,000,000.00
Funding Source: RESTORE B2 (FPL3B)

This project will build on a previous study of the impacts of the Mobile Bay Causeway on the hydrology of upper Mobile Bay. The construction of the Mobile Bay Causeway in 1927 resulted in a significant amount of dredge material placement over large portions of the Upper Mobile Bay marsh complex. At the time, filling of marsh was a preferred alternative to elevating the causeway and as a result, restrictions of hydrological interaction and connections between Mobile Bay and its Delta, including faunal migrations and natural food web interactions have occurred. Project activities focus on enhancing hydrologic connectivity in Justin's Bay and include (1) addressing data gaps remaining from the 2015 study; (2) evaluating suggested restoration alternatives with a cost-logistics and feasibility frame of reference; and (3) moving identified and prioritized restoration alternatives forward to a preliminary engineering design.

Environmental Restoration of Cotton Bayou & Terry Cove

Cost: $515,000.00
Funding Source: RESTORE B3 (2018)

This project involves development of a science-based, comprehensive understanding of the factors governing the environmental and ecological health of the Cotton Bayou/Terry Cove system, leading to a scientifically-defensible plan for restoring the ecological and environmental health within this system. Activities include development and implementation of a comprehensive data collection plan for bathymetry, hydrodynamic, water quality conditions (temperature, salinity, DO, nutrients), and anthropogenic contamination of water and sediment in the Cotton Bayou/Terry Cove system. Data acquisition, laboratory analysis and creation/calibration and validation of an EFDC model will result in a tool to predict hydrodynamic and environmental conditions in the Cotton Bayou/Terry Cove system in response to varied restoration scenarios.

Fowl River Nutrient Reduction

Cost: $1,000,000.00
Funding Source: NRDA RP-II (2018)

This project involves water quality improvement in the Fowl River watershed through improved land management practices that reduce nutrient and sediment runoff. Implementation of land management practices using USDA-Natural Resources Conservation Service (NRCS) conservation practice standards (CPS) and specifications will be the primary tool used to reduce erosion and nutrient inputs in the watershed. The proposed conservation practices will reduce the loss of nitrogen, phosphorus, and sediment, which contribute to water quality impairments in streams and downstream receiving waters, from the landscape. Improved water quality in the Fowl River watershed will ultimately benefit all estuarine and marine resources of coastal Alabama. Activities include planning, engineering and design, environmental compliance, water quality sampling and analysis, and construction.

Implementing Storm Water Management Improvements for Toulmins Spring Branch and Gum Tree Branch

Cost: $1,222,744.00
Funding Source: RESTORE B3 (2018)

This project involves completing planning, engineering, and design activities to identify restoration alternatives; define the scope of work; and develop construction specifications for restoration and improvement of drainage and streams in Toulmins Spring Branch and Gum Tree Branch. This project will identify specific projects/activities to address stressors affecting water quality, localized flooding, and stream/riparian habitats degradation in the Toulmins Spring Branch and Gum Tree Branch sub-watersheds, contributing to healthier and sustainable ecosystem service delivery.

Longevity, Stability, & Water Quality Improvements, Bon Secour DMDA Dredge Material Disposal Area

Cost: $350,966.00
Funding Source: RESTOREB3 (2018)

This project involves replacing an aging and structurally failing weir structure at the Bon Secour Dredge Material Disposal Area (DMDA) used by the USACE to dispose of dredged material from the Bon Secour River. The DMDA outlet structure will be designed and constructed in accordance with engineering best practices acceptable for similar structures and in common use by the USACE.

Lower Fish River Watershed Restoration

Cost: $6,554,000.00
Funding Source: NFWF (2020)

This project will address sediment and nutrient issues in the lower Fish River Watershed, a priority coastal watershed draining into Weeks Bay. Project activities will consist of planning, engineering, and design and environmental permitting efforts to identify solutions for six tributaries. In addition, engineering and design, permitting, and construction of a priority stream restoration project at Marlow is included.

MAWSS - Perch Creek Area Sanitary Sewer Trunk Line CIPP

Cost: $3,665,048.00
Funding Source: RESTORE B3 (2018)

This planning, design and construction project will address sanitary sewer inflow and infiltration in the City of Mobile's Perch Creek area through innovative trenchless technology called Cured In Place Pipe (CIPP). CIPP is an efficient way to extend the useful life of existing infrastructure while decreasing treatment costs due to the elimination of inflow and infiltration with minimal damage to the environment. Implementation of this project will lead to a reduction of sanitary sewer overflows improving overall water quality in the Perch Creek area.

Mobile County - Dirt Road Paving (Sediment Reduction) Program

Cost: $10,395,914.00
Funding Source: RESTORE B3 (2018)

This project involves development and implementation of a dirt road paving program to reduce the number of unpaved miles in environmentally sensitive areas of Mobile County. The project will result in a reduction of sedimentation and improved water quality. Implementation activities include engineering/design, permitting, right-of-way acquisition, and construction.

Perdido Watershed Water Quality Improvements and Restoration Assessment Program

Cost: $1,500,000.00
Funding Source: RESTORE B2 (FPL3B)

This program involves coordination and assessment of the potential cumulative benefits of restoration activities in the watershed in order to maximize water quality benefits that

are potentially measurable outside of an individual project footprint. A concurrent component of the program includes a restoration assessment to monitor the potential collective impacts to water quality of the selected, co-located projects and other restoration projects within the watershed.

Toulmins Spring Branch E&D (E&D)

Cost: $479,090.00
Funding Source: NRDA (RPII)

The project involves watershed assessment and development of a conceptual plan for the entire length of Toulmins Spring Branch detailing opportunities for erosion and sedimentation reduction, nutrient and pathogen reduction, and flooding and stormwater management.

Town of Dauphin Island - Aloe Bay/Mississippi Sound Water Quality Enhancement Project

Cost: $11,845,000.00
Funding Source: RESTORE B3 (2018)

This project involves construction of a new water reclamation facility to replace the existing facility currently providing sewer treatment to Dauphin Island residents and visitors. Implementation of this project will significantly enhance water quality discharge into Aloe Bay.

Weeks Bay Nutrient Reduction

Cost: $2,000,000.00
Funding Source: NRDA (RPII)

This project involves improvement of water quality in the Weeks Bay watershed through improved land management practices leading to the reduction of nutrient and sediment runoff. Activities include engineering and design to develop best management practices to reduce nutrients and pollutants, as well as implementation of improved land management practices to reduce nutrient and sediment loads to Mobile Bay.

Wolf Creek Headwaters Restoration - Phase I

Cost: $500,000.00
Funding Source: NFWF (NFWF 2020)

This project involves completing the engineering and design phase of the project to improve water quality within the Wolf Creek headwaters. This project area is the largest source of artificially high sediment runoff to Wolf Bay, an Outstanding Alabama Water. The project will involve approximately 7,000 linear feet of stream restoration/stabilization, 36 acres of riparian wetland restoration, and wetland construction with floodplain enhancement encompassing the major headwaters of Wolf Creek. The headwaters restoration, stabilization, floodplain, and wetland enhancement will reduce pollutant and stormwater impacts to Wolf Bay from increased stormwater runoff that is the result of rapid development of the City of Foley over the past two decades. Increased floodplain functionality during storm events will facilitate improved hydrologic function and prevent the harmful effects of future erosion within the watershed.

Stephen Hinds

PROVIDE PLANNING SUPPORT

In order to effectively implement restoration activities across coastal Alabama, the state has invested in planning efforts for the Alabama Recovery Council for RESTORE Bucket 1 and Bucket 3 implementation. Additionally, the state, in partnership with the Mobile Bay National Estuary Program, has invested in comprehensive watershed planning utilizing NFWF GEBF and RESTORE Bucket 2 funding in order to understand threats and stressors in several priority watersheds as well as to strategize prioritization of restoration actions for subsequent funding and implementation.

ADCNR

ADCNR - Planning Grant to Amend Multiyear Implementation Plan

Cost: $300,000.00
Funding Source: RESTORE B1 (2018)

This planning grant supports development of an amended Multiyear Implementation Plan that prioritizes eligible activities for Direct Component funds and coordination of broad-based participation from individuals, businesses, and organizations in the Gulf Coast Region of Alabama.

ADCNR - Planning Grant to Amend State Expenditure Plan

Cost: $300,000.00
Funding Source: RESTORE B3 (2018)

This purpose of this planning grant is to develop an amended State Expenditure Plan that prioritizes eligible activities for Spill Impact Component funds and to obtain broad-based participation from individuals, businesses, and organizations in the Gulf Coast Region of Alabama.

Coastal Alabama Partnership - Development for a Regional Strategic Plan for the Coastal Alabama Region

Cost: $579,375.00
Funding Source: RESTORE B3 (2018)

This project involves development of a regional brand and marketing effort focused on ecotourism, development of an online resource directory, and advertisement and publication of the brand with online marketing and paid advertising.

PROJECT STATUS

Project Name	Funding Source	Restoration Plan/Phase	Project Status as of 4/15/2022
Replenish and Protect Living Coastal and Marine Resources			
Alabama Coastal Bird Stewardship Program	NFWF	NFWF 2016	Complete
Alabama Estuarine Bottlenose Dolphin Protection: Enhancement and Education	NRDA	RPII	In Progress
Alabama Marine Mammal Conservation and Recovery Program	NFWF	NFWF 2014	Complete
Alabama Oyster Cultch Restoration	NRDA	Phase III Early Restoration	Operations, Maintenance and Monitoring
Alternative 1: Improving Resilience for Oysters by Linking Brood Reefs and Sink Reefs (Large-scale) Component 4: Lower-Mid Mobile Bay*	NRDA	RWTIG RPI	Approved for Funding
Assessment of Alabama Estuarine Bottlenose Dolphin Populations and Health	NRDA	RPII	In Progress
Coastal Alabama Sea Turtle (CAST) Conservation Program	NRDA	RPII	In Progress
Coastal Alabama Sea Turtle (CAST) Habitat Usage and Population Dynamics	NRDA	RPII	In Progress
Coastal Alabama Sea Turtle (CAST) Protection: Enhancement and Education	NRDA	RPII	In Progress
Coastal Alabama Sea Turtle (CAST) Triage	NRDA	RPII	In Progress
Colonial Nesting Wading Bird Tracking and Habitat Use Assessment—Two Species	NRDA	RPII	In Progress
Conservation and Enhancement of Nesting and Foraging Habitat for Birds Component 2: Pilot Town, AL*	NRDA	RWTIG RPI	Complete
Dauphin Island West End Acquisition	NRDA	RPIII	Complete
Enhance Capacity, Capability, and Consistency of Marine Mammal Stranding Networks (MMSN) in the Gulf of Mexico: Alabama Component*	NRDA	RWTIG RPI	Approved for Funding
Enhanced Fisheries Monitoring in Alabama's Marine Waters	NFWF	NFWF 2014	Complete
Enhanced Management of Avian Breeding Habitat Injured by Response in the Florida Panhandle, Alabama, and Mississippi	NRDA	Phase II Early Restoration	Complete
Enhancing Capacity for the Alabama Marine Mammal Stranding Network	NRDA	RPII	In Progress
Expansion of the Orange Beach Wildlife Rehabilitation and Education Program	RESTOREB3	SEP2018	In Progress
Gulf of Mexico Marine Mammal Stranding Database-- Data Diplomat Positions Phase II (FL)	NFWF	NFWF 2021	In Progress

Project Name	Funding Source	Restoration Plan/Phase	Project Status as of 4/15/2022
Improving Habitat Injured by Spill Response: Restoring the Night Sky	NRDA	Phase II Early Restoration	In Progress
Multifaceted Fisheries and Ecosystem Monitoring in Alabama's Marine Waters and the Gulf of Mexico – Phase II	NFWF	NFWF 2015	Complete
Multifaceted Fisheries and Ecosystem Monitoring in Alabama's Marine Waters and the Gulf of Mexico – Phase III	NFWF	NFWF 2016	Complete
Multifaceted Fisheries and Ecosystem Monitoring in Alabama's Marine Waters and the Gulf of Mexico, Phase IV	NFWF	NFWF 2018	In Progress
Osprey Restoration in Coastal Alabama	NRDA	Phase IV Early Restoration	Operations, Maintenance and Monitoring
Oyster Cultch Relief and Reef Configuration	NRDA	RPII	In Progress
Oyster Grow-Out and Restoration Reef Placement	NRDA	RPII	In Progress
Oyster Hatchery at Claude Peteet Mariculture Center–High Spat Production with Study	NRDA	RPII	In Progress
Pilot Implementation of AIS in the GOM Inshore Shrimp Fishery to Better Understand Fishing Effort to Inform Efforts to Reduce Sea Turtle Bycatch: Alabama Component*	NRDA	RWTIG RPI	Approved for Funding
Reducing Injury and Mortality of Bottlenose Dolphins from Hook and Line Fishing Gear by Utilizing Fishery Surveys, Social Science, and Collaborative Problem Solving: Alabama Component*	NRDA	RWTIG RPI	Approved for Funding
Reducing Marine Debris Impacts on Sea Turtles Gulf-wide : Alabama Component*	NRDA	RWTIG RPI	Approved for Funding
Reducing Sea Turtle Bycatch at Recreational Fishing Sites: Alabama Component*	NRDA	RWTIG RPI	Approved for Funding
Region-wide Bird Nesting and Foraging Area Stewardship: Alabama Component*	NRDA	RWTIG RPI	Approved for Funding
Region-wide Enhancements to the Sea Turtle Stranding and Salvage Network, and Enhanced Rehabilitation: Alabama Component*	NRDA	RWTIG RPI	Approved for Funding
Restoration and Enhancement of Oyster Reefs in Alabama	NFWF	NFWF 2013	Complete
Restore and Enhance Sea Turtle Nest Productivity on Gulf of Mexico Beaches: Alabama Component*	NRDA	RWTIG RPI	Approved for Funding
Restoring the Night Sky–Assessment, Training, and Outreach (E&D)	NRDA	RPII	In Progress
Side-scan Mapping of Mobile Bay Relic Oyster Reefs (E&D)	NRDA	RPII	In Progress

Project Name	Funding Source	Restoration Plan/Phase	Project Status as of 4/15/2022
Southwestern Coffee Island Habitat Restoration Project—Phase I	NRDA	RPII	Approved for Funding
Stewardship of Coastal Alabama Beach Nesting Bird Habitat	NRDA	RPIII	In Progress
Voluntary Modifications to Commercial Shrimp Lazy Lines to Reduce Dolphin Entanglements: Alabama Component*	NRDA	RWTIG RPI	Approved for Funding
Support and Enhance Community Resilience			
ADCNR - Alabama Gulf Seafood Marketing Program	RESTOREB3	SEP2018	In Progress
ADEM - Replacement of Substandard Facilities at the ADEM Coastal Office & Mobile Field Office	RESTOREB3	SEP2018	In Progress
Auburn University - Gulf Coast Engineering Research Station	RESTOREB3	SEP2018	In Progress
City of Bayou La Batre - Redevelop City Docks	RESTORE B1	MIP2018	In Progress
City of Fairhope - Fairhope Area Community-Based Comprehensive Land Use Plan	RESTOREB3	SEP2018	In Progress
City of Fairhope - Working Waterfront and Greenspace Restoration Project	RESTORE B1	MIP2018	In Progress
City of Mobile - One Mobile: Reconnecting People, Work and Play through Complete Streets	RESTOREB3	SEP2018	Approved for Funding
City of Orange Beach - Alabama Point Seawall Repair	RESTOREB3	SEP2018	In Progress
Geological Survey of Alabama - Characterization and Delineation of Significant Sand Resource Areas Essential for Beach Restoration, Offshore Alabama	RESTOREB3	SEP2018	In Progress
Provide and Enhance Economic Development and Infrastructure			
Alabama State Port Authority - Automotive Logistics /RO-RO Terminal	RESTORE B1	MIP2018	Complete
Aloe Bay Harbour Town, Phase I, II, III	RESTORE B1	MIP2018	In Progress
Baldwin Beach Express I-10 to I-65 Extension Right-of-Way Acquisition	RESTORE B1	MIP2018	Approved for Funding
Baldwin County ALDOT Capacity Improvements	RESTORE B1	MIP2018	In Progress

Project Name	Funding Source	Restoration Plan/Phase	Project Status as of 4/15/2022
City of Bayou La Batre - Water Distribution System Upgrades	RESTORE B1	MIP2018	In Progress
City of Gulf Shores - Ambassadors of the Environment	RESTORE B1	MIP2018	In Progress
City of Mobile - Historic Africatown Welcome Center	RESTORE B1	MIP2018	In Progress
City of Mobile - Innovating St. Louis Street: Mobile's Technology Corridor	RESTORE B1	MIP2018	In Progress
City of Orange Beach - Canal Road Improvements East of State Road 161	RESTOREB3	SEP2018	In Progress
Mobile County - Mount Vernon Water Treatment Plant Upgrades	RESTORE B1	MIP2018	In Progress
Mobile County - Northwest Satsuma Water and Sewer Project	RESTORE B1	MIP2018	In Progress
Restore, Conserve and Enhance Habitat			
Alabama Artificial Reef and Habitat Enhancement	NFWF	NFWF 2015	Complete
Alabama Artificial Reef and Habitat Enhancement Plan, Phase II	NFWF	NFWF 2018	In Progress
Alabama Barrier Island Restoration Assessment	NFWF	NFWF 2014	Complete
Alabama Dune Restoration Cooperative Project	NRDA	Phase I Early Restoration	Operations, Maintenance and Monitoring
Alabama Living Shorelines Program	RESTOREB2	FPL 1	In Progress
Alabama Submerged Aquatic Vegetation Restoration and Monitoring Program	RESTOREB2	FPL1	In Progress
Alabama Swift Tract Living Shoreline	NRDA	Phase III Early Restoration	Operations, Maintenance and Monitoring
Blackwater River South Tract Acquisition	NFWF	NFWF 2019	Complete
Bon Secour - Oyster Bay Wetland Acquisition Project	NFWF	NFWF 2016	In Progress
Bon Secour National Wildlife Refuge Acquisition	NFWF	NFWF 2017	Complete
Bon Secour National Wildlife Refuge Acquisition - Three Rivers Parcel	NFWF	NFWF 2018	Complete

Project Name	Funding Source	Restoration Plan/Phase	Project Status as of 4/15/2022
Bon Secour River Headwater Restoration - Phase II	NFWF	NFWF 2020	Approved for Funding
Bon Secour River Headwater Restoration-- Phase 1	NFWF	NFWF 2018	Complete
City of Gulf Shores - Little Lagoon Restoration Project	RESTOREB3	SEP2018	In Progress
City of Mobile - Three Mile Creek Watershed Restoration	RESTOREB3	SEP2018	In Progress
Coastal Alabama Comprehensive Watershed Restoration Planning Project	RESTOREB2	FPL1	In Progress
Coastal Habitat Restoration Planning Initiative	NFWF	NFWF 2014	In Progress
Comprehensive Living Shoreline Monitoring	RESTOREB2	FPL1	In Progress
Dauphin Island Beach Nourishment Engineering and Design	NFWF	NFWF 2021	In Progress
Dauphin Island Bird Habitat Acquisition and Enhancement Program	NFWF	NFWF 2017	In Progress
Dauphin Island Causeway Shoreline and Habitat Restoration Project - Phase II	NFWF	NFWF 2020	In Progress
Dauphin Island Causeway Shoreline Restoration: Engineering and Design	NFWF	NFWF 2018	In Progress
Dauphin Island Conservation Acquisition	NFWF	NFWF 2016	In Progress
Dauphin Island East End Beach and Dune Restoration - Phase I	NFWF	NFWF 2020	In Progress
Deer River Coastal Marsh Stabilization & Restoration - Phase II	NFWF	NFWF 2021	In Progress
Deer River Coastal Marsh Stabilization and Restoration-- Phase I	NFWF	NFWF 2018	In Progress
D'Olive Watershed Restoration	NFWF	NFWF 2013	Complete
Enhancing Opportunities for Beneficial Use of Dredge Sediments	RESTOREB2	FPL1	In Progress
Fowl River Watershed Restoration	NFWF	NFWF 2013	Complete
Fowl River Watershed Restoration: Coastal Spits and Wetlands Project – Phase I	NFWF	NFWF 2016	Complete
Fowl River Watershed Restoration: Coastal Spits and Wetlands Project – Phase II	NFWF	NFWF 2021	In Progress
Grand Bay Acquisition	NFWF	NFWF 2015	Complete
Gulf Highlands Conservation Acquisition	NFWF	NFWF 2016	Complete

Project Name	Funding Source	Restoration Plan/Phase	Project Status as of 4/15/2022
Gulf of Mexico Coast Conservation Corps (GulfCorps) Program: Alabama Component*	RESTOREB2	FPL1	In Progress
Gulf of Mexico Coast Conservation Corps (GulfCorps) Program: Alabama Component*	RESTOREB2	FPL3B	Approved for Funding
Lightning Point Acquisition and Restoration Project – Phase I	NFWF	NFWF 2016	In Progress
Lightning Point Restoration Project, Phase II	NFWF	NFWF 2018	In Progress
Lillian Park Beach Habitat and Shoreline Protection	RESTOREB3	SEP2018	In Progress
Little Dauphin Island Restoration Assessment	NFWF	NFWF 2017	In Progress
Little Lagoon Living Shoreline	NRDA	RPII	In Progress
Lower Halls Mill Creek Protection	NFWF	NFWF 2019	In Progress
Lower Perdido Islands Restoration Phase I (E&D)	NRDA	RPII	In Progress
Magnolia River Land Acquisition (Holmes Tract)	NRDA	RPII	Complete
Marsh Island (Portersville Bay) Marsh Creation	NRDA	Phase I Early Restoration	Operations, Maintenance and Monitoring
Marsh Restoration in Fish River, Weeks Bay, Oyster Bay and Meadows Tract	RESTOREB2	FPL1	In Progress
Mobile Bay National Estuary Program-12 Mile Creek	RESTOREB2	FPL1	In Progress
Mobile Bay Shore Habitat Conservation Acquisition Initiative - Phase II	NFWF	NFWF 2017	In Progress
Mobile Bay Shore Habitat Conservation and Acquisition Initiative – Phase I	NFWF	NFWF 2015	In Progress
Mobile County Conservation Acquisition and Salt Aire Shoreline Restoration	NFWF	NFWF 2015	Complete
Mobile County Conservation Acquisition and Salt Aire Shoreline Restoration Phase II	NFWF	NFWF 2017	In Progress
Perdido River Land Conservation and Habitat Enhancements	RESTOREB2	FPL3A	In Progress
Restoration of the North Side of Dauphin Island - Phase I	NFWF	NFWF 2018	In Progress
Restoration of the North Side of Dauphin Island - Phase II (Graveline Bay Marsh Restoration)	NFWF	NFWF 2020	In Progress

Project Name	Funding Source	Restoration Plan/Phase	Project Status as of 4/15/2022
Upper Mobile Bay Beneficial Use Wetland Creation Site	RESTOREB2	FPL1	In Progress
Weeks Bay Land Acquisition (East Gateway Tract)	NRDA	RPII	Complete
Weeks Bay Land Acquisition (Lloyd Tract)	NRDA	Supplement to RPIII	In Progress
Provide and Enhance Recreation and Public Access			
ADCNR, State Parks - Fort Morgan Parkway Trail Extension	RESTOREB3	SEP2018	In Progress
ADCNR, State Parks - Meaher Park Improvements	RESTOREB3	SEP2018	In Progress
Bayfront Park Improvements Phases IIa and IIb	NRDA	RPIII	In Progress
Bayfront Park Restoration and Improvements (Engineering and Design only)	NRDA	NRDA RPI	Complete
Bon Secour National Wildlife Refuge Recreation Enhancement - Mobile Street Boardwalk	NRDA	RPIII	In Progress
Bon Secour National Wildlife Refuge Trail Enhancement	NRDA	Phase IV Early Restoration	Operations, Maintenance and Monitoring
City of Mobile - Mobile Greenway Initiative	RESTORE B1	MIP2018	In Progress
Dauphin Island Eco-Tourism and Environmental Education Area	NRDA	NRDA RPI	In Progress
Fort Morgan Pier Rehabilitation	NRDA	NRDA RPI	In Progress
Gulf State Park Enhancement Project	NRDA	Phase III Early Restoration	Operations, Maintenance and Monitoring
Gulf State Park Lodge and Associated Public Access Amenities	NRDA	NRDA RPI	Complete
Gulf State Park Pier Renovation	NRDA	RPIII	In Progress
Laguna Cove Little Lagoon Natural Resource Protection	NRDA	NRDA RPI	In Progress
Mid-Island Parks and Public Beach Improvements (Parcels B and C)	NRDA	NRDA RPI	In Progress
Mobile County Blueway Trail Development	RESTORE B1	MIP2018	In Progress

Project Name	Funding Source	Restoration Plan/Phase	Project Status as of 4/15/2022
Perdido Beach Public Access Coastal Protection	NRDA	RPIII	In Progress
Restore Water Quality			
City of Bayou La Batre - Collection System/Lift Station Upgrades	RESTOREB3	SEP2018	In Progress
City of Bayou La Batre - Extension of Effluent Force Main from Bayou La Batre WWTF	RESTOREB3	SEP2018	In Progress
City of Chickasaw Sewer Rehabilitation Project	RESTOREB3	SEP2018	In Progress
City of Fairhope - Eastern Shore Sanitary Sewer Overflows (SSOs) Prevention Plan	RESTOREB3	SEP2018	Approved for Funding
City of Fairhope - Fairhope Sewer Upgrade Phase I	RESTOREB3	SEP2018	In Progress
City of Mobile - Mobile Area Storm Water Mapping & Resiliency Planning	RESTOREB3	SEP2018	In Progress
City of Orange Beach - Orange Beach North Sewer Force Main Upgrade	RESTOREB3	SEP2018	In Progress
Coastal Alabama Regional Water Quality Program	RESTOREB2	FPL3B	Approved for Funding
Develop Ecological Flow Decision-Support for Mobile River and Perdido River Basins (DOI/USGS): Alabama Component	RESTOREB2	FPL3B	In Progress
Enhancing Hydrologic Connectivity in Justin's Bay (Mobile Bay)-	RESTOREB2	FPL3B	Approved for Funding
Environmental Restoration of Cotton Bayou & Terry Cove	RESTOREB3	SEP2018	In Progress
Fowl River Nutrient Reduction	NRDA	RPII	In Progress
Implementing Storm Water Management Improvements for Toulmins Spring Branch and Gum Tree Branch	RESTOREB3	SEP2018	In Progress
Longevity, Stability, & Water Quality Improvements, Bon Secour DMDA	RESTOREB3	SEP2018	In Progress
Lower Fish River Watershed Restoration	NFWF	NFWF 2020	In Progress
MAWSS - Perch Creek Area Sanitary Sewer Trunk Line CIPP	RESTOREB3	SEP2018	In Progress
Mobile County Dirt Road Paving (Sediment Reduction) Program	RESTOREB3	SEP2018	In Progress
Perdido Watershed Water Quality Improvements and Restoration Assessment Program	RESTOREB2	FPL3B	Approved for Funding

Project Name	Funding Source	Restoration Plan/Phase	Project Status as of 4/15/2022
Toulmins Spring Branch E&D (E&D)	NRDA	RPII	In Progress
Town of Dauphin Island - Aloe Bay/Mississippi Sound Water Quality Enhancement Project	RESTOREB3	SEP2018	In Progress
Weeks Bay Nutrient Reduction	NRDA	RPII	In Progress
Wolf Creek Headwaters Restoration - Phase I	NFWF	NFWF 2020	In Progress
Provide Planning Support			
ADCNR - Planning Grant to Amend Multiyear Implementation Plan	RESTORE B1	MIP2018	In Progress
ADCNR - Planning Grant to Amend State Expenditure Plan	RESTOREB3	SEP2018	In Progress
Coastal Alabama Partnership - Development for a Regional Strategic Plan for the Coastal Alabama Region	RESTOREB3	SEP2018	In Progress

LOOKING TO THE FUTURE

As the State of Alabama continues to implement restoration projects across coastal Alabama, it continues to plan and prioritize restoration priorities for upcoming project phases and plans under RESTORE, NFWF, and NRDA.
What to expect in 2022 and how to engage:

Gulf Coast Ecosystem Restoration Council (RESTORE Council)

In April 2022, the Gulf Coast Ecosystem Restoration Council released an update to its Comprehensive Plan, which will guide future project planning and selection activities for future Funded Priorities Lists (FPLs).

The State of Alabama will continue to identify priorities and seek input for future rounds of funding, include meetings with stakeholders to identify priorities, and cultivate new/reaffirm existing partnerships to leverage Council-Selected Restoration Component project funding.

Natural Resource Damage Assessment (NRDA)

The Alabama TIG will continue to implement projects described in existing restoration plans. Project ideas are always welcome, and can be submitted at: https://www.alabamacoastalrestoration.org or http://www.gulfspillrestoration.noaa.gov.

Alabama Gulf Coast Recovery Council (Alabama Council)

The Alabama Gulf Coast Recovery Council is currently implementing projects contained in the initial State Expenditure Plan (Bucket 3) and Multiyear Implementation Plan (Bucket 1). Future amendments to those plans could be expected to supplement existing projects and/or add new projects, selected from proposals received from stakeholders and AGCRC members in the September-October 2021 call for project proposals. For more information, visit: https://www.alabamacoastalrestoration.org.

National Fish and Wildlife Foundation Gulf Environmental Benefit Fund

ADCNR, in coordination with NFWF GEBF submits projects for consideration of funding on an annual funding cycle. To submit a project idea for consideration, visit: https://www.alabamacoastalrestoration.org.

To submit a project idea for consideration, visit:
https://www.alabamacoastalrestoration.org

MORE INFORMATION ON DWH RESTORATION PROCESSES IN ALABAMA

Alabama Gulf Coast Recovery Council

30945 5 Rivers Boulevard • Spanish Fort, AL 36527
Email: **agcrc@dcnr.alabama.gov**
https://www.alabamacoastalrestoration.org

Members:

According to the RESTORE Act, the Alabama Gulf Coast Recovery Council shall be comprised of only the following:

- **Governor of Alabama** (Kay Ivey), who shall also serve as Chairperson and preside over the meetings of the Alabama Gulf Coast Recovery Council
- **Director of the Alabama State Port Authority** (John Driscoll), who shall also serve as Vice Chairperson and preside over the meetings of the Alabama Gulf Coast Recovery Council in the absence of the Chairperson.
- **Chairman of the Baldwin County Commission** (Jeb Ball)
- **President of the Mobile County Commission** (Connie Hudson)
- **Mayor of the City of Bayou La Batre** (Henry Bannes, Sr.)
- **Mayor of the Town of Dauphin Island** (Jeff Collier)
- **Mayor of the City of Fairhope** (Sherry Sullivan)
- **Mayor of the City of Gulf Shores** (Robert Craft)
- **Mayor of the City of Mobile** (Sandy Stimpson)
- **Mayor of the City of Orange Beach** (Tony Kennon)

Natural Resource Damage Assessment (NRDA) Alabama Trustee Implementation Group (ALTIG)

Email: **altig@dcnr.alabama.gov**
http://www.gulfspillrestoration.noaa.gov/restoration-areas/alabama

ALTIG Trustee Representation:

- **Alabama Department of Conservation and Natural Resources** (Christopher M. Blankenship)
- **Geological Survey of Alabama** (Nick Tew)
- **U.S. Department of the Interior** (Mary Josie Blanchard)
- **National Oceanic and Atmospheric Administration** (Stella Wilson)
- **U.S. Department of Agriculture** (Ron Howard)
- **U.S. Environmental Protection Agency** (Chris McArthur)

Tucker Heptinstall

Gulf Coast Ecosystem Restoration Council (RESTORE Council)

500 Poydras Street
Suite 1117
New Orleans, LA 70130
Email: **restorecouncil@restorethegulf.gov**
www.restorethegulf.gov
Mary Walker, Executive Director

Alabama Council Member:

Governor Kay Ivey
Designee: Chris Blankenship, Commissioner ADCNR

Other Council Members:

- State of Texas
- State of Louisiana
- State of Mississippi
- State of Florida
- U.S. Environmental Protection Agency (Chair)
- U.S. Department of the Interior
- U.S. Department of Commerce
- U.S. Department of Agriculture
- U.S. Department of the Army
- U.S. Department of Homeland Security

Tim W Fleming

National Fish and Wildlife Foundation Gulf Environmental Benefit Fund (NFWF GEBF)

1133 Fifteenth St. NW, Suite 1000
Washington, DC 2005
http://www.nfwf.org/gulf/Pages/home

Mike Sharp, Director (MS, AL, FL)
Amy Hunter, Ph.D, *Deepwater Horizon* Restoration Coordinator, ADCNR

For more information on restoration in Alabama, visit:

https://www.alabamacoastalrestoration.org

Cover images: NOAA Fisheries, Outdoor Alabama, Matthew Dees, Stephanie Pluscht, Keith Bozeman