

GULF ENVIRONMENTAL BENEFIT FUND

FIVE-YEAR REPORT
2013-2018



NFWF



Sea turtle hatchling

ABOUT NFWF

The National Fish and Wildlife Foundation (NFWF) is dedicated to sustaining, restoring and enhancing the nation's fish, wildlife, plants and habitats for current and future generations.

NFWF will advance its mission through innovative public and private partnerships, and by investing financial resources and intellectual capital into science-based programs designed to address conservation priorities and achieve measurable outcomes.

ABOUT THE GULF ENVIRONMENTAL BENEFIT FUND

In 2013, the U.S. District Court for the Eastern District of Louisiana approved two plea agreements resolving certain criminal cases against BP and Transocean that arose from the 2010 Deepwater Horizon explosion and oil spill. The agreements directed a total of \$2.544 billion to NFWF to fund projects benefiting the natural resources of the Gulf Coast of the type that were impacted by the spill.

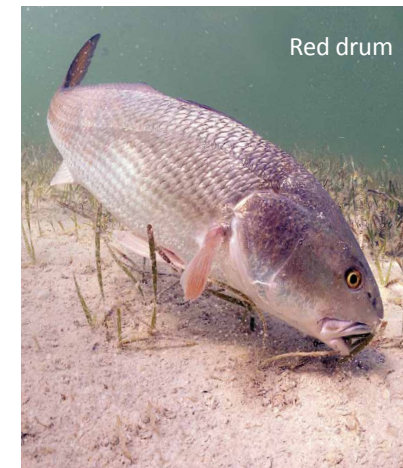
Over five years, the Gulf Environmental Benefit Fund (GEBF) has funded 122 projects valued at more than \$1 billion. NFWF has worked closely with key state and federal resource agencies to select projects that remedy harm and eliminate or reduce the risk of future harm to Gulf Coast natural resources impacted by the oil spill.



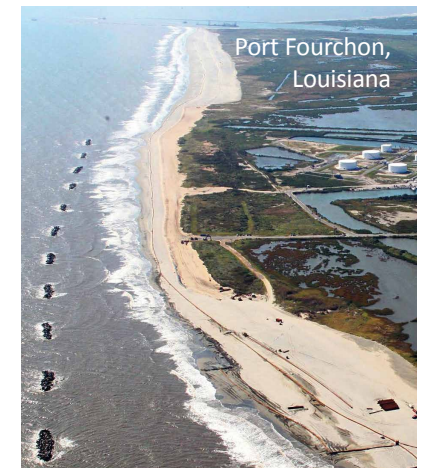
Reddish egret



White ibis



Red drum



Port Fourchon, Louisiana

Gulf Environmental Benefit Fund

- 4 Overview
- 6 The oil spill
- 8 Quick action for wildlife
- 10 Recovery efforts

Focus on wildlife

- 12 Overview
- 14 Fish
- 16 Oysters
- 18 Birds
- 22 Marine mammals
- 24 Sea turtles

Conservation at scale

- 26 Overview
- 28 Marsh habitats
- 32 Beaches and islands
- 34 Bays and estuaries
- 36 Mosaic of habitats
- 38 Engaging people

Projects by state



Alabama p. 40



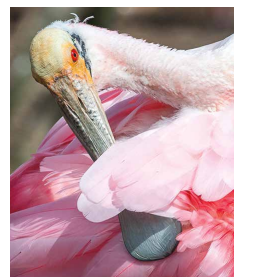
Florida p. 44



Louisiana p. 48



Mississippi p. 50



Texas p. 54

ON THE COVER

A brown pelican carries nesting material on the Florida coast.

\$2.5 billion for the Gulf

The Gulf of Mexico has always played a crucial role in the ecological integrity, prosperity and security of the United States. This bountiful sea to the nation's south nurtures vibrant communities and cultures throughout Alabama, Florida, Louisiana, Mississippi and Texas, while also providing the nation with a gateway for global trade and vital sources of energy.

The coastal and marine ecosystems of the Gulf of Mexico sustain some of North America's most productive wildlife habitats. Beaches and barrier islands serve as nesting sites for wading birds and shorebirds. Marshes and maritime forests provide migratory stepping stones to millions of songbirds and waterfowl. Inshore waters support shellfish and finfish that feed millions of Americans and fuel robust economies based on tourism and fishing. The Gulf's offshore waters hold some of the world's most spectacular marine creatures, from sea turtles to giant bluefin tuna and more than 20 species of dolphins and whales. These waters serve as a breeding ground and nursery for many of these open-ocean species, pumping a steady stream of life into the Atlantic Ocean and beyond.

It's no wonder, then, that the nation watched in horror when a man-made disaster wreaked havoc on this national treasure. On April 20, 2010, an oil rig in the Gulf of Mexico exploded, killing 11 crew members and unleashing a torrential plume of oil from a well drilled into the seabed a mile below. By the time the well was sealed, 87 days after the explosion, approximately 134 million gallons of oil were released into the Gulf.

Having spent decades funding and directing conservation projects throughout the Gulf Coast, the National Fish and Wildlife Foundation (NFWF) was well-positioned to respond quickly and effectively to the 2010 disaster. As emergency crews raced to contain the damage, NFWF marshaled its conservation partners to quickly save as much wildlife as possible. Through its Recovered Oil Fund for Wildlife, NFWF disbursed \$23 million to keep migrating birds and sea turtles out of harm's way and begin recovery.

NFWF's role expanded in 2013 when the U.S. District Court for the Eastern District of Louisiana approved two plea agreements resolving certain spill-related criminal cases against BP and Transocean. These agreements directed more than \$2.5 billion to NFWF to fund projects benefiting the natural resources affected by the spill.

NFWF launched the Gulf Environmental Benefit Fund (GEBF) in May 2013 and immediately began working with state and federal agencies and conservation nonprofits to guide the use of these funds. In November 2013, just six months after the GEBF's launch, the Foundation had approved more than \$110 million in project funding.

“ The Gulf Environmental Benefit Fund has enabled NFWF and our conservation partners to move quickly following the disastrous 2010 oil spill, generating real-world outcomes at an historic scale.”

— Edwin R. “Rod” Rodriguez, Jr.,
Chairman, NFWF Board of Directors

The Foundation coordinates closely with state and federal agencies that are managing other spill-related funds to ensure the alignment of overarching conservation strategies for the Gulf. NFWF also continues to work with corporations, private foundations and nonprofits to leverage GEBF resources into even larger conservation investments. Working hand-in-hand with state and federal agencies and conservation partners operating along the Gulf, NFWF continues to ensure these resources flow to projects and places where they will do the most good.

In the five years since the fund's launch in 2013, NFWF has awarded more than \$1 billion in funding from the GEBF, providing direct and long-lasting benefits to the types of species and habitats harmed by the spill.



Marine life
at an oil platform
in the Gulf of Mexico



The oil spill

It would be difficult to overstate the ecological importance of the Gulf of Mexico. The Gulf's rich marine and coastal ecosystems support immense populations of resident plants and animals, while also serving as a breeding ground and nursery for species that move to and from the Atlantic Ocean and beyond. The 2010 Deepwater Horizon oil spill caused immediate and long-lasting damage to wildlife populations, with negative effects rippling through the entire marine food web.

Brown pelican oiled during the 2010 spill



Crews battling fire on the Deepwater Horizon

CATASTROPHIC DAMAGE

On April 20, 2010, an oil rig in the Gulf of Mexico exploded, killing 11 crew members and injuring 17 more. The rig, named Deepwater Horizon, had been pumping crude oil from BP's Macondo well, about a mile below the ocean's surface.

Soon after the explosion, a plume of oil erupted from the seafloor. Initial efforts to cap the well failed, and for 87 days after the explosion, oil and natural gas gushed into the northern Gulf of Mexico. By the time the well was permanently sealed, approximately 134 million gallons of oil were released into the ocean, making it the largest oil spill in U.S. history.

Carried by currents and winds, oil from the spill fouled more than 1,300 miles of shoreline in the Gulf states of Alabama, Florida, Louisiana, Mississippi and Texas. Oil was detected on more than 43,300 square miles of ocean, an area about the size of Virginia.

Hundreds of fish species suffered dramatic losses, including tuna in offshore waters, snapper at nearshore reefs and flounder in coastal estuaries. Scientists estimate that spill-related toxins killed trillions of larval fish and invertebrates. Billions more shellfish were killed by the combination of spill-related toxins and surges of freshwater released as part of emergency response efforts to keep oil from entering coastal marshes. Up to 84,500 birds of at least 93 species are thought to have died during the disaster, along with up to 7,600 large sea turtles and 166,000 small juveniles. Marine mammals caught in the spill inhaled and ingested toxins accumulating at the surface, contributing to the largest and longest-lasting marine mammal unusual mortality event on record for the Gulf.

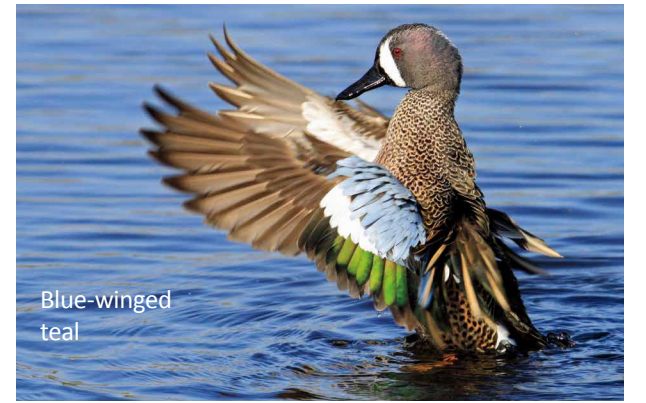
The 2010 spill ranks as one of the worst environmental disasters in the history of the United States, inflicting a terrible toll on the Gulf's wildlife populations, their habitats and human communities.

Wildlife managers preparing sea turtle eggs for transport following the 2010 spill



Quick action for wildlife

As oil continued to flow from the seafloor in 2010, NFWF formed new public-private partnerships to boost immediate response efforts, coordinating with state and federal agencies, conservation nonprofits and corporations such as FedEx, Walmart, Shell Oil Company, Southern Company and BP. These early efforts focused in large part on lessening the overall effects of the spill by moving wildlife out of harm's way. NFWF grants enabled teams to transport endangered sea turtle eggs to the Atlantic coast of Florida and work with farmers to flood agricultural fields to provide alternative habitat for migratory waterfowl. Additional early measures bolstered efforts focused on oyster reef restoration, marine wildlife strandings and shorebird nesting. These early actions set the stage for larger conservation investments in the years to come.



Blue-winged teal

MOVING TURTLE EGGS OUT OF HARM'S WAY

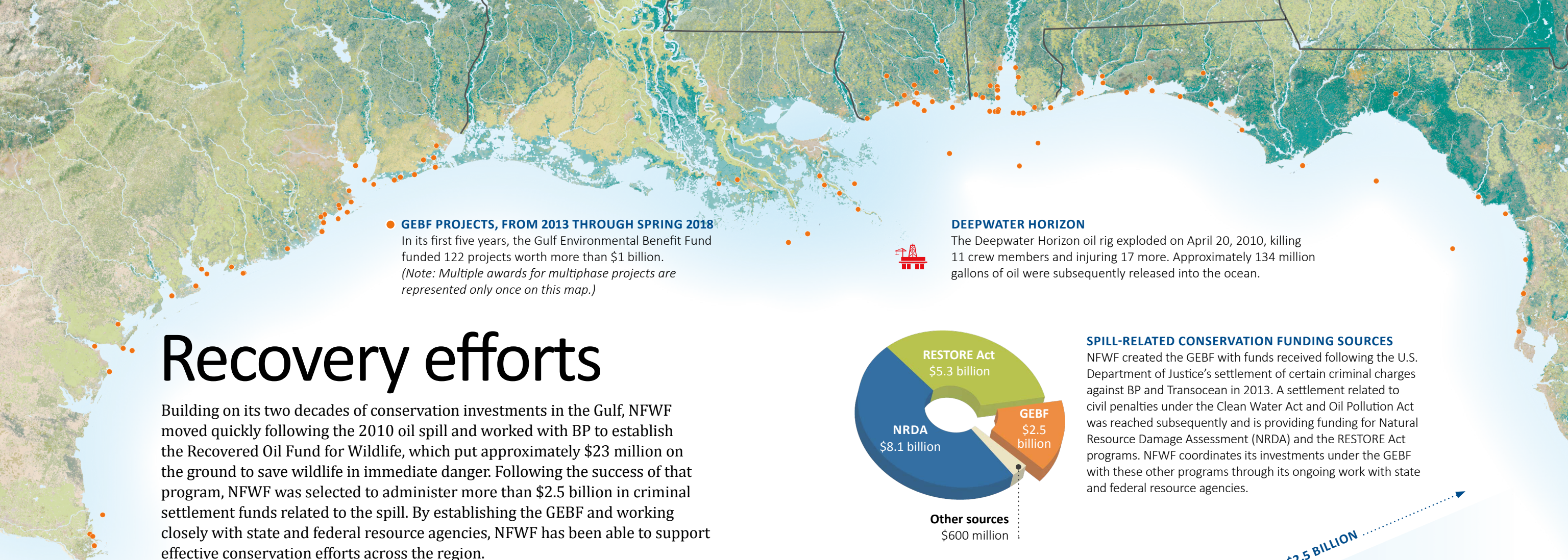
In the months immediately following the spill, NFWF teamed up with FedEx, the U.S. Fish and Wildlife Service, the National Oceanic and Atmospheric Administration, Florida officials, the Sea Turtle Conservancy and other partners to plan and carry out a complex operation to transfer tens of thousands of sea turtle eggs from beaches along the Gulf of Mexico to the Atlantic coast of Florida. The success of the mission helped to prevent the loss of an entire year's worth of turtle hatchlings from the northern Gulf of Mexico. FedEx provided expertise and equipment in moving such precious and delicate cargo, including shock-absorbing pallets and climate-controlled trailers for the eight-hour trip.

RECOVERED OIL FUND FOR WILDLIFE

NFWF moved rapidly following the spill to initiate a partnership with BP in which the sale of oil recovered from the ocean would fund immediate conservation efforts to benefit wildlife impacted by the disaster. The resulting "Recovered Oil Fund for Wildlife" awarded approximately \$23 million to 22 conservation partners across all five Gulf States. These awards helped rally a variety of conservation partners around challenges in the chaotic period following the Deepwater Horizon explosion. One resulting effort focused on protecting the estimated 1.5 billion birds migrating through the Gulf States in the latter part of 2010. The fund enabled NFWF and its partners to create 500,000 acres of temporary wetlands to support these birds.

CREATING SAFE REFUGES FOR WILDLIFE

Working with Walmart, NFWF invested more than \$2.2 million in efforts to expand and enhance habitat on federal and state wildlife refuges to provide alternative and safe habitats for migratory birds and nesting sea turtles to keep them out of harm's way.



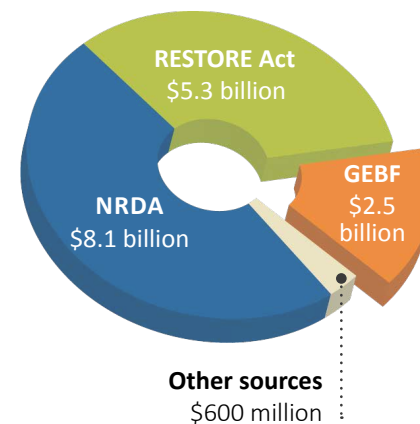
GEBF PROJECTS, FROM 2013 THROUGH SPRING 2018
 In its first five years, the Gulf Environmental Benefit Fund funded 122 projects worth more than \$1 billion.
(Note: Multiple awards for multiphase projects are represented only once on this map.)



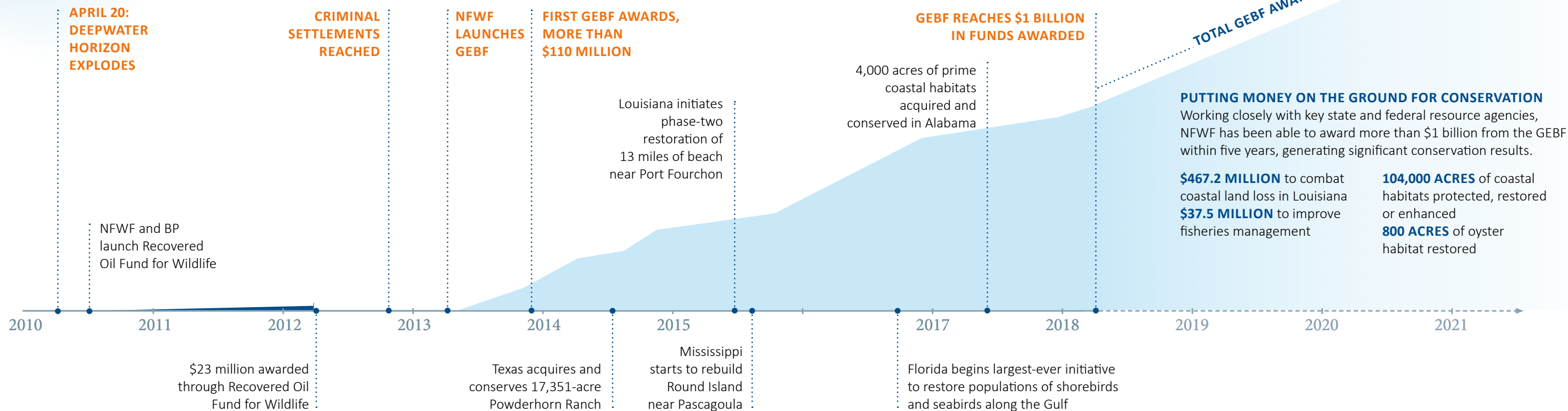
DEEPWATER HORIZON
 The Deepwater Horizon oil rig exploded on April 20, 2010, killing 11 crew members and injuring 17 more. Approximately 134 million gallons of oil were subsequently released into the ocean.

Recovery efforts

Building on its two decades of conservation investments in the Gulf, NFWF moved quickly following the 2010 oil spill and worked with BP to establish the Recovered Oil Fund for Wildlife, which put approximately \$23 million on the ground to save wildlife in immediate danger. Following the success of that program, NFWF was selected to administer more than \$2.5 billion in criminal settlement funds related to the spill. By establishing the GEBF and working closely with state and federal resource agencies, NFWF has been able to support effective conservation efforts across the region.



SPILL-RELATED CONSERVATION FUNDING SOURCES
 NFWF created the GEBF with funds received following the U.S. Department of Justice's settlement of certain criminal charges against BP and Transocean in 2013. A settlement related to civil penalties under the Clean Water Act and Oil Pollution Act was reached subsequently and is providing funding for Natural Resource Damage Assessment (NRDA) and the RESTORE Act programs. NFWF coordinates its investments under the GEBF with these other programs through its ongoing work with state and federal resource agencies.



Focus on wildlife

There are few places where wildlife, people and natural habitats are woven as tightly together as they are along the Gulf Coast. The bountiful natural resources of the Gulf of Mexico shape nearly all aspects of life: What people eat, how they make a living, what they do for fun and what they hold dear.

The 2010 oil spill ripped a hole in that fabric, coating beaches and marshes with oil, rendering seafood inedible and inflicting long-term damage to wildlife populations. Common and beloved animals such as dolphins, oysters, pelicans and game fish suffered from the widespread release of oil and other toxic compounds. Kemp's ridley sea turtles and other imperiled species, many of which were on the road to recovery in 2010, suffered severe setbacks. A host of lesser-known but essential species, including periwinkle snails and various types of aquatic plants, died en masse. The effects of oil exposure to untold millions of open-ocean fish are still being studied.

In the five years since the spill, the GEBF has empowered a network of natural resource managers, conservation professionals and volunteers to move quickly and at unprecedented scales to restore wildlife populations impacted by the spill. More than \$1 billion in GEBF grant awards have been obligated to state and local organizations with the boots on the ground, boats in the water and expertise to generate immediate and long-term improvements to wildlife populations.

Some projects protect and restore habitats vital to sustaining the diverse suite of species found along the Gulf. Other projects support

targeted actions to immediately increase populations of at-risk species. All projects focus on measurable results for wildlife.

An array of fish, including game species such as speckled seatrout and red drum, has benefited from restoration efforts in marshes and other fish nursery areas. Other large GEBF awards have allowed state agencies to further study red snapper populations, applying new techniques that already have enabled researchers to enhance stock assessments of red snapper and other reef fish in Gulf waters.

The GEBF is similarly supporting extensive efforts to rebuild and restore oyster beds in nearshore waters. The recovery of this economically and ecologically important species ranks as one of the highest conservation priorities for many of the state agencies, as well as organizations such as The Nature Conservancy.

Birds along the Gulf Coast continue to bounce back from the spill, aided in large part by landscape-level restoration projects funded by the GEBF. In the Sunshine State, for example, the GEBF supports a massive effort by state officials and Audubon Florida to restore beach-nesting bird habitat. This investment and similar ones in other states offer a lifeline to black skimmers, American oystercatchers, least terns and piping plovers. Other types of

“ The GEBF has advanced science-based conservation along the northern Gulf of Mexico, providing immediate and lasting benefits to sea turtles and a host of other species.”

— David Godfrey, Executive Director of the Sea Turtle Conservancy

birds, including ducks, herons, ibises and spoonbills, depend on wetland habitats that have been improved and protected through GEBF awards to groups such as Ducks Unlimited.

The GEBF also supports regional efforts by the Dauphin Island Sea Lab and other members of the Marine Mammal Stranding Network to better understand the causes of stranding mortalities and the long-term effects of the oil spill, particularly for the Gulf's population of bottlenose dolphins.

Sea turtles also are benefiting from GEBF-supported restoration efforts on beaches and barrier islands. The GEBF has invested in efforts led by the Sea Turtle Conservancy to eliminate light pollution along beach nesting sites. Left unchecked, such light pollution can disorient adult sea turtles coming ashore to lay eggs and prevent hatchlings from making their way to the sea.



Roseate spoonbill

Red
snapper



Gulf fish

Most of the iconic images from the spill feature damage visible to human onlookers: Rainbow sheens across the water's surface, oiled pelicans and beaches covered in a thick coat of black oil. But some of the most damaging and widespread impacts of the spill took place well out of view, throughout the open ocean and coastal estuaries. Fish populations suffered tremendous losses, affecting local economies and quality of life. The GEBF continues to invest heavily in habitat enhancements and management improvements designed to support the recovery of fish populations, including iconic and economically important Gulf species such as red snapper.

King
mackerel



CONSERVING HABITATS FOR FISH

People along the Gulf of Mexico love to fish. Gulf States boast world-class recreational fisheries for speckled seatrout, red drum, tarpon, snook, king mackerel, red snapper, tuna and billfish. In its first five years, the GEBF has invested more than \$440 million into projects to conserve and enhance coastal habitats that are important for many species of fish. Projects backed by the GEBF have improved water quality in urban areas along the coast and protected or enhanced more than 62,000 acres of essential habitat for fish, including intertidal marsh, oyster reefs and seagrass beds along vital bays and estuaries. These projects support fish species that play key roles in the quality of life in Gulf Coast communities and the health of the tourism and fishing industries.

SUPPORTING ARTIFICIAL REEFS

To date, the GEBF has invested \$12.5 million into efforts to enhance and expand the artificial reef program in Alabama. This investment enhances more than 100,000 acres of reef habitat and improves connectivity between inshore and offshore habitats, benefiting important reef fish populations. The GEBF's investment will result in approximately 840 structures deployed off the coast, along with enhancements of habitats for juvenile reef fish.

IMPROVING FISHERIES MANAGEMENT

The GEBF has invested \$37.5 million to improve monitoring techniques to increase the accuracy of stock assessments of red snapper and other reef fish in Florida, Alabama and Mississippi. Based on preliminary findings through its first three years of effort, the Florida Fish and Wildlife Conservation Commission's research institute reports that enhanced monitoring techniques have led to the detection of fish, including older age classes, that had not been fully counted in traditional surveys. The institute is working with NOAA and others to integrate this new information within stock assessments that managers use to establish appropriate fishing seasons for sustainable recreational and commercial fisheries.

American
oystercatcher



Gulf oysters

The estuaries of the Gulf of Mexico yield up to 90 percent of the nation's commercial harvest of eastern oysters. Oyster reefs also play a crucial role in the ecological health of the northern Gulf of Mexico by improving water quality, protecting fragile shorelines and providing rich habitats for a suite of fish and wildlife species. The Deepwater Horizon event directly impacted some of the region's most productive reefs and exacerbated a recent decline in reef productivity resulting from the combined effects of storms, changing salinities and other natural and man-made stressors. For these reasons, the GEBF has invested more than \$35 million into projects focused primarily on oyster restoration.

OYSTER RESTORATION AT A LANDSCAPE SCALE

The GEBF has made several investments to reverse a long-running decline in oyster populations along the Gulf Coast. The GEBF awarded \$3.75 million to Alabama to deploy more than 60,000 cubic yards of material and perform other management activities to restore 600 acres of public oyster beds. Combined with the deployment of more than 50 million oyster larvae from the state's oyster hatchery, the project increased the area of public oyster beds by more than 25 percent. The GEBF awarded another \$8.3 million to conservation partners to restore a degraded chain of oyster reefs in the Big Bend area of Florida. About 1 mile of restored oyster reefs near the mouth of the Suwanee River will improve water quality, benefiting 50,000 acres of coastal marshes and significantly increasing the productivity of oysters throughout the entire estuary.

INFORMING RESTORATION PLANNING

Mississippi has launched an ambitious oyster restoration project aimed at increasing oyster populations to a point where they can support a sustainable harvest of 1 million sacks per year, an increase of 3,500 percent relative to 2017 harvest levels. Thanks to an \$11.8 million GEBF award, resource managers can determine habitat availability and salinity patterns that are needed to successfully undertake such sizable oyster restoration practices under changing and dynamic environmental conditions. In Florida, nearly \$4.2 million was allocated to support reef restoration efforts in various salinity zones of Apalachicola Bay. The restoration of 18 acres of oyster beds will provide vital information for future projects in the bay, which historically had supported 90 percent of Florida's commercial oyster harvest with more than 3,000 acres of productive oyster beds.

BUILDING INNOVATION ACROSS THE GULF COAST

Galveston Bay is home to Texas' largest collection of oyster reefs, but their future is uncertain. The GEBF awarded \$2.5 million to The Nature Conservancy to restore 40 acres of reef in areas that are projected to increase in suitability for oyster growth as salinity patterns change. These reefs are intended to serve as sanctuaries from which future oyster larvae can spread and boost harvestable reefs nearby. In Florida, a \$2 million award is being used to design 6 miles of new reef in Pensacola Bay. This innovative restoration design will increase reef resilience through the use of materials that are resistant to erosion but still suitable for oyster larvae. The project, once completed, will contribute to the sustainability of a mosaic of coastal habitats that have been acquired, restored and placed under improved management.

Gulf birds

Some of the most vivid and horrifying images captured during the 2010 oil spill showed the terrible toll inflicted on birds along the Gulf of Mexico. Toxic sludge covered brown pelicans, herons, terns and a host of other birds. For many Americans, these images continue to serve as vivid examples of the ecological destruction wreaked by the Deepwater Horizon disaster. Over the past five years, major investments have focused on helping these species recover. GEBF projects have helped address many of the factors limiting bird populations, including insufficient habitat, disturbances at nesting sites and knowledge gaps in resource management. These investments have helped improve survival and reproductive success for numerous priority species.

Reddish
egrets

BEACH-NESTING BIRDS

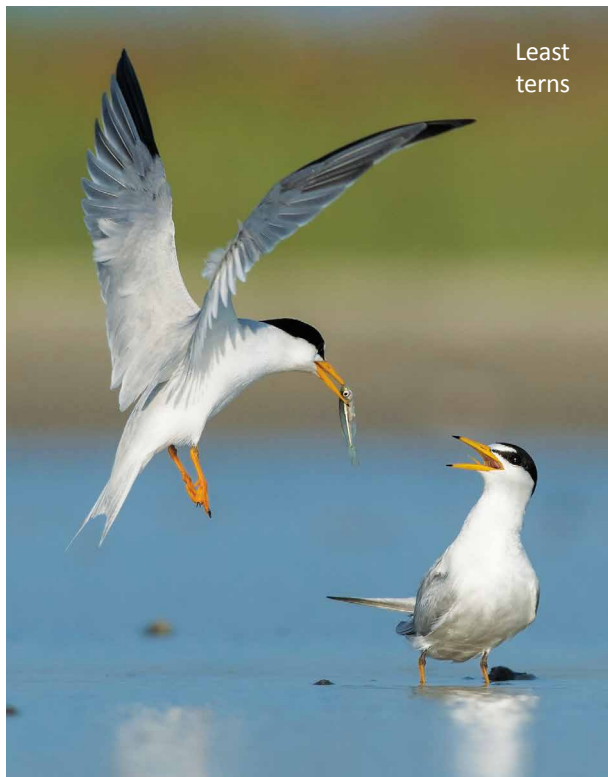
Oil from the spill directly harmed shorebirds such as American oystercatchers and Wilson's plovers, as well as beach-nesting seabirds such as least terns and black skimmers. These birds were further impacted by cleanup efforts along beaches where they nest. Since these species lay nests and raise young in the same narrow beach habitats that people prize for recreation, eggs and chicks are vulnerable not only to predators, but also human disturbances. Through funding from the GEBF and partnerships with Southern Company and other private-sector supporters, NFWF has invested in a number of efforts to support these species. Bird stewardship programs being built or expanded in Florida, Mississippi, Alabama and Texas represent one effective solution to the problem of human disturbance. Across eight state parks in the Florida Panhandle, for example, partners have documented increases in the breeding populations of snowy plovers and least terns in recent years, by 30 percent and 48 percent, respectively.

ROOKERY ISLANDS

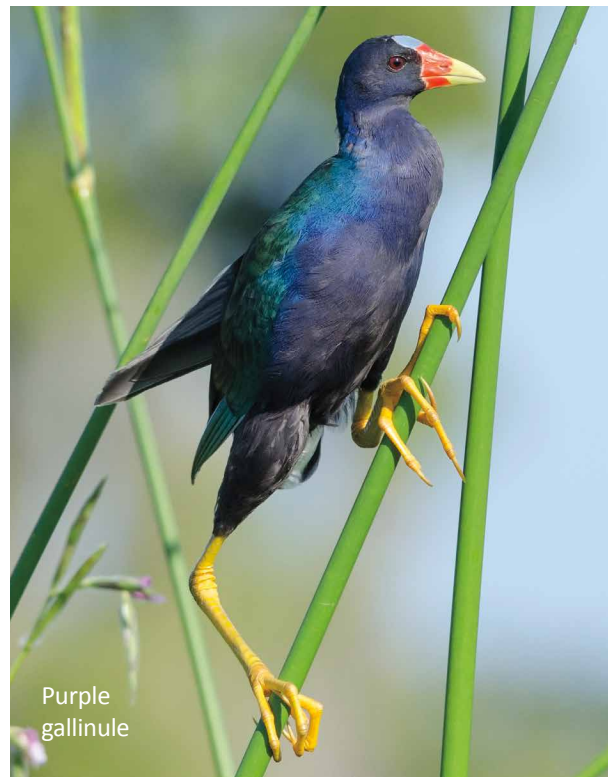
Small islands off the coast of Texas and other Gulf States are hugely important for populations of wading birds. Historically, wading birds such as herons, egrets and spoonbills nested on barrier islands and mainland coastal sites. Over time, human development has pushed these nesting birds out. Today, they nest almost exclusively on islands along the Texas coast that were created by dredge material. Enhancing the quality of nesting habitat and reducing disturbances on these islands is crucial to helping these species survive and thrive. The GEBF has invested \$4 million to restore or enhance nearly one-third of the rookery islands across the coast of Texas, including 60 that suffered devastating impacts from Hurricane Harvey in 2017. The Coastal Bend Bays and Estuaries Program is leading the effort to make these islands suitable for nesting once again.



Great egrets
on rookery
island



Least terns



Purple gallinule



Greater shearwater



Magnificent frigatebirds

BEACH AND DUNE HABITAT

The GEBF has invested heavily in projects to restore beach and dune habitats along the Gulf, including \$11.8 million to rebuild Round Island off Mississippi and \$146 million to renourish part of a 13-mile stretch of beach along Louisiana’s Caminada Headlands. Restoration projects of this size help restore the first line of defense for a fragile coastline and can trigger rapid and dramatic responses from local bird populations. On Round Island, black skimmers went from essentially absent to establishing more than 160 nests in the season after construction. Such beach restoration projects can be particularly beneficial to federally threatened piping plovers, since more than 90 percent depend on the Gulf for wintering habitat.

HABITAT FOR MARSH BIRDS

Mississippi’s Coastal Preserves Program has been acquiring and protecting coastal habitats since 1992. The GEBF is helping Mississippi expand its network of protected lands, with more than \$17 million dedicated to acquiring parcels that will protect and enhance habitats for marsh birds. While secretive birds such as rails and bitterns remain difficult to study, many experts agree that several marsh bird species are experiencing serious population declines, a situation made worse by the 2010 oil spill. Supported by GEBF funds, researchers in Mississippi are investigating the breeding and wintering ecology of priority marsh bird species. These studies, unprecedented in scale, are expected to guide future conservation actions and help marsh birds rebound.

IMPROVING WILDLIFE REFUGES

Congress and state legislatures have protected national wildlife refuges and state wildlife management areas because of their unique habitat value. These areas are important to coastal bird species, providing nesting, roosting and foraging habitat. Through the GEBF, \$83.5 million has been invested to acquire strategic properties in and around these priority wildlife lands. In total, nearly 39,000 acres have been added to places such as McFaddin and Laguna Atascosa National Wildlife Refuges in Texas, Bon Secour National Wildlife Refuge in Alabama and Yellow River Wildlife Management Area in Florida. Additional GEBF investments are revitalizing habitat within these refuges to enhance ecological value to coastal birds and other wildlife.

CONSERVATION ON PRIVATE LANDS

Much of the Gulf Coast is privately owned, so landowners are essential partners in conserving wildlife habitat. NFWF and the USDA’s Natural Resources Conservation Service have established a multiyear, \$60 million partnership to improve habitat on private lands along the Gulf Coast. Already, this partnership is on track to protect and restore more than 100,000 acres of wetlands on private farms and ranches. These outcomes will be expanded as the partnership continues. In one project, Ducks Unlimited has received GEBF funding to work with rice farmers across the Texas coast to create or enhance more than 27,000 acres of wetland habitat, with big benefits for waterfowl, wading bird and shorebird species that were injured in the oil spill.



Black skimmer



Sanderling

Marine mammals

The Gulf of Mexico is home to 12 species of whales, nine species of dolphins and porpoises, and the West Indian manatee. During the 2010 oil spill, marine mammals inhaled and ingested toxins that accumulated at the surface, contributing to the largest and longest-lasting marine mammal unusual mortality event on record for the Gulf. The annual number of injured or dead marine mammals has remained at levels seen during the spill, prompting questions about the long-term health of these charismatic species. Through the GEBF, NFWF and its many partners are expanding stranding networks and increasing capacity to respond to this ongoing crisis and help these populations recover.

Bottlenose dolphins
and mullet



TREATING INJURED ANIMALS

The GEBF has awarded \$16.8 million to members of the Marine Mammal Stranding Network, expanding coverage from the Florida Keys to the Mississippi Sound. Partner funding from the SeaWorld Ocean Health Initiative has expanded capacity and coordination to Louisiana. This funding provides for additional veterinarian staff, volunteer coordinators and equipment needed to deliver first-response care to distressed animals and monitor emerging trends for disease and mortality. This increased capacity is already paying dividends. From 2012 through 2017, more than 220 manatees were treated and released in Florida, a four-fold increase over a similar period before the spill. Network members also responded to two mass stranding events involving more than 300 animals, including 99 false killer whales and 35 pilot whales stranded in South Florida in 2016.

UNDERSTANDING CAUSES OF MORTALITY

GEBF funding to support stranding network organizations across the Gulf Coast helps veterinarians and researchers better understand the causes of mortality for marine mammals following the 2010 spill. Stranded dolphins and whales often die, and scientists must have the resources to conduct full analyses to determine the causes of death. The number of stranded animals to which the network has responded has more than doubled from the five years before the Deepwater Horizon spill to the five years after. These investments in training and coordination also ensure that all 11 network members operating from Florida through Texas will use the same data collection methods and database to track response, care, and cause of death of marine mammals. Through this standardized regional approach, resource managers can learn more about the spill's impacts to populations, identify trends and adjust management strategies to better protect marine mammals.

Gulf sea turtles

Five species of sea turtles, all endangered, use the waters and coastlines of the Gulf of Mexico for nesting, feeding and migration. The 2010 oil spill threatened the recovery of these species, taking a particularly hard toll on populations of loggerhead and Kemp's ridley sea turtles. In the wake of the disaster, NFWF and its partners launched an extensive effort to support these species. Building on its 15-year history of supporting sea turtle conservation, NFWF strengthened efforts to reduce in-water threats and protect and enhance nesting habitats. Through the GEBF and other conservation programs, NFWF continues to bring the public and private sectors together to ensure these beloved marine reptiles rebound and thrive.

Loggerhead
hatchling



Green
sea turtle



KEEPING SEA TURTLES IN THE DARK

Hatchlings that survive a gauntlet of land-, air- and sea-based predators must still contend with man-made threats. Light pollution near nesting beaches disrupts the subtle visual cues that guide hatchlings to the sea, causing an estimated 100,000 disoriented hatchlings to die along Florida's beaches each year. The GEBF awarded \$4.5 million to the Sea Turtle Conservancy and state partners to shield, change or remove problematic lighting. Much of the work unfolding in the Panhandle aims to improve contiguous stretches of beach, rather than small pockets of habitat. To date, the nonprofit group has retrofitted 4,500 fixtures, reducing disorientation rates on some nesting beaches from 50 percent to near zero.

INCREASING REHABILITATION CAPACITY

In January 2018, Florida and Texas experienced some of the worst cold-stun events on record, affecting nearly 5,000 sea turtles. GEBF investments enhanced capacity among rehabilitation centers across the Gulf, allowing these animals to be effectively treated and released. With funding and support from the GEBF and SeaWorld, the Amos Rehabilitation Keep (ARK) in Texas completed major repairs to its facility following Hurricane Harvey, just two weeks before the cold weather struck. Once up and running, ARK was able to treat and release more than 500 sea turtles in just one month.

PROTECTING NESTING HABITAT

In Texas, the GEBF funded the protection of 1 mile of beach habitat on Padre Island, home to the country's largest nesting population of the endangered Kemp's ridley sea turtle. Filling this critical gap between already protected lands gives resource managers better control over vehicle beach access, other public uses and incompatible development in important sea turtle nesting areas. Securing such undeveloped, high-priority beaches ranks as one of the most important conservation actions for sea turtles.

Conservation at scale

The 2010 oil spill ranks as one of the worst environmental disasters in the history of the United States. Restoration efforts, including those funded by the GEBF, are unfolding on a similarly unprecedented scale. Resource managers are leveraging this rare opportunity to protect and enhance entire landscapes, actions that will help shape the future of life along the Gulf Coast.

Many factors contribute to the magnitude of this conservation opportunity; chief among them are the amount of funding available and the relatively intact condition of habitats along the Gulf Coast.

The GEBF's \$2.5 billion total represents one of the first major conservation funding sources arising from the spill, but not the largest. An estimated \$5.3 billion eventually will be distributed through the RESTORE Act, along with another \$8.1 billion through the Deepwater Horizon Natural Resource Damage Assessment program. This unprecedented amount of funding is leaving a legacy of conservation across the Gulf.

The GEBF already has provided quick and much-needed support to wildlife populations and habitats impacted by the 2010 disaster. Many of these same efforts will serve as springboards to even larger-scale outcomes in the years ahead.

GEBF-funded projects are strengthening interagency collaboration needed to rebuild barrier islands, beaches and dune systems. Restoration projects already completed or underway in places such as Louisiana's Caminada Headlands and beaches along the McFaddin National Wildlife Refuge in Texas

benefit wildlife and provide communities and industries with a stronger first line of defense against storms.

Researchers and resource managers are using state-of-the-art technologies to study the hydrology of Louisiana marshes and map ocean-bottom habitats in Florida that support economically important fish species. Such applied research ensures that current and future conservation investments generate the greatest possible results for wildlife and people.

Many projects funded to date by the GEBF augment or connect lands already protected, an investment strategy that multiplies the ecological benefits for wildlife on the move. Supported by GEBF funding, public and private partners are taking historic steps to conserve and enhance vast tracts of public and private land, including the Powderhorn Ranch near Aransas National Wildlife Refuge in Texas and key properties around the Grand Bay National Wildlife Refuge in Alabama and Mississippi.

Conserving and enhancing large, contiguous habitats along the Gulf of Mexico also bolsters resilience in the face of coastal erosion, changes in sea level and changing migration patterns.

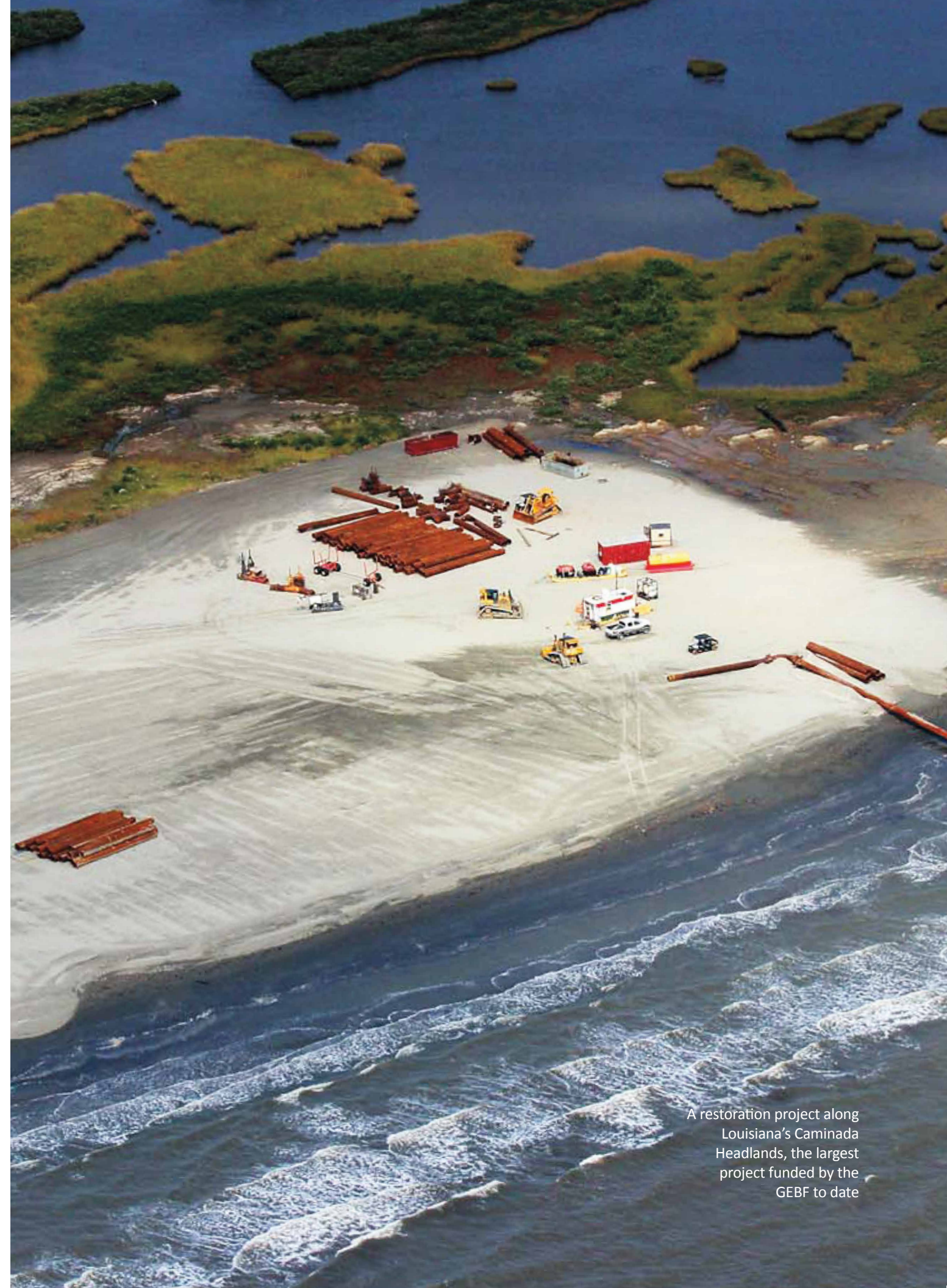
“Funds from a variety of sources are providing a once-in-a-lifetime opportunity to build a lasting legacy of conservation for fish, wildlife and human communities here in Alabama and elsewhere along the Gulf Coast.”

— Judy Haner, Marine Programs Director for The Nature Conservancy in Alabama

Intact barrier islands, marshes, bays and coastal lands also protect the people of the Gulf Coast. These habitats absorb the fury of hurricanes, sparing human communities the worst effects of storm surge and flooding.

From 2013 through 2018, the GEBF funded 122 projects, a majority of which conserve vital habitats. Together, these projects are expected to protect, restore or enhance more than 36,000 acres of marsh habitat, 2,750 acres of beach and dune habitat, 800 acres of oyster beds and 40 miles of shoreline.

Just five years after the GEBF was launched, there are many conservation successes on which to build.



A restoration project along Louisiana's Caminada Headlands, the largest project funded by the GEBF to date

Marsh habitats

The 2010 oil spill exacerbated a long-running decline of marsh habitats along the Gulf Coast. Pollution and ever-increasing demands for freshwater have degraded water quality, development has chipped away at wildlife habitats, and public works projects and private dredging have altered the interplay of water and sediment that sustain marsh ecosystems. In Louisiana, one of the most successful flood protection and navigation programs in the world, which was intended to protect lives and livelihoods, has contributed to coastal land loss of epic proportions. From 1932 to 2000, the state lost 1,900 square miles of coastal wetlands. By 2050, if no action is taken, one-third of 1930s coastal Louisiana will have vanished. But with support of the GEBF and other spill-related funding sources, resource managers in Gulf States are turning the tide for these essential coastal habitats.

Tricolored heron



Fiddler crab

USING DREDGE MATERIAL TO RESTORE THE COAST

The GEBF has invested more than \$45.2 million in coastal Mississippi to help managers plan and launch a comprehensive effort to use material dredged from ports and shipping channels to restore marsh habitats within St. Louis Bay, Back Bay Biloxi and the Mississippi Sound. State and federal agencies have embarked on ambitious and innovative partnerships that already have used more than 3 million cubic yards of dredge material to restore 220 acres of marsh, beach and dune habitat at the Round Island Coastal Preserve near Pascagoula.

ENHANCING ALABAMA'S COASTAL MARSHES

The Fowl River Watershed in Alabama, which drains much of the runoff of south Mobile County into Mobile Bay, faces loss of wetlands, shoreline erosion and sedimentation from intensifying urban development and other changes in land use. The GEBF has invested nearly \$21.3 million into Fowl River projects, including the restoration of Mon Louis Island, which protects marsh habitats by stabilizing the mouth of the river to reduce further erosion. Other projects in the watershed are supporting local efforts to acquire crucial parcels of land and install breakwaters to restore and protect other coastal marsh.

PROMOTING RESILIENCE IN MARSH SYSTEMS

The GEBF is supporting projects that will ensure resilience across vast marsh systems along the Gulf Coast. Several projects are preserving buffer areas necessary for marshes to migrate inland with expected changes in sea levels. Additionally, \$30 million in GEBF-funded projects will restore freshwater and reduce saltwater intrusion that threatens the long-term survival of the largest remaining expanse of marsh habitat in Texas, the 138,000-acre Salt Bayou Watershed.



Blue crab

RESTORING LOUISIANA'S FRAGILE COAST

The Mississippi River began forming Louisiana's coast more than 7,000 years ago, depositing sediment gathered along its 2,300-mile journey to create river deltas, bays, bayous, coastal wetlands and barrier islands. This dynamic process established a vast landscape of coastal marshes and wetlands that are home to millions of migratory birds and dozens of fish and wildlife species.

Following European settlement and throughout the Industrial Revolution and modern times, various human activities have slowly disconnected the life-giving power of the Mississippi River from these habitats. Levees along the river, the construction of extensive navigation systems and other factors have kept sediment from replenishing Gulf Coast habitats and contributed to the steady loss of coastal marshes.

For decades, Louisiana's fight to restore its eroding coast has focused on reconnecting its sediment-rich rivers to the unique landscapes they created. What began as an academic analysis of the value of river diversions can now be found in nearly every coastal master plan and implementation strategy.

Diverting much-needed sediment back into these marsh systems has become a cornerstone of Louisiana's Coastal Master Plan. In conjunction with many other coastal restoration projects, river diversions hold the potential to rebuild tens of thousands of acres over the coming decades and sustain the ecosystems, commerce, energy resources, recreation and culture that are so unique to Louisiana.

In its first five years, the GEBF has awarded more than \$467.2 million to support efforts by state and federal partners to advance monumental efforts to save what is left of Louisiana's marshes and restore some of what has been lost.



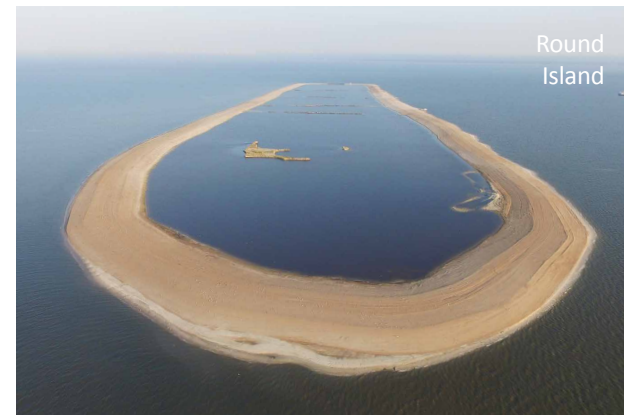
GEBF funds supported the construction of this state-of-the-art model at the Louisiana State University Center for River Studies, which uses tiny particles and flowing water to visualize and measure the effectiveness of projects within Louisiana's Coastal Master Plan.



Beaches and islands

An incredibly complex and dynamic system of beaches and barrier islands stretches across the coastline of the Gulf of Mexico. These spectacular white-sand beaches and dune systems enrich the quality of life and drive tourism throughout the region, but they also serve as some of the region's most important nesting sites and foraging habitats for shorebirds, coastal seabirds, sea turtles and fish. Human influences have altered many of the natural processes that govern these delicate systems, leading to beach erosion and habitat degradation, a situation made worse when oil from the Deepwater Horizon disaster washed ashore. Recovery efforts funded through the GEBF are reversing that trend in some of the hardest-hit areas, to the benefit of both wildlife and people.

Least tern
and chicks



RESTORATION OF BARRIER ISLANDS

The Gulf Coast's barrier islands protect fragile interior marshes, mainland beaches and human communities from wave energy and storms. The GEBF has made significant investments toward the restoration of these wildlife habitats following the 2010 oil spill. More than 13 miles of beach and dune habitat have been restored at the Caminada Headland in Louisiana, with nearly \$146 million in funding from the GEBF and other sources. Mississippi's Round Island Coastal Preserve was restored from a small speck of sand to a 220-acre island, including an intertidal marsh system in its interior.

ACQUISITION OF IRREPLACEABLE HABITATS

Funding from the GEBF has enabled state officials and conservation nonprofits to acquire and permanently protect some of the most ecologically important, undeveloped parcels of beachfront and barrier island habitat along the Gulf Coast. In Alabama, officials used GEBF funding to acquire the two largest privately held and undeveloped beachfront parcels remaining in the state, benefiting future generations of sea turtles, shorebirds and the endangered Alabama beach mouse.

RESTORATION OF BEACH AND DUNE HABITATS

GEBF investments also help state resource managers address lands that already have been protected but are in need of restoration. State and federal partners are working to counter erosion at Little Dauphin Island, part of the Bon Secour National Wildlife Refuge in Alabama. Construction will soon be underway to restore 17 miles of beach and dune habitat along the McFaddin National Wildlife Refuge on the Texas Upper Coast, an effort that will not only provide habitat for shorebirds but also help protect more than 18,000 acres of coastal marsh from loss due to saltwater intrusion.

Bays and estuaries

The Gulf's bays and estuaries sustain much of the region's diversity of wildlife. These bodies of water serve as life-giving nurseries for marine life that moves out into open water as adults. It's estimated that 90 percent of all commercial and recreational fish species begin their lives in these habitats. Here, among seagrasses and oyster reefs, resident species of birds, fish, reptiles and crustaceans form complex and interdependent marine communities. Development, habitat fragmentation, polluted runoff, sea level rise and disasters such as the 2010 oil spill threaten the productivity of the Gulf's precious bays and estuaries.

Spotted seatrout



Whooping crane and blue crab

PROTECTING SHORELINES FOR HEALTHY BAYS

The Galveston Bay system in Texas has lost more than 35,000 acres of intertidal wetlands since the 1950s. The population of surrounding counties is projected to rise dramatically, increasing development pressure on any remaining tracts of open land. GEBF funds helped local nonprofits secure conservation easements on nearly 2,000 acres of undisturbed habitats to benefit wading birds, waterfowl, neotropical migratory birds and estuarine-dependent fishery species such as shrimp, red drum and blue crabs. Other GEBF awards have restored nearly 6.5 miles of eroding shoreline to protect and restore 930 acres of intertidal marsh and seagrass beds at places such as Galveston Island State Park.

IMPROVING WATER QUALITY

Urban runoff presents a major challenge to the health of Gulf Coast bays and estuaries, particularly around highly populated areas such as Pensacola, Florida and Mobile, Alabama. In these areas, the GEBF is supporting major efforts to improve water quality in coastal watersheds listed among each state's highest priorities. An \$11 million award will enable Escambia County to reduce sediment and nutrient loading to Bayou Chico in Florida, while a \$12.7 million award to Mobile Bay National Estuary Program is restoring highly degraded streams in the D'Olive watershed, a major tributary to Mobile Bay, reducing sedimentation by more than 90 percent.

BUILDING OYSTER REEFS TO BENEFIT SEAGRASSES

The St. Andrew Bay in Florida is unique both for its biological diversity and its clear, high-salinity waters. Submerged aquatic vegetation flourishes here, providing nursery habitat benefits to a variety of commercially and recreationally important fish and shellfish species, including gray snapper, spotted seatrout, mullet, grouper, red drum, flounder, shrimp, blue crabs and scallops. The GEBF has funded efforts to restore more than 1 mile of oyster habitat in the western part of the bay. These new oysters also will improve conditions for seagrass.

Mosaic of habitats

The influx of billions of dollars in restoration funding from the GEBF and other spill-related sources has enabled state and federal agencies and leading conservation organizations to think big and tackle once-in-a-lifetime projects that will leave a lasting conservation legacy along the Gulf of Mexico. Implementing projects at a landscape scale enables the protection of a mosaic of habitats that provides wildlife the ability to adapt to changing conditions over time.



Marshes, lagoons, tidal flats and maritime forests on the Powderhorn Ranch in Texas



Beach restoration in Louisiana

CONSERVING THE GRAND BAY SAVANNA

The GEBF has made significant investments to safeguard and restore ecological integrity by funding landscape-scale acquisitions and restoration projects in the region's most biologically diverse landscapes. Such was the case in and around the Grand Bay Savanna, which encompasses 26,000 acres in both Alabama and Mississippi, and includes the Grand Bay National Wildlife Refuge and state conservation lands. More than \$7.5 million in GEBF funding helped expand, link and enhance protected areas in both states. These investments boosted cooperative efforts by state governments, federal agencies and conservation nonprofits while leveraging additional funding through the RESTORE Act and Natural Resource Damage Assessment programs.

PROTECTING POWDERHORN RANCH IN TEXAS

For decades, state leaders and conservation nonprofits in Texas had their sights set on conserving the fabled Powderhorn Ranch, a 17,351-acre property along the Matagorda Bay. The property represented one of the last opportunities along the Texas coast to conserve such a large tract of land containing such a diverse array of coastal habitats. The ranch includes vast salt marshes and bayous, a series of isolated freshwater wetlands, a system of high sand ridges and dunes, and a mature, live-oak maritime forest. The property and nearby bay also support a wide range of wildlife, from red drum, blue crabs and herons to raptors and neotropical songbirds that recover on the property after migrating across the Gulf of Mexico. The GEBF awarded \$34.5 million to help the state acquire and permanently conserve this ecological crown jewel.

LEVERAGE AND COORDINATION

GEBF-funded projects, including many focused on comprehensive planning, set the stage for future investments of NRDA and RESTORE funds. Such coordination can leverage the power of restoration funds to achieve even greater conservation success at a landscape scale.

Engaging people

The GEBF was established with a mandate to provide benefits to wildlife and habitats damaged by the 2010 oil spill. But the projects funded since its inception in 2013 also provide enormous benefits to communities across the region, where lives and livelihoods are closely connected to natural resources. Restored habitats protect communities from the worst effects of hurricanes and provide resilience in the face of other disasters. GEBF-funded projects have generated jobs, supported local economies, expanded public access to natural areas and engaged people in conservation activities throughout the Gulf Coast.



Shoreline restoration project led by the Galveston Bay Foundation in Texas



Shrimping boat in Mississippi

PROTECTING COASTAL COMMUNITIES

Projects funded by the GEBF strengthen barrier islands, beaches and marshes that protect coastal communities and some of the nation's most important energy infrastructure from the damaging effects of hurricanes. In its largest award to date, the GEBF invested nearly \$146 million to rebuild and restore more than 13 miles of beach and dune habitat along Louisiana's Caminada Headlands, a project that also provides storm protection to Port Fourchon. A similar project in Texas will restore 17 miles of the beach ridge system along McFaddin National Wildlife Refuge and help protect the energy hubs of Port Arthur and Beaumont.

SUSTAINING LOCAL ECONOMIES

Conservation work funded by the GEBF provides an immediate boost to local economies by putting people to work renourishing beaches, enhancing coastal habitats and conducting scientific research. GEBF projects also have helped improve recreational and commercial fisheries, including those focused on oysters, scallops, inshore game fish and offshore reef fish such as red snapper. GEBF investments will generate benefits not only in terms of healthier wildlife populations, but also in more robust local economies and improved quality of life.

EMPLOYING YOUTH AND VETERANS

Through the GEBF and other programs, NFWF has awarded more than \$3.3 million to on-the-ground restoration projects that provide employment opportunities to young people and military veterans — more than 300 to date. These projects build on the successes of other NFWF programs that seek to train the next generation of conservation professionals.

PUBLIC ACCESS TO NATURAL RESOURCES

To sustain the public's appreciation of the outdoors, access to natural areas must be enhanced. GEBF investments have opened up more than 42,000 acres for public uses such as fishing, swimming, beachcombing, birding and hiking.



“Investments under the Gulf Environmental Benefit Fund have helped the state of Alabama achieve major conservation priorities that might otherwise have been a challenge to reach. We are improving water quality in Mobile Bay and protecting the Grand Bay Savanna. We are enhancing important commercial and recreational fisheries through the restoration of oyster reefs in the Mississippi Sound and expanding artificial reefs along our coast to bolster populations of red snapper, all in an effort to preserve our natural resources for our people.”

— Alabama Governor Kay Ivey

Alabama

D’OLIVE WATERSHED RESTORATION

Mobile Bay National Estuary Program

Restore highly degraded streams and install stormwater management measures to reduce sediment and nutrient loads to D’Olive Bay in order to enhance submerged aquatic vegetation habitat to limit sediment loading from the watershed to D’Olive and Mobile Bays.

2013:..... \$12,781,000

FOWL RIVER WATERSHED RESTORATION

Mobile Bay National Estuary Program, Marine Environmental Sciences Consortium

Implement measures to protect and restore 14 acres of coastal wetlands on Mon Louis Island. Develop a watershed management plan for Fowl River Watershed to identify future conservation investments to benefit the watershed.

2013:..... \$3,244,150

RESTORATION AND ENHANCEMENT OF OYSTER REEFS IN ALABAMA

Alabama Department of Marine Resources

Restore 600 acres of oyster reef by placing new cultch material to increase spat settlement and oyster production. Project will increase Alabama’s oyster reefs by nearly 30 percent.

2013:..... \$3,750,000

ALABAMA BARRIER ISLAND RESTORATION ASSESSMENT

Department of Conservation and Natural Resources and the U.S. Army Corps of Engineers, Mobile District

Coordinate a feasibility study for Dauphin Island based on science and technical expertise and evaluation that will provide the ability to effectively evaluate the benefits

and impacts of restoration activities and alternatives. Project includes modeling the island to evaluate options for beneficial use of dredge material and other sand-placement activities, and the most resilient and sustainable island restoration activities and configurations in support of critical habitats and resources.

2014:..... \$4,277,600

ALABAMA MARINE MAMMAL CONSERVATION AND RECOVERY PROGRAM

Marine Environmental Sciences Consortium, Dauphin Island Sea Lab

Support marine mammal recovery and conservation in the northern Gulf of Mexico by building capacity and enhancing function of the Alabama Marine Mammal Stranding Network. Project will increase recovery of populations impacted by natural and human factors by improving marine mammal stranding response, data collection, analyses and reporting for Alabama waters, and enhancing mutual aid and collaboration to augment the capability of the National Oceanic and Atmospheric Administration’s Marine Mammal Health and Stranding Response Program and the U.S. Fish and Wildlife Service.

2014:..... \$1,902,600

COASTAL HABITAT RESTORATION PLANNING INITIATIVE

Mobile Bay National Estuary Program

Produce high-resolution maps of Alabama’s coastal habitats; develop comprehensive management plans for priority intertidal watersheds; prepare a habitat restoration plan focusing on streams, rivers, riparian buffers, wetlands and intertidal marshes and flats; and develop an inventory of priority restoration and conservation opportunities for the Alabama coast. Project will meet the requirements of both the U.S.

Great blue heron



GULF ENVIRONMENTAL BENEFIT FUND PROJECTS, 2013-2018

Army Corps of Engineers, Mobile District, and the Alabama Historical Commission, ensuring a more shovel-ready status for all shoreline and nearshore restoration projects in coastal Alabama. Project also will initiate a comprehensive hydrologic modeling program as an initial step in implementing best management practices recommended in coastal watershed management plans.

2014: **\$4,185,200**

ENHANCED FISHERIES MONITORING IN ALABAMA'S MARINE WATERS

Alabama Department of Conservation and Natural Resources, Marine Resources Division
Monitor recreationally and commercially important reef and estuarine species of interest in waters of interest to Alabama through fishery-independent (trawls, bottom long lines, vertical lines) and fishery-dependent surveys (recreational red snapper harvest, commercial blue crab harvest rates). 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. Project also will incorporate habitat characterization through side-scanning sonar, water quality monitoring and acoustic tracking of tagged fish species.

2014: \$1,456,472

2015: \$1,916,603

2016: \$4,406,200

Total: **\$7,779,275**

ALABAMA ARTIFICIAL REEF AND HABITAT ENHANCEMENT

Alabama Department of Conservation and Natural Resources, Marine Resources Division
Enhance and expand the state's artificial reef program to improve habitats for reef fish and other species in coastal Alabama. Projects range from revitalizing degraded reefs in the upper estuary to creating new reef habitat along the continental shelf of the Gulf of Mexico. Project also includes monitoring of biological succession, temporal and spatial patterns of habitat utilization, and the structural integrity, durability and stability of new inshore, nearshore and offshore reefs.

2015: **\$12,525,400**

GRAND BAY ACQUISITION

The Nature Conservancy

Acquire approximately 2,430 acres of priority coastal habitat along Grand Bay adjacent to existing protected lands (Alabama Forever Wild and Grand Bay National Wildlife Refuge). Project will protect a broad diversity of habitats that support a diversity of fish and wildlife, including coastal and wading birds, waterfowl, neotropical migratory birds, coastal finfish and shellfish and many threatened and endangered species, including the West Indian manatee, and Gulf sturgeon.

2015: **\$5,777,500**

MOBILE BAY SHORE HABITAT CONSERVATION AND ACQUISITION INITIATIVE

City of Mobile

Conduct due diligence and planning to identify specific, high-priority properties containing undeveloped intertidal habitat within Mobile. Afterwards, acquire, protect and restore coastal habitats in three distinct areas: up to 300 acres of riparian, wetland and upland habitats in the Dog River Watershed near its connection to Mobile Bay; up to 40 acres of bay shore property in the Garrows Bend Watershed; and up to 450 acres of tidal wetlands and buffer in the lower Three Mile Creek Watershed.

2015: \$300,000

2017: \$6,923,800

Total: **\$7,223,800**

MOBILE COUNTY CONSERVATION ACQUISITION AND SALT AIRE SHORELINE RESTORATION

Mobile County Commission

Acquire a 233-acre parcel on the western shore of Mobile Bay that contains tidal marsh and maritime forest. Project includes development and implementation of restoration plans to enhance the tidal marsh habitat and implementation of a long-term stewardship program for the property. Project will protect and restore marshland along the bay frontage of Salt Aire and the adjacent Goat Island parcel acquired by the county with a Coastal Impact Assistance Program funding in 2016.

2015: \$4,257,400

2017: \$12,700,000

Total: **\$16,957,400**

ALABAMA COASTAL BIRD STEWARDSHIP PROGRAM

Alabama Department of Conservation and Natural Resources

Conserve priority shorebird and coastal waterbird populations by establishing a two-year bird stewardship, monitoring and outreach program in coastal Alabama.

GULF ENVIRONMENTAL BENEFIT FUND PROJECTS, 2013-2018

The Alabama Coast's beaches, marshes and islands provide critical nesting, wintering and migratory stopover habitat for many species of shorebirds and coastal waterbirds.

2016: **\$1,462,000**

BON SECOUR - OYSTER BAY WETLAND ACQUISITION PROJECT

City of Gulf Shores

Protect and restore 836 acres of coastal habitat in the City of Gulf Shores. The tidal marshes, maritime forests, and freshwater swamps located in this project area are important habitat for many species of conservation significance, including threatened and endangered species such as the Alabama red-bellied turtle and eastern indigo snake, as well as various wading birds.

2016: **\$12,511,400**

DAUPHIN ISLAND CONSERVATION ACQUISITION

The Nature Conservancy and Town of Dauphin Island

Acquire 8 acres of undeveloped beachfront (1,200 linear feet) on a mid-island section of Dauphin Island. Project will conserve important nesting, loafing, stopover and foraging habitats for a variety of coastal birds, shorebirds and neotropical migrants, as well as nesting habitat for endangered sea turtles.

2016: **\$3,568,600**

FOWL RIVER WATERSHED RESTORATION: COASTAL SPITS AND WETLANDS PROJECT

Mobile Bay National Estuary Program

Fund engineering and design studies to develop a solution to stabilize and protect four priority in-river wetland spits. Restore marshland throughout the intertidal portions of lower Fowl River, reducing the risk of future harm to habitats necessary for sustaining a healthy fishery, and improve water quality from this significant watershed to Mobile Bay.

2016: **\$1,127,000**

GULF HIGHLANDS CONSERVATION ACQUISITION

Alabama Department of Conservation and Natural Resources

Acquire, conserve and manage 113 acres with 2,700 feet of Gulf frontage beach/dune habitat, which is the largest, privately held, undeveloped beachfront parcel remaining in coastal Alabama. Protection of this key habitat would benefit nesting sea turtles, migratory birds and shorebirds, and allow its continued function as a refuge for the endangered Alabama beach mouse.

2016: **\$37,957,100**

LIGHTNING POINT ACQUISITION AND RESTORATION PROJECT

The Nature Conservancy

Protect and restore a key stretch of coastal shoreline at the mouth of Bayou La Batre River. Project includes the 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. The acquisition targets represent more than 2 miles of nearly contiguous undeveloped waterfront adjacent to existing protected lands owned by the state, Mobile County and the City of Bayou La Batre.

2016: **\$5,903,100**

BON SECOUR NATIONAL WILDLIFE REFUGE ACQUISITION

The Conservation Fund

Acquire and restore of a 251-acre Navy Cove parcel, permanently protecting lands identified by the U.S. Fish and Wildlife Service as among the highest priority for acquisition and long-term management by the Bon Secour National Wildlife Refuge.

2017: **\$5,914,900**

DAUPHIN ISLAND BIRD HABITAT ACQUISITION AND ENHANCEMENT PROGRAM

Pelican Coast Conservancy, The Nature Conservancy and Dauphin Island Park and Beach Board

Acquire an estimated 13 acres of critical fallout habitat on some of the last remaining undeveloped land on one of Alabama's only primary barrier islands. This project also proposes to create a more stable shoreline at the Dauphin Island Audubon Bird Sanctuary by incorporating dune plantings, interpretive signage and shoreline monitoring.

2017: **\$4,525,000**

LITTLE DAUPHIN ISLAND RESTORATION ASSESSMENT

U.S. Army Corps of Engineers, Mobile District

Evaluate the placement of an undetermined quantity of dredged material in the nearshore area northeast of the Little Dauphin Island in the Pass aux Herons area of Mobile Bay and Mississippi Sound.

2017: **\$1,481,500**



“Florida’s treasured Gulf Coast spans nearly 800 miles and is home to many of our state’s historic communities, world-class natural treasures and unique wildlife. Gulf Environmental Benefit Fund awards have supported our efforts to preserve our beautiful coastal areas, improve water quality and continue to welcome families and visitors from across the world to the great State of Florida.”

— Florida Governor Rick Scott

Florida

APALACHICOLA BAY OYSTER RESTORATION

Florida Fish and Wildlife Conservation Commission
Restore and manage 18 acres of oyster reef across a range of conditions to provide information that will allow managers to maximize the resiliency of oysters in Apalachicola Bay and more efficiently restore oyster resources throughout the Gulf of Mexico.

2013:..... \$4,189,400

COMPREHENSIVE PANHANDLE COASTAL BIRD CONSERVATION

National Audubon Society
Work in the Florida Panhandle with volunteers and state and federal agency partners to improve nesting success of coastal birds through nest protection, stewardship, monitoring and outreach activities. Project will also restore an important nesting island.

2013:..... \$3,345,600

ELIMINATING LIGHT POLLUTION AT SEA TURTLE NESTING BEACHES

Florida Fish and Wildlife Conservation and Commission and the Sea Turtle Conservancy
Develop standard monitoring protocols for collecting data on disorientation of sea turtles on Florida’s Gulf of Mexico nesting beaches to measure the extent of disorientation from light pollution and the impact of measures to address the issue. Project will support training of local officials and volunteers who will collect the data and increase sea turtle nesting success on Florida Panhandle beaches by solving artificial light problems on private properties.

2013:..... \$1,500,000

2015:..... \$3,072,100

Total:..... \$4,572,100

ENHANCED ASSESSMENT FOR RECOVERY OF GULF OF MEXICO FISHERIES

Florida Fish and Wildlife Conservation Commission, Florida Fish and Wildlife Conservation Commission and Fish and Wildlife Research Institute
Implement a significant and meaningful expansion of the collection of fishery-independent data in the northern and eastern Gulf of Mexico. Project data will be used to assess the recovery of offshore assemblages in association with restoration efforts implemented in response to the Deepwater Horizon oil spill; improve and expand single-species stock assessments for managed species; and foster improved ecosystem-based assessment and management capabilities.

2013:..... \$1,812,863

2014:..... \$2,493,847

2015:..... \$4,992,564

2016:..... \$6,242,700

2017:..... \$7,238,100

Total:..... \$22,780,074

GOVERNMENT STREET REGIONAL STORMWATER POND AT CORRINE JONES PARK

City of Pensacola
Treat stormwater runoff from 40 acres of a total 106-acre downtown basin that currently discharges untreated runoff directly into Pensacola Bay.

2013:..... \$2,106,500

RESTORATION AND MANAGEMENT OF ESCRIBANO POINT COASTAL HABITAT

Florida Fish and Wildlife Conservation Commission and The Trust for Public Land
Acquire inholdings at Escribano Point, within the Yellow River Wildlife Management Area in Pensacola Bay, and transfer to the Florida Fish and Wildlife



Striped mullet

GULF ENVIRONMENTAL BENEFIT FUND PROJECTS, 2013-2018

Conservation Commission for inclusion within a wildlife management area. Properties include coastal marsh and maritime forest habitat that benefit several coastal bird and fish species.

2013:..... \$1,731,000
 2014:.....\$602,585
Total:..... \$2,333,585

BAYOU CHICO RESTORATION

Escambia County

Complete a suite of stormwater treatment and stream restoration projects intended to assist in the restoration of Bayou Chico, consistent with priority restoration activities identified in the Florida Department of Environmental Protection's restoration plan for the Bayou. Project outcomes include restored and greatly improved benthic habitat quality; increased biological diversity and productivity; and improved water quality in the Bayou.

2014:..... \$11,032,300

BENTHIC HABITAT MAPPING, CHARACTERIZATION AND ASSESSMENT

University of South Florida

Provide critical information on the extent and species utilization of offshore fishery habitats along the West Florida Continental Shelf. Project will identify essential habitats of reef fish species and two turtle species using towed cameras and multibeam/side-scan sonar technologies along the West Florida Shelf from Panama City to the Dry Tortuga Islands.

2014:..... \$4,477,900

BOGGY BAYOU WATERSHED WATER QUALITY IMPROVEMENT

City of Niceville

Implement major elements of Niceville's existing plans for comprehensive stormwater management and surface water and habitat restoration to improve existing and maintain future surface water quality and wildlife habitat in Boggy Bayou, Choctawhatchee Bay and the Gulf of Mexico. Project will add stormwater management controls to the northern portion of the Thomas Branch basin north of McEwen Street, and relocate sediment, create habitat, create living shorelines and restore emergent grasses at the headwaters of Boggy Bayou.

2014:..... \$4,223,000

DESTIN HARBOR, JOE'S BAYOU AND INDIAN BAYOU WATER QUALITY IMPROVEMENT

City of Destin

Restore and maintain the ecological integrity of Joe's Bayou, Indian Bayou and Destin Harbor in southwestern portion of Choctawhatchee Bay through the accelerated implementation of the final six projects identified in Destin's Master Stormwater Management Plan. Projects will result in greatly improved benthic habitat quality, increased biological diversity and productivity, and improved water quality to assist seagrass recovery in the Bay.

2014:..... \$3,593,600

FLORIDA SHOREBIRD CONSERVATION INITIATIVE

Florida Fish and Wildlife Conservation Commission, National Audubon Society and Wildlife Conservation Commission

Extend key program elements of a comprehensive coastal bird conservation program. Project will replenish and protect Florida's Gulf Coast shorebird and seabird populations in the area affected by the Deepwater Horizon Spill through monitoring, posting, stewarding and rooftop nest management.

2014:..... \$1,613,400

OYSTER REEF HABITAT RESTORATION IN SAINT ANDREW BAY

Florida Fish and Wildlife Conservation Commission

Create 2.67 acres of noncontiguous oyster reef habitat in West Bay designed to protect and promote the expansion of more than 200 acres of degraded seagrass habitat.

2014:..... \$1,973,500

RESTORATION OF FLORIDA'S COASTAL DUNE LAKES

Florida Department of Environmental Protection and Atlanta Botanical Garden

Restore structure, species diversity and ecological processes to wetlands in the watershed of coastal dune lakes at three Florida state parks to improve groundwater discharge to the Gulf of Mexico and benefit shorebirds and nearshore benthic habitats. Project will include removal of invasive woody plants, supplemental planting of rare plant species following invasive species treatment and removal, introduction of prescribed fire, and conducting supplemental predator removal in adjacent beach dune habitat to increase nesting shorebird success.

2014:..... \$5,916,000

GULF ENVIRONMENTAL BENEFIT FUND PROJECTS, 2013-2018

FLORIDA GULF ENVIRONMENTAL BENEFIT FUND RESTORATION STRATEGY

Suwannee River Water Management District, Florida Fish and Wildlife Conservation Commission, Northwest Florida Water Management District and Florida Fish and Wildlife Conservation Commission Fish and Wildlife Research Institute

Update the Northwest Florida Water Management District's existing watershed plans for each of the major estuarine watersheds of the Florida Panhandle, for integration into the Florida Gulf Environmental Benefit Restoration Strategy. Project will establish goals and objectives for each watershed and will include and describe priority projects to support accomplishment of the established goals and objectives.

2015:..... \$4,514,100

INCREASED CAPACITY FOR MARINE MAMMAL RESPONSE AND ANALYSIS

Florida Fish and Wildlife Conservation Commission, NOAA and Stranding Network Organizations

Improve capacity and data collection efforts for the Florida Fish and Wildlife Conservation Commission's marine mammal field stations, as well as eight marine mammal stranding response and research organizations working in the Gulf.

2015:..... \$5,000,000

PENSACOLA EAST BAY OYSTER HABITAT RESTORATION

The Nature Conservancy

Conduct the design, engineering, permitting and monitoring of Phase I of an oyster habitat restoration project proposed along 8 miles of shoreline at Escribano Point in the East and Blackwater bays of the greater Pensacola Bay region. Project will help restore oyster habitat and reduce shoreline erosion.

2015:..... \$1,957,600

WATER QUALITY IMPROVEMENTS TO ENHANCE FISHERIES HABITAT IN THE LOWER CHOCTAWHATCHEE RIVER BASIN

Florida Department of Environmental Protection

Inventory, prioritize and develop solutions to major sources of sediment runoff, in particular from unpaved roads, in the Choctawhatchee Bay Watershed. Project will identify site-specific solutions and estimate the cost of necessary improvements for the highest priority sites, as funding allows, to enhance spawning and rearing habitat for Gulf sturgeon.

2015:..... \$931,600

ENHANCEMENT OF SEA TURTLE STRANDING RESPONSE CAPACITY IN FLORIDA

Florida Fish and Wildlife Conservation Commission

Increase and enhance the collection of information on the causes of sea turtle mortality in Florida to inform the development of future management actions aimed at reducing mortality. Project involves the establishment and staffing of a dedicated sea turtle necropsy facility strategically located along Florida's Gulf Coast, with appropriate staff for the 10-year project period. Under the program, staff will retrieve and conduct necropsies on more than 250 sea turtles carcasses found each year.

2016:..... \$6,246,200

RECOVERY AND RESILIENCE OF OYSTER REEFS IN THE BIG BEND OF FLORIDA

University of Florida, Institute of Food and Agricultural Sciences

Restore a degraded chain of oyster reefs in the Big Bend area of Florida to promote resilience and ecological benefit to a 50,000-acre coastal landscape comprised of vast salt marshes, seagrass beds and coastal forests that collectively host numerous fish and wildlife species of conservation and economic importance.

2016:..... \$8,334,400

RESTORING FLORIDA'S SHOREBIRD AND SEABIRD POPULATIONS

Florida Fish and Wildlife Conservation Commission and Audubon Florida

Continue and expand upon critical foundational work previously funded through GEBF and other sources by inaugurating a dedicated shorebird and seabird program across the Florida Gulf Coast, with a goal of reversing the continued population declines in five focal species and beginning to increase them over time.

2016:..... \$11,250,000



“The 2010 oil spill devastated coastal wildlife populations and communities throughout southern Louisiana, exacerbating the negative impacts of one of the greatest challenges ever faced by the State: the loss of coastal lands at an epic scale. The Gulf Environmental Benefit Fund is helping us advance barrier island restoration and river diversions, key strategies in our effort to save Louisiana’s coast.”

— Louisiana Governor John Bel Edwards

Louisiana

CAMINADA BEACH AND DUNE INCREMENT ENGINEERING, DESIGN AND CONSTRUCTION

Louisiana Coastal Protection and Restoration Authority Restore 7.5 miles of critical beach and dune habitat on the easternmost end of the Caminada Headland. Project will use sand from offshore to restore 455 acres of beach and dune habitat.

2013:..... \$1,359,542
 2014:..... \$144,550,000
Total:..... \$145,909,542

EAST TIMBALIER ISLAND: ENGINEERING AND DESIGN

Louisiana Coastal Protection and Restoration Authority Provide the engineering and design work necessary for the restoration of East Timbalier Island. Once constructed, project will restore East Timbalier Island beaches and dunes, and construct back-barrier marsh. Project also includes renourishing West Belle Headland feeder beach. In total the project will restore more than 600 acres of barrier island habitat.

2013:..... \$7,817,700

INCREASE ATCHAFALAYA FLOW TO TERREBONNE: PLANNING, ENGINEERING AND DESIGN

Louisiana Coastal Protection and Restoration Authority Advance the planning, design and critical environmental regulatory review needed to construct a river diversion to build, sustain and maintain wetlands within the Terrebonne Basin. Once constructed and operated, this diversion project will restore freshwater influence in the basin and reduce wetland loss by approximately 13,000 acres over 50 years.

2013:..... \$4,604,850
 2016:..... \$16,367,400
Total:..... \$20,972,250

LOWER MISSISSIPPI RIVER SEDIMENT DIVERSIONS: PLANNING

Louisiana Coastal Protection and Restoration Authority Conduct a planning effort intended to advance implementation of sediment diversions from the lower Mississippi River, as recommended in the state’s Coastal Master Plan.

2013:..... \$12,760,187

MID-BARATARIA SEDIMENT DIVERSION: ENGINEERING AND DESIGN

Louisiana Coastal Protection and Restoration Authority Complete the engineering and design of the Mid-Barataria sediment diversion. Once constructed, the diversion is anticipated to convey up to 75,000 cubic feet per second of sediment-rich river water, introducing approximately 150 million tons of new sediment into Barataria Basin over a 50-year projection.

2013:..... \$37,741,754
 2016:..... \$102,345,700
Total:..... \$140,087,454

ADAPTIVE MANAGEMENT: LOUISIANA RIVER DIVERSIONS AND BARRIER ISLANDS

Louisiana Coastal Protection and Restoration Authority Conduct adaptive management activities related to river diversions and barrier islands in Louisiana. Project will provide data, modeling and analyses to support the development, design and operation of river diversions and barrier island restoration projects.

2014:..... \$13,247,800
 2016:..... \$19,632,100
Total:..... \$32,879,900



Brown pelican

MID-BRETON SEDIMENT DIVERSION: ENGINEERING AND DESIGN

Louisiana Coastal Protection and Restoration Authority Initiate and complete engineering and design of the Mid-Breton Sediment Diversion project in Plaquemine Parish. Once constructed, the sediment diversion is anticipated to convey up to 35,000 cubic feet per second of sediment-rich river water, introducing approximately 70 million tons of new sediment into the Breton Sound Basin over a 50-year projection.

2016:..... \$90,701,600

MISSISSIPPI RIVER MID-BASIN SEDIMENT DIVERSION PROGRAM MANAGEMENT

Louisiana Coastal Protection and Restoration Authority Provide program-level support for the management of the Mid-Barataria and Mid-Breton sediment diversion projects through the engineering and design phase, resulting in increased efficiencies in the delivery of construction-ready projects.

2016:..... \$16,099,200



“The Gulf Environmental Benefit Fund’s support has enabled our state to take on once-in-a-lifetime conservation projects across our coast. We are conserving coastal landscapes at an unprecedented scale, and taking bold steps to improve water quality. We are also working with a variety of partners to restore barrier islands and enhance marsh habitat through the beneficial use of dredge materials.”

— Mississippi Governor Phil Bryant

Mississippi

AUDUBON COASTAL BIRD STEWARDSHIP PROGRAM IN MISSISSIPPI

Mississippi Department of Environmental Quality
 Improve nesting success of coastal birds through nest protection, stewardship and monitoring at key sites along the Mississippi coast, while educating the public on the importance of these habitats.

2013:.....	\$1,866,100
2016:.....	\$6,280,400
Total:.....	\$8,146,500

COASTAL STREAMS AND HABITAT INITIATIVE

Mississippi Department of Environmental Quality
 Conduct conservation planning and design for on-the-ground restoration of several small coastal streams across the Mississippi coast.

2013:.....	\$1,731,493
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MISSISSIPPI COASTAL PRESERVES PROGRAM

Mississippi Department of Environmental Quality
 Assess invasive species infestations, perform control measures and revegetate areas to restore priority coastal habitat.

2013:.....	\$3,300,000
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INVASIVE SPECIES MANAGEMENT ON COASTAL STATE LANDS

Mississippi Department of Environmental Quality
 Remove and manage invasive species on state lands in coastal Mississippi, including coastal preserves, wildlife management areas and state parks, utilizing fire and mechanical and chemical control techniques that will enhance natural ecosystem functioning and ensure a sustainable coastal environment.

2014:.....	\$2,676,700
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MISSISSIPPI COASTAL RESTORATION PLAN

Mississippi Department of Environmental Quality
 Provide an overarching framework for the development and implementation of programs and projects that restore and conserve Gulf Coast natural resources in Mississippi.

2014:.....	\$3,598,943
2017:.....	\$1,514,100
Total:.....	\$5,113,043

REEF FISH ASSESSMENT FOR MISSISSIPPI COASTAL AND NEARSHORE GULF WATERS

Mississippi Department of Environmental Quality
 Perform an assessment of reef fish in coastal Mississippi and nearshore Gulf waters through biological, environmental and fishery-dependent components that will provide necessary data resolution for reducing scientific uncertainty of factors influencing red snapper and reef fish population structures.

2014:.....	\$4,582,500
2017:.....	\$2,346,900
Total:.....	\$6,929,400

UTILIZATION OF DREDGE MATERIAL FOR MARSH RESTORATION IN COASTAL MISSISSIPPI

Mississippi Department of Environmental Quality
 Use dredge material in the sustainable restoration and creation of marsh habitat within St Louis Bay, Back Bay Biloxi and the Escatawpa Watershed. Project will enhance overall ecosystem function and the ecological integrity and sustainability of priority bays and estuaries of the Mississippi Gulf Coast.

2014:.....	\$21,582,200
2017:.....	\$23,624,000
Total:.....	\$45,206,200



Red drum



GULF ENVIRONMENTAL BENEFIT FUND PROJECTS, 2013-2018

DESIGN CHALLENGE FOR IMPROVEMENT OF WATER QUALITY FROM BEACH OUTFALLS

Mississippi Department of Environmental Quality
Sponsor a design challenge to solicit ideas for improving water quality of stormwater outfalls along the Mississippi coast to reduce non-point source pollution impacts to marine resources. Phase I of project will sponsor the challenge.

2015: \$544,600

HABITAT RESTORATION AND CONSERVATION IN TURKEY CREEK

Mississippi Department of Environmental Quality
Conserve important habitat and enhance water quality in the 30,000-acre Turkey Creek watershed through habitat and stream conservation and restoration. Project focal area encompasses a mix of rural and urban land use areas in greater Gulfport and has significant ecological value.

2015: \$7,536,400

HABITAT RESTORATION: FEDERAL LANDS PROGRAM

Mississippi Department of Environmental Quality, National Park Service and U.S. Fish and Wildlife Service
Enhance and restore habitat on federal lands in coastal Mississippi. Project outcomes for key focal habitats include restoration of over 30,000 acres through invasive species removal, forest thinning and prescribed burning on lands contained within Grand Bay National Wildlife Refuge, Gulf Islands National Seashore and the De Soto National Forest (Tchoutacabouffa River/Tuxachanie Creek watershed).

2015: \$9,905,300

OYSTER RESTORATION AND MANAGEMENT

Mississippi Department of Environmental Quality
Replenish and protect oyster populations in Mississippi through increasing oyster reef habitat acreage and productivity. Project components answer the critical questions to ensure sustainable and successful oyster restoration in the future: 1) suitable substrate experimentation, 2) water quality mapping; 3) benthic habitat characterization, 4) hydrodynamic modeling of freshwater inflows, and 5) the development of an oyster gardening program to increase spat and larval oyster transport in Mississippi.

2015: \$11,780,000

ACQUISITION OF PRIORITY TRACTS FOR COASTAL HABITAT CONNECTIVITY

Mississippi Department of Environmental Quality
Enhance coastal habitat connectivity and increase core conservation areas within the Mississippi Coastal Preserves system, the Gulf Islands National Seashore and the Grand Bay National Wildlife Refuge. Project will conserve critical coastal habitats, one of the fundamental steps in building and maintaining a sustainable, resilient coastal environment.

2016: \$17,433,000

MARINE MAMMAL AND SEA TURTLE CONSERVATION, RECOVERY, AND MONITORING

Mississippi Department of Environmental Quality
Engage state and federal agencies, academic institutions and conservation organizations to bolster the capacity of Mississippi's marine mammal and sea turtle stranding network. Project's goal is to improve response to injured or dead animals and develop a consistent scientific understanding of the causes of mortality to inform management actions in the state.

2016: \$9,933,900

COASTAL HEADWATERS PROTECTION DUE DILIGENCE

Mississippi Department of Environmental Quality
Support financial and technical due diligence required for potential acquisition of approximately 48,000 acres of coastal headwater property.

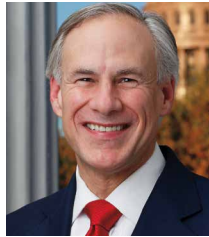
2017: \$1,305,800

PASCAGOULA RIVER CORRIDOR ACQUISITIONS

Mississippi Department of Environmental Quality
Acquire two tracts of land to protect more than 3,400 acres in the Lower Pascagoula floodplain, including significant bottomland hardwoods. Project will benefit various bird and fish species and will sustain water quality and quantity benefits downstream.

2017: \$11,849,800

GULF ENVIRONMENTAL BENEFIT FUND PROJECTS, 2013-2018



“Here in Texas, we’ve used GEBF dollars to leverage additional private and nonprofit funds to restore and preserve thousands of acres of coastal habitats and wetlands, while at the same time working with communities and private landowners to voluntarily participate in conservation efforts. Not only have we been able to restore oyster, fish and bird habitats for both commercial and recreational enjoyment, we’ve bolstered resiliency efforts by enhancing the marshes, bays, dunes and barrier islands along the Gulf Coast to help protect our communities from the next storm.”

— Texas Governor Greg Abbott

Texas

GALVESTON ISLAND STATE PARK MARSH RESTORATION AND PROTECTION

Texas General Land Office

Restore, enhance and protect intertidal marsh habitat and other estuaries at Galveston Island State Park through construction of 13,000 linear-foot segments of rock breakwater within the Carancahua Cove area of West Bay. Project will directly benefit avian and estuarine fishery species and their habitat by protecting existing and future estuarine emergent marsh, seagrass beds, and shallow estuarine subtidal/open water habitat.

2013:.....	\$2,489,200
2015:.....	\$3,234,500
2017:.....	\$5,000,000
Total:.....	\$10,723,700

GULF COAST MIGRATORY WATERFOWL HABITAT ENHANCEMENT

Ducks Unlimited

Restore or enhance 5,000 acres of freshwater wetlands and promote shallow flooding of an additional 22,000 acres on fallow rice farms to provide critical migratory and wintering habitat for waterfowl and shorebirds along the Texas coast.

2013:.....	\$1,249,534
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OYSTER REEF RESTORATION IN EAST BAY

Texas Parks and Wildlife Department

Restore an additional 30 acres to a planned 130-acre oyster reef restoration project in the Galveston Bay ecosystem to increase oyster reef ecosystem services.

2013:.....	\$840,000
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SEA RIM STATE PARK COASTAL DUNE RESTORATION

Texas Parks and Wildlife Department

Rebuild the primary dune along the Sea Rim State Park’s 5.3-mile Gulf of Mexico shore through the installation of native beach plant species.

2013:.....	\$189,400
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ANAHUAC NATIONAL WILDLIFE REFUGE COASTAL MARSH ACQUISITION

The Conservation Fund

Acquire 1,011 acres containing estuarine emergent wetlands, tidal flats and other coastal habitat to become part of Anahuac National Wildlife Refuge. Project will facilitate a donated conservation easement on 930 adjacent acres.

2014:.....	\$4,363,200
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COASTAL HERITAGE PRESERVE INITIATIVE: BAYSIDE ACQUISITION AND EASEMENT

The Artist Boat

Purchase 99 acres of coastal habitat, secure the protection and management of the designated 216-acre mitigation reserve, and begin implementation of early land management strategies.

2014:.....	\$2,632,500
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DOLLAR BAY-MOSES LAKE SHORELINE ENHANCEMENT AND RESTORATION

Galveston Bay Foundation

Conduct engineering, design and construction to restore and protect more than 500 acres of degraded wetlands and protect 6,000 linear feet of shorelines from erosion within the Dollar Bay-Moses Lake complex.

2014:.....	\$120,000
2016:.....	\$850,000
Total:.....	\$970,000



Ruddy turnstone
in Texas

GULF ENVIRONMENTAL BENEFIT FUND PROJECTS, 2013-2018

EGERY FLATS MARSH RESTORATION

Coastal Bend Bays and Estuaries Program

Restore hydrology and reduce salinity to about 600 acres of emergent marsh, submerged aquatic vegetation and tidal flats by replacing two 24-inch culverts with three 6-by-3-foot box culverts in two locations at Egery Flats adjacent to Copano Bay.

2014: **\$1,587,000**

GREENS LAKE PROTECTION AND MARSH RESTORATION: ENGINEERING & DESIGN

Ducks Unlimited

Provide preliminary engineering services for project planning, permitting, coastal land leasing and budget estimation. Project will protect and restore coastal habitats for fisheries, birds and other marsh-associated species.

2014: **\$117,996**

NUECES BAY ROOKERY ISLANDS RESTORATION

Coastal Bend Bays and Estuaries Program

Restore four rookery islands in Nueces Bay by placing material between the islands' current shorelines and existing geotextile tubes to create an additional 1.7 acres of nesting habitat for populations of colonial water birds such as black skimmers, roseate spoonbills and egrets.

2014: **\$2,525,000**

OYSTER LAKE SHORELINE PROTECTION AND RESTORATION

Galveston Bay Foundation

Protect and restore coastal wetlands within Oyster Lake and West Bay by reducing wave energies and restoring marsh along the shoreline between the two systems.

2014: **\$1,200,000**

POWDERHORN RANCH LAND ACQUISITION

Texas Parks and Wildlife Foundation

Acquire, preserve and manage the 17,351-acre Powderhorn Ranch. Project will permanently conserve an ecologically important landscape for birds, fish, shellfish and plants.

2014: **\$34,493,800**

VIRGINIA POINT SHORELINE PROTECTION AND ESTUARINE RESTORATION

Texas General Land Office

Protect coastal wetlands, prairies and other habitats within the Virginia Point Preserve from severe erosion. Project will restore approximately 25 acres of intertidal wetland habitat, establishing a stable transitional shoreline between terrestrial and aquatic habitats.

2014: **\$2,000,000**

BAHIA GRANDE COASTAL CORRIDOR: BOSWELL-JENKINS TRACT ACQUISITION

The Conservation Fund

Acquire and restore 1,781 acres of coastal prairie and marsh, bayfront and tidal saltmarsh along Laguna Madre to be conveyed after acquisition to the Laguna Atascosa National Wildlife Refuge. Project will link already protected lands through a coastal habitat corridor that safeguards 1,200 plant species, more than 415 species of birds and 17 threatened or endangered species.

2015: **\$4,000,000**

BAHIA GRANDE RESTORATION

U.S. Fish and Wildlife Service and Ducks Unlimited

Complete engineering, design and permitting for two important projects located within the Bahia Grande Unit of the Laguna Atascosa National Wildlife Refuge in south Texas. Project seeks to restore tidal connectivity and enhance 670 acres of wetlands within Paso Corvinas. The second project will restore 36 acres of critical bird nesting islands.

2015: **\$400,000**

CANDY ABSHIER WMA SHORELINE PROTECTION AND MARSH RESTORATION

Texas Parks and Wildlife Department

Protect coastal habitats within the Candy Abshier Wildlife Management Area by constructing a breakwater structure to protect the shoreline from further erosion. Project will create salt marsh that will provide additional protection from wave action, habitat for aquatic organisms and foraging habitat for coastal birds.

2015: **\$245,000**

COW TRAP LAKE NESTING ISLAND IMPROVEMENTS

Ducks Unlimited

Place a layer of crushed shell or gravel on two recently constructed bird islands to create improved conditions for ground-nesting colonial waterbird species. Project will discourage vegetation establishment and provide optimal nesting conditions.

2015: **\$626,400**

FALCON POINT RANCH CONSERVATION EASEMENT ACQUISITION

The Nature Conservancy

Acquire a conservation easement on approximately 600 acres of the Falcon Point Ranch. Project will protect an ecologically important property for waterbirds, shorebirds, wading birds and associated coastal habitats.

2015: **\$2,905,156**

GULF ENVIRONMENTAL BENEFIT FUND PROJECTS, 2013-2018

GALVESTON BAY SUSTAINABLE OYSTER REEF RESTORATION

The Nature Conservancy

Restore a minimum of 40 acres of degraded oyster reefs in Galveston Bay using design criteria intended to increase the sustainability and resilience of the restored reef habitats. Project will create conditions optimal for oyster larval production, settlement, survival and enhanced adult oyster growth.

2015: **\$2,500,000**

MATAGORDA BAY ROOKERY ISLAND, FEASIBILITY STUDY AND ALTERNATIVES ANALYSIS

National Audubon Society

Complete a feasibility study that assesses alternative rookery island locations in Matagorda Bay that would be sustainable and resilient. Project also will evaluate island locations based on the three key characteristics required for a successful colonial waterbird nesting island.

2015: **\$323,300**

DAGGER ISLAND RESTORATION PROJECT

Texas Parks and Wildlife Department

Construct a half-mile, nearshore breakwater and an armored dredge material beneficial use area to restore an island in order to protect approximately 5,236 acres of coastal habitat, including 2,630 acres of seagrass in Redfish Bay, an area adjacent to Corpus Christi Bay. Project also will restore approximately 28 acres of coastal wetland habitat and create oyster, invertebrate and fisheries habitat.

2016: **\$3,824,000**

FOLLETS ISLAND LAND ACQUISITION AND CONSERVATION PROGRAM

The Trust for Public Land

Acquire and permanently conserve over 641 acres of pristine coastal dune and wetland landscape on Follets Island, a Texas barrier island southeast of the densely populated Galveston Island.

2016: \$1,266,000

2017: \$2,150,000

Total: **\$3,416,000**

HYDROLOGIC RESTORATION OF THE SALT BAYOU WATERSHED

Jefferson County, Texas

Build two freshwater siphons that will restore freshwater flow to more than 18,000 acres of wetlands within the Salt Bayou Watershed, the largest contiguous estuarine marsh complex in Texas. Project will reconnect freshwater flows from north of the Gulf Intracoastal Waterway to the fragile coastal wetlands to the south. This freshwater will flush saltwater out of the wetlands and prevent erosion and conversion of marsh to open water.

2016: **\$4,500,000**

MAD ISLAND MARSH PRESERVE SHORELINE PROTECTION AND COASTAL ECOSYSTEM RESTORATION

The Nature Conservancy

Plan and engineer the first phase of an effort to protect more than 6,000 acres of critically important coastal prairie and marsh ecosystem. Longterm project will install a 2.3-mile nearshore breakwater to stem the persistent erosion and habitat loss at the Nature Conservancy's Mad Island Marsh Preserve along the mid-coast of Texas in Matagorda Bay. Slowing the shoreline loss at the mouth of the Mad Island Lake Bayou is critical to maintaining the salinity gradient of this estuarine system.

2016: **\$100,000**

MATAGORDA WETLANDS ACQUISITION AND CONSERVATION

Colorado River Land Trust

Acquire and permanently conserve more than 600 acres of coastal wetland habitat on the East Matagorda Peninsula near the mouth of the Colorado River, along East Matagorda Bay. Project will provide permanent protection of the property, which is immediately adjacent to an existing nature park managed by the land trust.

2016: **\$1,000,000**

SMITH OAKS BIRD SANCTUARY ROOKERY ISLAND RESTORATION AND ENHANCEMENT

Houston Audubon Society

Create two rookery islands and enhance existing colonial waterbird nesting habitat for thousands of birds that utilize the globally significant habitat at the Smith Oaks Bird Sanctuary in High Island. Project will construct the two nesting islands using channel dredge material from adjacent water bodies, which will result in deeper trenches that act as a barrier to access by predators.

2016: **\$263,000**

GULF ENVIRONMENTAL BENEFIT FUND PROJECTS, 2013-2018

BAHIA GRANDE COASTAL CORRIDOR, HOLLY BEACH TRACT ACQUISITION

The Conservation Fund

Acquire a 1,540-acre property to protect more than 4 miles of tidal frontage, emergent tidal wetlands, seagrass beds, mud flats and transitional habitats to the Laguna Atascosa National Wildlife Refuge.

2017: \$2,000,000

BEACH-NESTING AND WINTERING BIRD PROTECTION AND HABITAT STEWARDSHIP

American Bird Conservancy

Through habitat protection, monitoring and stewardship, the project will focus on stabilizing and increasing the number of breeding pairs and nesting success of beach nesting species, protection of wintering shorebirds as well as the enhancement of stewardship efforts for beach habitats upon which they rely.

2017: \$275,000

CARANCAHUA BAY HABITAT PRESERVATION AND ENHANCEMENT

Texas General Land Office

Development of engineering design plans for an approximately 2-mile living shoreline along the western side of the mouth of Carancahua Bay, located within the Matagorda Bay system, to reduce further erosion and restore the bay's hydrology.

2017: \$392,000

HYDROLOGICAL RESTORATION OF BRAZORIA NATIONAL WILDLIFE REFUGE WETLANDS

U.S. Fish and Wildlife Service

Conduct engineering and design for future restoration of 9,500 acres of freshwater wetlands on Brazoria National Wildlife Refuge that have been previously ditched and drained. Once restored, the wetlands will enhance habitat for a suite of water bird species.

2017: \$200,000

LAGUNA ATASCOSA NATIONAL WILDLIFE REFUGE COASTAL MARSH AND DUNES ACQUISITION

The Nature Conservancy

Acquire a 1,680-acre property on South Padre Island, which straddles the island and includes healthy, intact examples of all the island's habitats.

2017: \$2,575,000

REPAIR ARK WILDLIFE RESCUE FACILITY

The University of Texas at Austin

Repair and rebuild a flight cage, bird enclosures and sea turtle rehabilitation pools, which were damaged by Hurricane Harvey at the Amos Rehabilitation Keep (ARK) facility.

2017: \$194,600

RESTORATION OF J.D. MURPHREE WMA WATER MANAGEMENT INFRASTRUCTURE

Ducks Unlimited

Remove floating marsh and other debris that settled in interior compartment ditches in the J.D. Murphree Wildlife Management Area as a result of extreme flooding from Hurricane Harvey. Project will directly benefit habitat critical for waterbirds within the WMA.

2017: \$82,500

RESTORING COLONIAL WATERBIRDS ON THE TEXAS COAST

Coastal Bend Bays and Estuaries Program

Enhance efforts of the Coastal Bend Bays and Estuaries Program to manage colonial waterbird islands on the Texas coast from San Antonio Bay to the Laguna Madre.

2017: \$363,400

SABINE RANCH ACQUISITION

The Conservation Fund

Acquire 8,169 acres of Chenier Plain habitats, including extensive fresh and intermediate tidal marsh, coastal prairie, pondshore and salty prairie. Project will secure the entire major watershed feeding Willow Slough Marsh, the largest remaining coastal freshwater marsh in Texas. The acquired property will be transferred to the McFaddin National Wildlife Refuge and bring the Refuge's total holdings to 65,000 acres.

2017: \$10,200,000

SALT BAYOU BEACH RIDGE RESTORATION: ENGINEERING, DESIGN AND CONSTRUCTION

Jefferson County, Texas, and General Land Office

Complete engineering, design and construction for the restoration of the beach ridge system within the McFaddin National Wildlife Refuge, which stretches between High Island and Sea Rim State Park on the Texas Upper Coast. Project's 20-mile beach ridge restoration is building on a pilot effort covering 2 miles.

2017: \$1,500,000

2018: \$26,500,000

Total: \$28,000,000



Horse-eyed
jacks at a reef
off Texas

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“ NFWF is honored to have been given the responsibility to administer these funds. Working closely with state and federal partners, we have moved quickly over the past five years to generate meaningful outcomes for the wildlife and communities of the Gulf of Mexico.”

— Don J. McGrath, NFWF Board of Directors and former chairman of the GEBF Committee

“ Results from the first five years of the GEBF will guide conservation investments in the region for years to come. This important work will shape a lasting legacy of conservation across the Gulf Coast.”

— John V. Faraci, Jr., NFWF Board of Directors and chairman of the GEBF Committee



White pelicans

PHOTOGRAPHY: Steven Blanden (cover, brown pelican; p. 2, reddish egret; p. 13, roseate spoonbill), Ben Hicks (inside cover, loggerhead sea turtle), Greg Knadle (p. 3, roseate spoonbill), Jesse Cancelmo (p. 5, marine life at oil rig), Associated Press (p. 6, oiled pelicans; p. 7, Deepwater Horizon rig; p. 8, sea turtle nest), Minden Pictures (p. 9, blue-winged teal; p. 19, great egrets; p. 23, pilot whales; p. 35, whooping crane; p. 41, great blue heron; p. 52, royal terns; p. 55 ruddy turnstone), National Geographic (p. 10-11, terrain; p. 61, white pelicans), Jason Arnold (p. 14, red snapper; p. 15, king mackerel; p. 34, spotted sea trout; p. 45, mullet; p. 51, red drum), Larry Ditto (p. 16, oysters and oystercatcher), Peter Brannon (p. 18, reddish egrets; p. 20, least terns, purple gallinule, black skimmer; p. 21, greater shearwater, magnificent frigatebirds, sanderling), Getty Images (p. 22, bottlenose dolphins; p. 30, white shrimp), Jay Fleming (p. 30, blue crab), Michael Libbe (p. 32, least tern and chicks), Axel Hildebrandt (p. 49, brown pelican), NOAA’s Sanctuaries Collection (p. 59, horse-eyed jacks). All other photos by iStock and NFWF staff and project partners.

SOURCES: The information contained in this report was gathered largely from award recipients. Additional information was obtained from the Deepwater Horizon Oil Spill Natural Resource Trustees, *Final Programmatic Damage Assessment and Restoration Plan and Final Programmatic Environmental Impact Statement*



NFWF

**NATIONAL HEADQUARTERS,
NORTHEASTERN AND
SOUTHERN REGIONAL
OFFICES**

1133 15th Street, NW
Suite 1000
Washington, DC 20005
202-857-0166

CENTRAL REGIONAL OFFICE

8011 34th Avenue South
Suite 242
Bloomington, MN 55425
612-564-7286

**ROCKY MOUNTAIN
REGIONAL OFFICE**

1875 Lawrence Street
Suite 320
Denver, CO 80202
303-222-6482

WESTERN REGIONAL OFFICE

90 New Montgomery Street
Suite 1010
San Francisco, CA 94105
415-778-0999

GULF PROGRAM OFFICE

301 N Main Street
Suite 1650
Baton Rouge, LA 70801
225-347-5990

nfwf.org