



13th District, Representative Vern Buchanan (R)

16th District, Representative Thomas Rooney (R)

14th District, Representative Connie Mack (R)

The Nature Conservancy recommends \$14,000,000 over five years to restore hydrologic functions, shellfish, seagrass, and mangrove habitats in Charlotte Harbor.



Roseate Spoonbill and Oyster Reefs in Charlotte Harbor Estuary. © M. Brown

AT A GLANCE:

Description Restoration of hydrologic functions, shellfish, seagrass, and mangrove habitats.

Project area Portions of the 350 square mile Charlotte Harbor Estuary.

Recent funding history A minimum of \$1,250,000 in funding has been received from NOAA, NFWF, SWFWMD, SCCF, FishAmerica Foundation and partners for estuarine restoration projects in Charlotte Harbor

Estimated total cost \$14,000,000 over five years

Project authority Florida Department of Environmental Protection's Coastal and Aquatic Managed Areas program, Florida SeaGrant, Southwest Florida Water Management District, Sanibel-Captiva Conservation Foundation, Florida Gulf Coast University and The Nature Conservancy

Other Investments None

Project Criteria

Consistent with Section 1006 of the Oil Pollution Act, this project will:

- Contribute to making the environment and the public whole by restoring the estuarine complex of habitats and species that include oyster reefs, hard clam, scallops, seagrass and mangrove and associated fish species. By incorporating multiple ecosystem components on a large scale, the cumulative benefits supercede the benefits if multiple small projects were conducted piecemeal. The project includes restoration of an estimated 15 acres of oyster reef, 1,200 acres of seagrass, 100 acres of mangrove, clams and scallops throughout 30,000 acres of the estuary, and hydrologic restoration of approximately 200 acres of state and privately owned lands.
- Address impacts to shellfish, seagrass and mangrove habitats, and to their associated ecosystem services including fish production, water filtration, nitrogen removal, protection of shorelines and marsh land from storm surge, nursery habitat for fishes and invertebrate species, and food sources for a variety of recreationally and commercially important species.
- Restore estuarine habitats, particularly oyster reef, seagrass and mangrove. The meta populations in Charlotte Harbor are a source for larvae, propagules and spawning adults to those areas directly damaged by the oil spill through Gulf-wide circulation patterns, therefore making the restoration of these adjacent areas in the Gulf critical.
- Portions of the project have gone through the Florida State Clearinghouse and been approved under NEPA, CZMA, EO 12372, and Section 403.061(40) of the Florida Statutes, and is consistent with the FCMP. A multi-agency team of federal, state, local and nongovernmental partners has been formed to advance this project. Many of the project elements have received the required permits and could be initiated within 90 days of receipt of funding.

Project Scope

Charlotte Harbor, the second largest estuary on Florida's Gulf coast, is a biologically diverse system and marine priority area for many governmental and non-governmental partners. Charlotte Harbor was designated an "estuary of national significance" in 1995 and became the Charlotte Harbor National Estuary Program (CHNEP). Salt water from the Gulf of Mexico mixes with freshwater sources from three large rivers. Declines in the extent of many of the estuarine habitats, including seagrass, oyster reefs, shellfish aggregations, mangroves and native shoreline habitats, are due to several factors including dredging, stormwater runoff, boat propeller scarring, development, mosquito ditching, and storms.

The project will use the most appropriate methodologies to improve habitat for commercially and recreationally important finfish and shellfish; restore forage and nesting areas for birds, reduce wave energy, shoreline erosion and

turbidity, and stabilize sediments. The project provides a science-based approach to restoration of the habitats that directly influence the estuarine health and related human economies of the greater Charlotte Harbor area. The project includes pre-and post-restoration monitoring, as needed, to map and characterize the affected habitats and active restoration of oyster reefs, seagrass and mangroves habitats, scallop and hard clam populations, and hydrologic restoration of adjacent lands.

Project Status

The project is a high-priority for restoration by the US Fish and Wildlife Service, Florida Department of Environmental Protection, TNC and partners. Implementation of this project is contingent on funding availability. The project accomplishments will include a GIS-based map and characterization report of the status of oyster reefs in Charlotte Harbor that will be available to partners and the public through the Gulf of Mexico's Restoration Decision Support System. In addition, the project will restore an estimated 15 acres of oyster reef, 1,200 acres of seagrass, 100 acres of mangrove, clams and scallops throughout 30,000 acres of the estuary and include hydrologic restoration of approximately 200 acres of state and private owned lands. The partners are in various stages of implementation readiness, most with permits in hand. The overall project timeline is five years.



*Volunteers planting mangroves in Charlotte Harbor.
© Eric Milbrandt*

Relationship to Existing Federal/State Plans

As of 2010, 15% of the lands within the CNEP's designated area, over 460,000 acres, is under conservation management. These include the J.N. "Ding" Darling National Wildlife Refuge, six aquatic preserves, four state parks, two water management districts, Charlotte and Lee Counties, and cities and towns. The project addresses management and restoration needs identified in the Charlotte Harbor National Estuary Program's Comprehensive Conservation Management Plan, the Florida Wildlife Action Plan entitled "Florida's Wildlife Legacy Initiative," the management plans of the aquatic preserves, and the recently completed comprehensive management plan for J.N. "Ding" Darling National Wildlife Refuge. This project would further leverage other restoration efforts occurring across the Gulf of Mexico including those in Mississippi, Alabama, Louisiana, Texas, and other areas in Florida.

Benefits to Injured Natural Resources

This project will provide critical nursery habitat for numerous finfish and shellfish stocks and federal trust species, especially while areas more affected by the recent Deepwater Horizon oil spill are being cleaned-up. The restoration efforts will help federally listed species such as sea turtles and the smalltooth sawfish, and other species including Atlantic sturgeon, snook, manatee, black skimmers, brown pelicans, great blue herons, great egrets, least terns, royal terns, and others, that were affected by the oil spill. This project will not only help in the recovery of these populations Gulf-wide, but it will also invest in their long-term habitat needs, providing areas for resting, forage and shelter into the future.

Job Creation and Economic Value

A minimum of 11 jobs will be created to construct and deploy the various activities encompassed by this project. This project will help to support and increase the economy by improving or restoring commercial and recreational fisheries, as well as benefiting tourism and fisheries-related industries.

Local and State Supporters

USFWS, NOAA's Restoration Center, Charlotte Harbor National Estuary Program, Florida Department of Environmental Protection Coastal and Aquatic Managed Areas program, Florida SeaGrant, Florida Gulf Coast University, Southwest Florida Water Management District, Sanibel-Captiva Conservation Foundation, Lee and Charlotte Counties, and the Friends of the Charlotte Harbor Aquatic Preserves.

The Nature Conservancy Worldwide Office

Kacky Andrews
Director of Large Aquatic Ecosystems
703/841-5321
kacky_andrews@tnc.org

The Nature Conservancy in Florida

Anne Birch
Coastal Restoration Director
321/956-7711
abirch@tnc.org

Florida Department of Environmental Protection

Heather Stafford
Charlotte Harbor & Estero Bay Aquatic
Preserves Manager
941/575-5861
heather.stafford@dep.state.fl.us





2nd District, Representative Stephen Southerland(R)

The Nature Conservancy recommends \$30,000,000 to transfer 17,273 acres to the St. Marks National Wildlife Refuge to protect a restorable buffer, estuarine watershed and sea level rise migration corridor in Jefferson and Wakulla counties, Florida.



Edge of potential flatwoods salamander-occupied dome swamp in the Flint Rock tract. © Richard A. Hilsenbeck/TNC

AT A GLANCE:

Description Protection and restoration of estuarine watershed, wildlife habitat and sea level rise migration corridor.

Project area 17,273 acres

Recent funding history TNC sold 2,836 acres of the 10,905 it acquired in 2008 to the State of Florida for \$5,246,371; 120 acres is currently under contract for sale to USFWS for \$140,000; \$1,000,000 has been allocated to St. Marks NWR from the Land and Water Conservation Fund for acquisition of part of the Sam Shine Foundation, Inc.'s 9,323 acres. Sam Shine was a Florida Board of Trustee.

Estimated total cost \$30,000,000

Project authority The U.S. Fish and Wildlife Service is authorized to acquire land within the project boundary.

Other Investments In 2008, TNC acquired its 10,905 acres and the Sam Shine Foundation, Inc. acquired the adjacent 9,323 acres, each paying \$16,990,998.

Project Criteria

Consistent with Section 1006 of the Oil Pollution Act, this project will:

- Contribute to making the environment and the public whole by transferring 17,273 acres of forested upland and wetland communities. These lands buffer the refuge and protect vital freshwater flows to high quality estuarine habitats of Apalachee Bay along Florida's Big Bend coast. St. Marks NWR encompasses vast acreages of salt marsh that provide a documented nursery ground for many species of marine life, as well as high quality sea grass beds and oyster reefs along Florida's Gulf coast. Given current climate change models, these kinds of habitats, including a variety of terrestrial communities encompassed by the refuge, may be in danger of inundation due to impending sea level rise. Acquisition of the project will serve to protect the watershed of the eastern portion of the St. Marks NWR and its Wilderness Area, as well as buffer the adjacent and productive waters of the Big Bend Seagrasses Aquatic Preserve and connect to the Aucilla WMA.
- Address the preservation of water quality, quantity and seasonal timing of freshwater flows that support the ecological balance, function and community structure of the St. Marks NWR and Apalachee Bay estuarine system including salt marshes, oyster reefs and seagrass beds.
- Compensate for impacts by helping to restore terrestrial resources that have been in commercial silviculture for decades. This kind of intensive silvicultural use allows run-off of surface water that releases fertilizer, herbicides and pesticides into the watershed of the St. Marks NWR and the Big Bend Seagrasses Aquatic Preserve.
- Apply in a consistent manner to aid the protection of estuarine systems, freshwater sources, wildlife, fishes, oysters, scallops and crabs that are the economic life-blood of the region and the underpinnings of the ecology of the near-shore Gulf of Mexico. The lands in the project are available immediately for acquisition from two conservation-oriented willing sellers making the project feasible and the costs consistent with anticipated long-term restoration needs. The St. Marks NWR has an approved Boundary Expansion in place (with NEPA documents secured) and the lands in the project fall within the approved acquisition boundary.

Project Scope

The project consists of a mosaic of approximately 60% forested and herbaceous wetlands (i.e., Floodplain Swamp, Hydric Hammock, Dome Swamp and Wet Prairie) interspersed among a series of dissected uplands that were formerly Mesic and Wet Flatwoods which have been mostly converted to off-site pine plantations. Much of the

project lies above a zone of limestone very close to the surface and exhibiting a high water table. The entire region has long been known as a sensitive karst area with numerous limestone outcrops, aquatic caves and sinkholes. To better protect the watershed of the St. Marks NWR and adjacent Apalachee Bay, restoration of the tract will involve methodical harvesting of off-site pines, conversion to on-site species, substantially limited site preparation, establishment of a sustainable, uneven-aged management regime for pines, and elimination of both hardwoods and cypress harvests.



American swallow-tailed kite © George Willson

Project Status

The tract was acquired in two separate, nearly equal sized and contiguous portions by TNC and the Sam Shine Foundation, Inc. Both tracts are within a recently approved Boundary Expansion for the refuge, so if adequate LWCF or NRDA funding could be obtained, USFWS already has the authority to acquire them.

Relationship to Existing Federal/State Plans

Most of the Conservancy's acreage is within a highly ranked Florida Forever project, while the the Foundation's ownership is the top priority for the USFS because of its watershed and wildlife values. Both tracts share their southern boundary with the northeastern boundary of the refuge and both are in the Boundary Expansion. The projects rank highly in State of Florida analyses (e.g., FFWCC's Strategic Habitat Conservation Areas, Florida Natural Areas Inventory's Habitat Conservation Priorities) and possess habitat for numerous rare and imperiled wildlife species as well as contribute substantially to the hydrological balance of the highly diverse Apalachee Bay estuarine system.

Benefits to Injured Natural Resources

The refuge spans over 43 miles of coastline, provides an extensive wintering ground for a large variety of waterfowl, and functions as an important travel/migration corridor, foraging ground and rest-over point for numerous trans-Gulf of Mexico Neotropical migrant bird species. This area is vital to the survival of hundreds of species, some of which are federally endangered or threatened. Listed vertebrate species documented on the tract include Eastern diamondback rattlesnake, flatwoods salamander, American alligator, wood stork, white ibis, little blue heron and Florida black bear. The project is identified by the FFWCC as a Strategic Habitat Conservation Area, including such species as American swallow-tailed kite, limpkin and Florida black bear.

Estuarine species associated with the tract include such rare and imperiled species as West Indian manatee, sea turtles, bald eagles, osprey and a large variety of commercially important species such as stone crabs, scallops, pink shrimp, speckled sea trout, red fish, pompano, Spanish mackerel and many others. The project includes substantial portions of the springsheds and associated karst habitat for several key springs and buffers a portion of the Apalachee Bay priority marine site. With the threat of climate change affecting coastal habitats, the project provides a critical corridor for inland migration of species adapting to sea level rise.

Local and State Supporters

Florida Fish and Wildlife Conservation Commission and U.S. Fish and Wildlife Service

The Nature Conservancy Worldwide Office

Kacky Andrews
Director Large Aquatic Ecosystems
703/841-5321
kacky_andrews@tnc.org

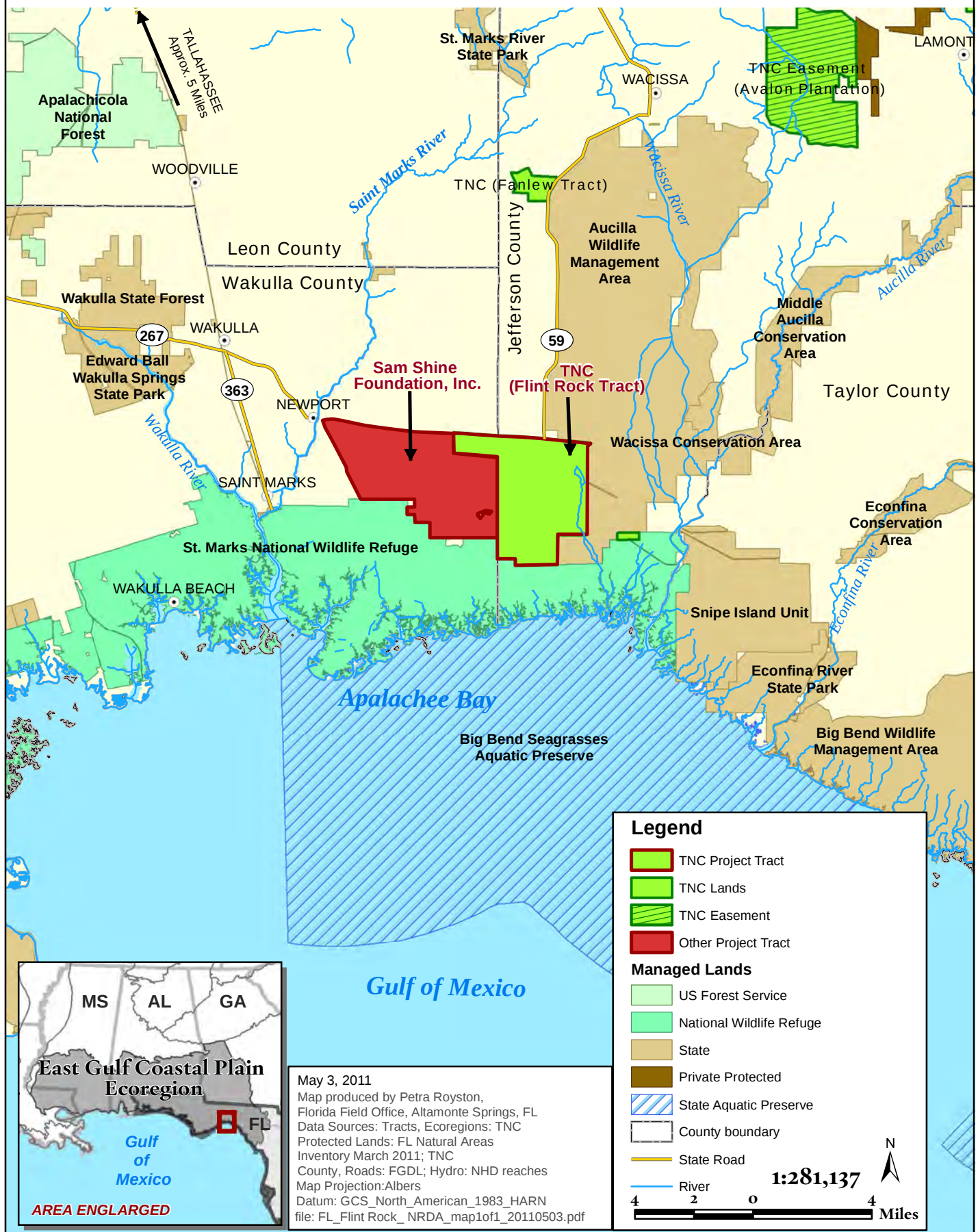
The Nature Conservancy in Florida

Anne Birch
Coastal Restoration Director
321/956-7711
abirch@tnc.org

Florida Fish and Wildlife Conservation Commission

Gary Cochran
Land Aquisition Administrator
850/487-9185
gary.cochran@myfwc.com

Flint Rock Land Acquisition Project, FL Gulf of Mexico Restoration Project



18th District, Representative Ileana Ros-Lehtinen(R)

22nd District, Representative Allen West(R)

20th District, Representative Debbie Wasserman Schultz (D)

The Nature Conservancy recommends \$4,584,000 to actively enhance the populations of Caribbean Acropora corals by outplanting over 15,000 coral colonies in waters off Broward, Miami-Dade and Monroe Counties, FL.



Ken Nedimyer with Coral Restoration Foundation tends to a block of corals in his Upper Keys Acropora nursery. © Tim Calver

AT A GLANCE:

Description Restoration of threatened Staghorn and Elkhorn Corals.

Project area 12,000 square meters of restored reef along the Florida Reef Tract.

Recent funding history 2009-2012; \$2,338,917 in American Recovery and Reinvestment Act funding from NOAA to establish coral nurseries and begin outplanting of corals.

Estimated total cost \$4,584,000

Project authority The majority of the activities performed for this project will be conducted underwater within federal or state managed waters.

Other Investments 2004 and 2006: TNC-NOAA Community-based Habitat Restoration Grant Program; used as a pilot scale study in Upper Keys nursery and supported additional nurseries in other counties.

Project Criteria

Consistent with Section 1006 of the Oil Pollution Act, this project will:

- Contribute to making the environment and the public whole by restoring degraded reefs along the Florida Reef Tract using threatened Acropora corals propagated in underwater nurseries.
- Address declining Acropora populations in Florida, which provide essential habitat for a number of commercially and recreationally important fish species and improve the overall quality of reefs important for recreational diving and snorkeling and the associated tourism industry.
- The majority of the over \$104 million dollars paid in claims in the tri-county area by the GCCF are directly related to the tourism, recreational fishing and diving and commercial fishing industries which are heavily dependent on a healthy reef ecosystem. This project will restore these natural resources to compensate for the value lost from these ecological services as a direct impact from the Deep Water Horizon oil spill.
- Apply in a consistent manner to fully restore the populations of these corals, which is called for in the recovery plans being proposed for these threatened species.
- This project is a continuation of an existing project with permits already secured in compliance with NEPA and with existing Biological Opinions for work with listed species.

Project Scope

Populations of shallow-water Acropora (staghorn and elkhorn) coral have been declining since the late 1970s and were listed as threatened under the Endangered Species Act in May 2006. The decline has been caused by natural threats including diseases, coral bleaching, and hurricanes, and by localized human threats including pollution. As populations have declined, the chance for successful reproduction has declined as well. This project aims to aid in the recovery of these species through propagation of coral colonies in underwater nurseries and outplanting them to degraded reefs along the Florida Reef Tract. The long-term goal of the project is to increase acroporid larval production and genetic diversity by increasing the likelihood of successful reproduction between genetically distinct colonies located on outplanted restoration sites.

Project Status

This project began in 2004 with a pilot study in the Upper Keys nursery and has been incrementally scaled up to encompass the entire Florida Reef Tract, from Broward County south to the Dry Tortugas. There are currently over 10,000 acroporid corals being maintained within the nurseries, 5,000 of which will be outplanted back to natural

reefs in the winter of 2011/2012. Following that initial large-scale outplanting, a significant number of coral fragments will remain in nurseries for future propagation and outplanting. Requested funding will allow this project to continue for an additional five years. Throughout those five years, the nurseries will be maintained as production-level propagation facilities to provide healthy coral fragments for outplanting to the surrounding reefs. This extension of the project will allow for an additional 3,000 corals per year to be outplanted on the reefs.

Relationship to Existing Federal/State Plans

Coral reefs are an important target in the state of Florida's Wildlife Action Plan known as "Florida's Wildlife Legacy Initiative." Much of the reef targeted in this proposal is located within the Florida Keys National Marine Sanctuary, and other portions are located within two National Parks; Biscayne and Dry Tortugas. In a 2002 Acropora workshop in which recommendations for acroporid restoration techniques were identified, it was noted that "coral mariculture, aquaculture, and other propagation techniques, along with transplantation and reattachment of dislodged Acropora fragments may provide a feasible strategy to rebuild degraded Acropora populations" (Bruckner, 2002).



Line nurseries have been installed in almost every nursery in addition to the typical blocks as part of this project.
© Tim Calver

Benefits to Injured Natural Resources

The project focuses on Acroporid (staghorn and elkhorn) corals, both of which are listed as threatened under the Endangered Species Act. Through careful outplant design, this project will increase the potential for successful reproduction, thereby increasing genetic diversity on the reef and allowing populations to recover naturally. These species contribute significantly to reef growth, island formation, and coastal protection, and provide essential habitat for a number of commercially important fish species (Bruckner, 2002; Shinn, 1966). The project is anticipated to have significant and tangible ecological impacts through an increase in local biodiversity accompanied by enhanced ecosystem services to people.

Job Creation and Economic Value

This project will employ an estimated 58 people either in newly-created jobs or retaining qualified staff that have been working on coral restoration projects, equating to 134,495 labor hours or 14 FTEs. As coral ecosystems decline, the ecosystem services that people depend on also diminish. Coral reefs and associated habitats provide fishery resources that represent a critical source of food for people. During a 12-month period from June 2000-May 2001, reef related expenditures generated \$1.3 billion in sales in Miami-Dade County and \$504 million in Monroe County, Florida (Hazen and Sawyer, 2003). These expenditures provided thousands of jobs supporting tourism and fisheries each year—over \$1.2 billion in the Florida Keys alone (USCRTF, 2000). In Monroe County, the commercial fleet supports approximately 1200 families, which is close to 5% of the county's population. In 2006, Monroe County was ranked the fifth most valuable port in the nation with a dockside of approximately \$54.4 million, excluding retail sales or profits made by wholesalers who marketed seafood products worldwide. Therefore, it's reasonable to predict that seafood and related industries earned upwards of \$70 million (Florida Keys Commercial Fishermen's Association).

Local and State Supporters

Local support comes from the Florida Keys National Marine Sanctuary, Broward County Environmental Protection Department's Natural Resources Planning & Management Division, Biscayne National Park, Dry Tortugas National Park and our project partners, which include Nova Southeastern University, University of Miami's Rosenstiel School of Marine and Atmospheric Science, Coral Restoration Foundation, the Florida Fish and Wildlife Conservation Commission, and Mote Marine Laboratory. State support comes from the Florida Fish and Wildlife Conservation Commission and the Florida Department of Environmental Protection's Southeast Florida Coral Reef Initiative.

The Nature Conservancy Worldwide Office

Kacky Andrews
Director of Large Aquatic Ecosystems
703/841-5321
kacky_andrews@tnc.org

The Nature Conservancy in Florida

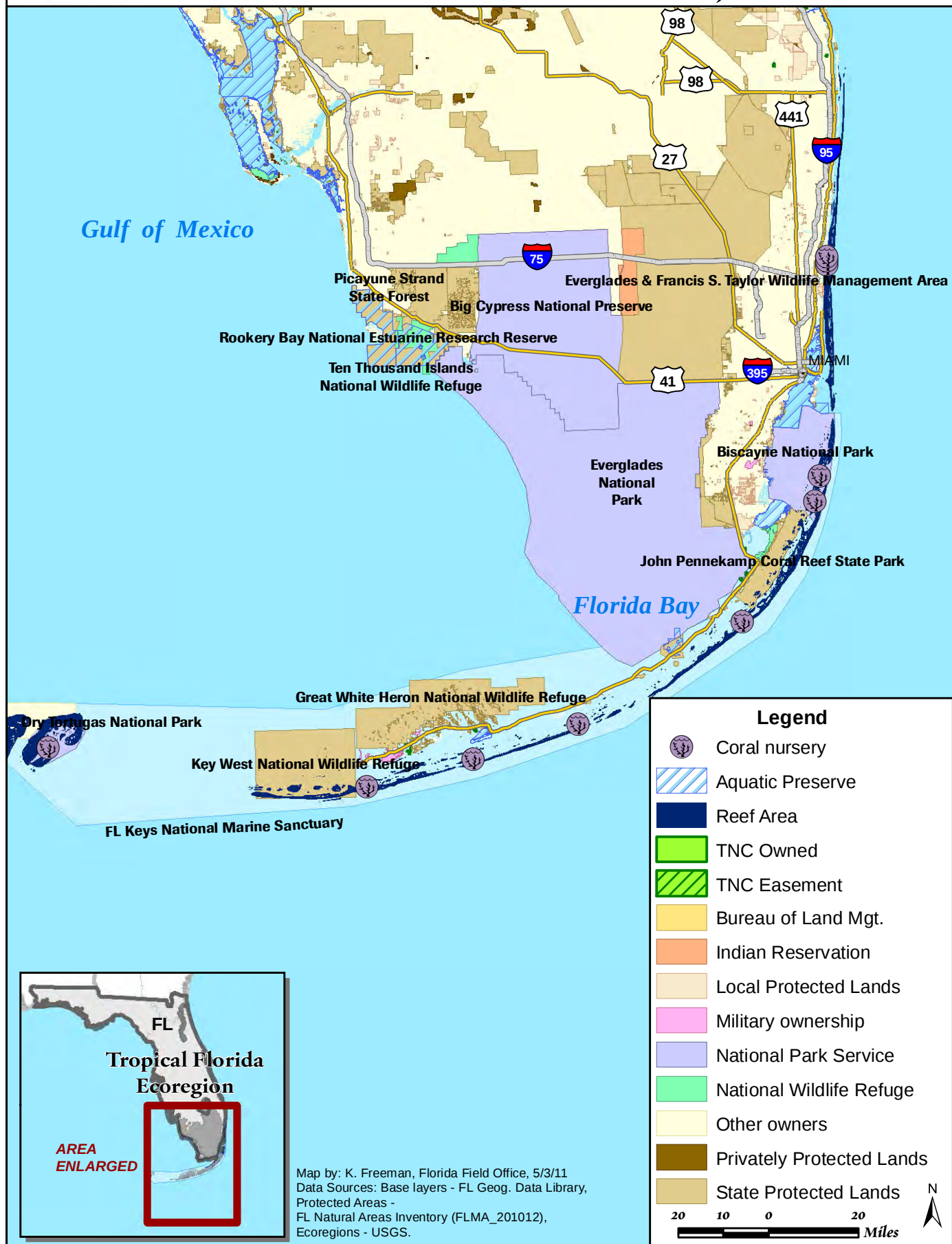
Anne Birch
Coastal Restoration Director
321/956-7711
abirch@tnc.org

National Oceanic & Atmospheric Administration

Tom Moore
NOAA Restoration Center
727/551-5716
Tom.Moore@noaa.gov

Florida Staghorn and Elkhorn Coral Recovery Project

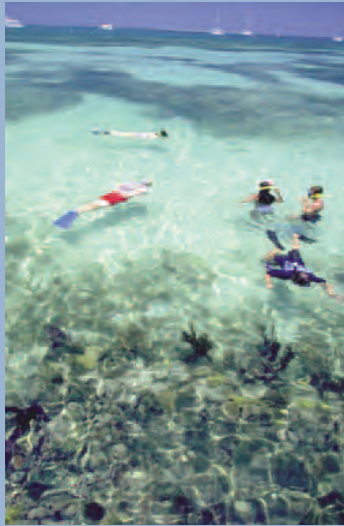
Gulf of Mexico Restoration Project





18th District, Representative Ileana Ros-Lehtinen (R)

The Nature Conservancy recommends \$172,000,000 to complete the Florida Keys Wastewater Master Plan's advanced wastewater treatment systems in Monroe County, Florida.



Snorkeling at Dry Tortugas. © Bill Keogh

AT A GLANCE:

Description Completion of the Florida Keys Wastewater Master Plan's remaining wastewater treatment systems to restore environmental quality and protect human health.

Project area 27% of the Florida Keys, serving the equivalent of 20,021 homes.

Recent funding history \$14 million via annual appropriations and \$38 million via the American Reinvestment and Recovery Act pursuant to the Florida Keys Water Quality Improvement Act's \$100 million authorization managed by the U.S. Army Corps of Engineers

Estimated total cost \$331.2 million with \$159.2 million of the total contributed by Monroe County residents and \$172 million from other sources.

Project authority Monroe County: authorized to develop funding for the Cudjoe Regional System and the Duck Key/Conch Key Regional System; Florida Keys Aqueduct Authority: authorized to construct and operate these systems via interlocal agreement with Monroe County; Village of Islamorada: authorized to fund, construct and operate the Islamorada System; Key Largo Wastewater Treatment District: authorized to fund, construct and operate the Key Largo System.

Other Investments Advanced wastewater treatment systems in the 73% of the Florida Keys outside the proposed project area have already been completed via a combination of private, state and federal funding totaling \$376.8 million.

Project Criteria

Consistent with Section 1006 of the Oil Pollution Act, this project will:

- Contribute to making the environment and the public whole by restoring nearshore water quality in the Florida Keys via the replacement of illegal cesspits and ineffective septic tanks with modern, centralized wastewater treatment systems that can achieve advanced wastewater treatment standards.
- Address the degradation of nearshore waters and seabeds by nutrient pollution and pathogens harmful to the environment and people.
- Compensate for the tarnished image of Florida Keys water quality, coral reefs, seagrass meadows, mangroves, marshes and beaches created by the proximity of the Deepwater Horizon oil spill to the Florida Keys, which negatively impacted the tourism and fisheries-based economy.
- Restore water quality, one of the foundational elements of the Gulf of Mexico's and the Florida Keys' natural environment, economy and way of life.
- Achieve project goals in a feasible manner; the project will provide wastewater treatment to all of the properties in the Florida Keys that have not yet been connected to centralized systems but could be served cost-effectively by these systems.

Project Scope

The Florida Keys are an archipelago of small, low-lying, limestone islands surrounded by the waters of the Gulf of Mexico. They are home to about 75,000 permanent residents and they host more than 2 million visitors each year. Sewage and greywater produced by these people quickly seeps out of cesspits and septic tanks, through the highly permeable limestone and into residential canals and nearshore waters. Nutrients in the wastewater wreak havoc on water quality, clouding seawater, fueling algae blooms that may lead to fish kills, and feeding undesirable seaweeds that smother vital habitat. Wastewater also harbors human pathogens whose mere mention prevents some residents and visitors from swimming in Keys waters. This project will clean up degraded nearshore waters of the Florida Keys. This will be accomplished by replacing cesspits and septic tanks with centralized wastewater systems, stopping a major source of pollution for the marine environment.

Project Status

Recognizing that the economic health of Monroe County and its municipalities relies largely on the environmental

health of a unique marine ecosystem, the state of Florida has mandated that nutrient loading levels be reduced. The Sanitary Wastewater Master Plan was finalized in 1999 with the goal of eliminating cesspits and septic tanks by July, 2010. Seventy-three percent of the Florida Keys has been upgraded to centralized wastewater treatment to date, but the 2010 deadline has been extended to July, 2015, due to federal and state funding shortfalls. Engineering and design are complete for the Key Largo and Duck Key/Conch Key systems, 25% complete for Islamorada, and 80% complete for Cudjoe Regional with scheduled completion deadlines in 2012. Funding can make the completion of treatment systems a reality by 2015.



Cesspits (pictured) and septic tanks leach nutrients and pathogens into Keys' nearshore waters. © TNC

Relationship to Existing Federal/State Plans

The Florida Keys National Marine Sanctuary was established by Congress in 1990. Under its authority, NOAA and the Florida Department of Environmental Protection manage all waters as well as natural and cultural resources surrounding the Florida Keys. Congress also directed the EPA and the state of Florida to develop a Water Quality Protection Program for the Sanctuary. Centralized wastewater system development has been a focal effort of the Sanctuary and its Water Quality Protection Program since their inception.

The Florida Keys Water Quality Improvement Act authorized Congress to appropriate up to \$100 million for planning and construction of wastewater and stormwater projects within the Florida Keys. The Corps of Engineers is authorized to provide this technical and financial assistance to improve water quality in the Sanctuary. Other federal interests that would be positively affected by the project include Everglades National Park and four national wildlife refuges. Other state interests include 9 state parks, the Florida Fish and Wildlife Conservation Commission and the Florida Department of Community Affairs.

Benefits to Injured Natural Resources

This project will improve water quality with benefits for seagrass beds and hardbottom communities dominated by corals, sponges, and other invertebrates. This nearshore environment provides critical nursery habitat for finfish and shellfish stocks including snapper, grouper, pink shrimp, and spiny lobster. Recreationally targeted species such as bonefish, permit, and tarpon will also benefit. The project will help federally listed species including sea turtles, smalltooth sawfish, staghorn coral, and other protected species including manatee, brown pelican and many other bird species affected by the oil spill.

Job Creation and Economic Value

Monroe County estimates that construction of the four centralized wastewater collection and treatment systems will create about 300 construction jobs in the short term and 60 permanent operations and maintenance jobs in the long term. The project will also contribute to the local natural resource dependent economy. During a 12-month period from June 2000-May 2001, coral reef related expenditures generated \$504 million in Monroe County. The Keys' commercial fishing fleet supports approximately 1,200 families, which is close to 5% of the county's population. In 2006, Monroe County was ranked the fifth most valuable fishing port in the nation with a dockside value of approximately \$54.4 million.

Local and State Supporters

Board of Monroe County Commissioners, Board of Directors of the Florida Keys Aqueduct Authority, Council of the Village of Islamorada, Board of Directors of the Key Largo Wastewater Treatment District, Florida Department of Environmental Protection, and Florida Department of Community Affairs.

The Nature Conservancy Worldwide Office

Kacky Andrews
Director Large Aquatic Ecosystems
703/841-5321
kacky_andrews@tnc.org

The Nature Conservancy in Florida

Anne Birch
Coastal Restoration Director
321/956-7711
abirch@tnc.org

Monroe County

Roman Gastesi
County Administrator
305/292-4442
gastesi-roman@monroecounty-fl.gov

Florida Keys Water Quality Improvement Project

Gulf of Mexico Restoration Project





1st District, Representative Jeff Miller (R)

The Nature Conservancy recommends \$8,000,000 over 5 years to create up to 8 miles of living shoreline and oyster reef in Pensacola Bay.



East Bay shoreline post-Hurricane Ida showing significant erosion and the need for living shoreline restoration. © Shelley Alexander

AT A GLANCE:

Description Restoration to enhance oyster reefs and salt marsh shorelines.

Project area 8 miles of living shoreline/oyster reef restoration.

Recent funding history FDEP has received funding for a portion of the project from the USFWS Coastal Program, NFWF oil recovery grant; since 2002, approximately of \$2.59 million for estuarine restoration.

Estimated total cost \$8,000,000 over 5 years

Project authority Florida Department of Environmental Protection

Other Investments Partners have received more than \$2 million for restoration projects from various federal and state funding sources including NOAA, USFWS, Gulf of Mexico Foundation, Ocean Trust, FL Coastal Management Program, Garcon Restoration Trust Fund, and NFWF Shell Oil grant.

Project Criteria

Consistent with Section 1006 of the Oil Pollution Act, this project will:

- Contribute to making the environment and the public whole by restoring oyster reefs that historically were widespread throughout the Pensacola Bay area. Restoration up to 8 miles of living shoreline and oyster reef habitat will be accomplished by deploying oyster shell and other suitable substrate.
- Addresses impacts of the Deepwater Horizon oil spill to oyster reefs and associated ecosystem services that include reduced sustainable harvest, fish production, water filtration, nitrogen removal, protection of shorelines and marsh land, nursery habitat for fishes and invertebrate species, and food sources for a variety of species.
- The project will restore oyster reef habitat in a substrate limited water body as well as surrounding essential fish habitat; increase benthic productivity from oyster reef biodeposits to sediment; enhance recruitment and production of fish and mobile crustaceans; removal of suspended inorganics, phytoplankton, and detrital particles thereby reducing turbidity and improving water quality; and dissipate wave energy thereby protecting the shoreline and wet flatwood community on adjacent state and federal lands.
- In conjunction with NEPA's Minor Project Activities NAO 216-6 6.03.c3(c), Restoration Actions NAO 216-6 6.03.b2, and Nao 216-6 6.03.b3, the proposed project is for a minor amelioration in which restoration actions will not have significant impacts on the human environment, but are intended to restore an ecosystem and habitat.

Project Scope

Creation of living shorelines that integrate oyster reef restoration, which will in turn protect and promote the expansion of coastal marsh and seagrass, is being applied throughout the Gulf of Mexico. Restoration will be planned for those areas where the science points to a high likelihood of success. The project will apply the most appropriate substrate for oyster larvae to settle and colonize; ultimately serving as nursery habitat for commercially and recreationally important finfish and shellfish; providing forage and nesting areas for birds, dampen wave energy, decrease shoreline erosion, stabilize sediments and decrease turbidity. The project will apply the expertise and lessons learned through years of experience by the partners as well as the living shoreline/oyster reef demonstration sites in Alabama, Mississippi, Louisiana, Texas and Florida. Additional sources of expertise and experience will be drawn from the many projects successfully funded through the national partnership between The Nature Conservancy and NOAA's Community-based Restoration Program.

The project provides a comprehensive science-based approach to restoration that includes pre-restoration monitoring to map and characterize the remaining oyster reefs in Pensacola Bay followed by development and

implementation of restoration activities. This information does not presently exist and is critical to understanding the restoration needs in this region prior to implementation of a restoration project.

Project Status

The Project is identified as a high-priority site for restoration by the US Fish and Wildlife Service, Florida Department of Environmental Protection, and The Nature Conservancy. Initiation and completion of this project are contingent on funding availability. A pre-restoration monitoring plan is in development. The project accomplishments will include a GIS-based map and characterization report of the status of the oyster reefs in Pensacola Bay that will be available to partners and the public using the Gulf of Mexico's Restoration Decision Support System. In addition, the project will create up to 8 miles of living shoreline that integrates oyster reef restoration. The overall project timeline is 5 years. Initiation and completion of this project are contingent on funding availability.



Oysters provide essential services for the ecology and economy of the Gulf. © Karen Oeltjin

Relationship to Existing Federal/State Plans

The project will address components of Florida's Wildlife Action Plan. The Initiative identifies nine marine habitat categories as having the highest relative threat status, which include bivalve reef, salt marsh and submerged aquatic vegetation. The proposed project is partially within the boundaries of the state's Yellow River Marsh Aquatic Preserve and is adjacent to Eglin Air Force Base. Although not officially occurring on DOD lands, the project would help to decrease erosion occurring along the west boundary of Eglin AFB that borders East Bay. This project supports The Nature Conservancy's Global Marine Team Strategic Plan (2008-2010) and TNC's Identification of Priority Sites for Conservation in the Northern Gulf of Mexico: An Ecoregional Plan (Beck et al. 2000). This project would further leverage other restoration efforts occurring across the Gulf of Mexico.

Benefits to Injured Natural Resources

This project will provide critical nursery habitat for numerous finfish and shellfish stocks and federal trust species including: Gulf sturgeon, gray snapper, gag grouper, seatrout, blue crab, and stone crab. Additionally, the restoration efforts for this project will provide habitat for transient birds and reptiles, including black skimmers, brown pelicans, common terns, great blue herons, great egrets, least terns, royal terns, tricolored herons, sea turtles and others, that were affected by the oil spill. This project will not only help in the recovery of these displaced populations specifically, but it will invest in their long-term habitat needs, providing areas for resting, forage and shelter into the future.

Job Creation and Economic Value

Crews will be needed to construct and deploy the living shoreline/ oyster reef restoration technologies that create the foundation for recovery of oyster reefs. Based on past jobs created by the Alabama ARRA project, this effort can provide immediate jobs for Florida residents affected by the oil spill.

Local and State Supporters

The project is supported by and will be managed through the Florida Department of Environmental Protection's Ecosystem Restoration and Coastal and Aquatic Managed Areas programs. Partners include The Nature Conservancy, Dauphin Island Sea Lab, US Fish and Wildlife Service Coastal Program Office, NOAA's Restoration Center.

The Nature Conservancy Worldwide Office

Kacky Andrews
Director of Large Aquatic Ecosystems
703/841-5321
kacky_andrews@tnc.org

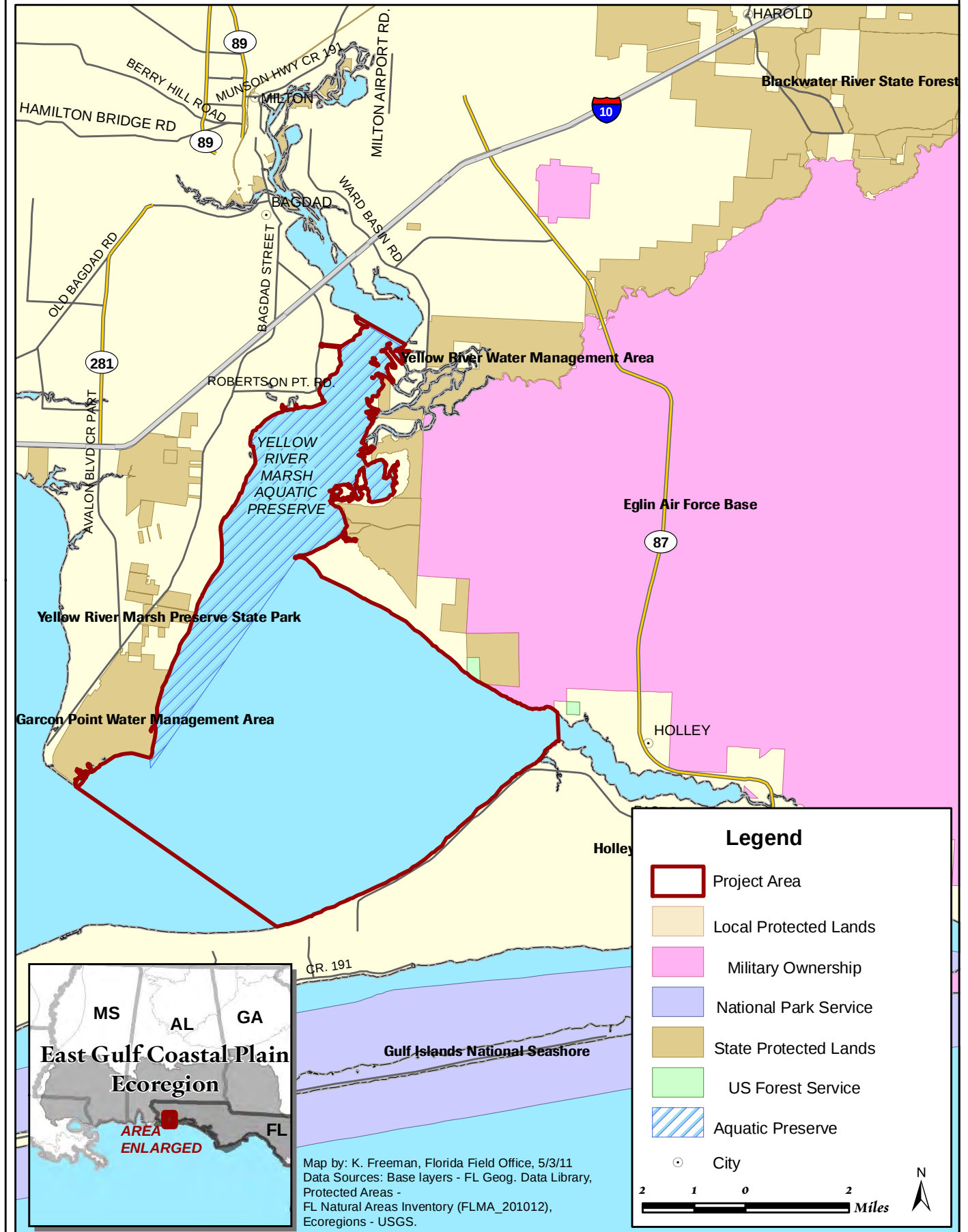
The Nature Conservancy in Florida

Anne Birch
Coastal Restoration Director
321/956-7711
abirch@tnc.org

Florida Department of Environmental Protection

Amy Baldwin Moss
Ecosystem Restoration Manager
850/595-0559
Amy.Baldwin@dep.state.fl.us

Living Shoreline and Oyster Reef Restoration, Pensacola, FL Gulf of Mexico Restoration Project



2nd District, Representative Steve Southerland (R)

The Nature Conservancy recommends \$3,000,000 to repair and restore Rattlesnake Bluff Road, a source of significant sedimentation to the Yellow River and Pensacola Bay in Okaloosa and Santa Rosa counties, FL.



Gulf sturgeon critical habitat is polluted by Rattlesnake Bluff Road.

© TNC

AT A GLANCE:

Description Repair and stabilization of unpaved road to restore riverine and estuarine habitats.

Project area Approximately 15 miles of road affecting 4,000 acres.

Recent funding history U.S. Department of Defense (\$70,000); State of Florida (\$80,700).

Estimated total cost \$3,000,000

Project authority State of Florida, Okaloosa and Santa Rosa counties, Eglin Air Force Base

Other Investments None.

Project Criteria

Consistent with Section 1006 of the Oil Pollution Act, this project will:

- Contribute to making the environment and the public whole by restoring and rehabilitating Rattlesnake Bluff Road, an unpaved road which contributes significant sediment pollution to the Yellow River, its tributaries, and Blackwater Bay (Pensacola Bay Drainage) by replacing 3 -13 undersized culverts and stabilizing sediments and erosion along the entire course of the road.
- Address sediment pollution degrading riverine, marine/estuary wetlands, freshwater wetlands, and sub-tidal habitats, as well as critical habitat for the federally threatened Gulf sturgeon.
- Compensate for degradation or loss of riverine, marine/estuary wetlands, freshwater wetlands, and sub-tidal habitats and impacts to federally threatened Gulf sturgeon. The project will compensate for these effects by reducing sedimentation to the above habitats located within the lower 25 miles of the Yellow River and Blackwater Bay. Reduced sediment pollution and improved habitat will further restore and/or improve estuarine habitats such as oyster reefs and salt marsh, which support the area's fishery as well as restore critical habitat for federally threatened Gulf sturgeon within this area.
- Apply in a consistent manner to the long-term restoration needs of high-priority riverine and estuarine habitats as described in Florida's State Wildlife Action Plan (2005) as well as the federal Gulf Sturgeon Recovery/Management Plan (1995). The project will likely require informal federal consultation under the Endangered Species Act. The project is in compliance with categorical exclusions described in the NEPA and thus will not require formal NEPA consultation.

Project Scope

The objective of this project is to stabilize Rattlesnake Bluff Road and nearby eroded riverbank sites in order to reduce sediment pollution to the Yellow River and Pensacola Bay and provide a reliable thoroughfare for the public. We will work with local, state, and federal experts to determine the most effective methods for restoring these sites; with road restoration options including culvert replacement, soil and outlet stabilization, and paving; and riverbank restoration using standard riparian stabilization techniques.

This project will benefit the environment and the public by restoring approximately 15 miles of road and 25 miles of river and tributary habitats; improving the populations and stability of riverine biota, including state and federally protected species; reducing sediment pollution to the Yellow River and Pensacola Bay; improving water quality and clarity by reducing suspended solids; and providing a stable and reliable road to local communities and the general public.

Project Status

The Rattlesnake Bluff Road and Riverbank Restoration Project is identified as a high-priority site for restoration by The U.S. Department of Defense (Eglin Air Force Base), U.S. Fish and Wildlife Service, Florida Fish and Wildlife Conservation Commission, and The Nature Conservancy. Initiation and completion of this project are contingent on funding availability.

Relationship to Existing Federal/State Plans

The Rattlesnake Bluff Road and Riverbank Restoration Project will directly restore and rehabilitate high-priority “Softwater River” and “Coastal Tidal River or Stream” habitats as described in Florida’s State Wildlife Action Plan (2005). The project will restore critical habitat as identified in the federal Gulf Sturgeon Recovery/Management Plan (1995). The project will improve riverine and estuarine habitats of the State of Florida’s Yellow River Wildlife Management Area (29,000 a.), Yellow River Marsh Aquatic Preserve (16,000 a.), and Yellow River Marsh State Park, as well as lands and waters within the boundaries of the U.S. Department of Defense’s Eglin Air Force Base. This project will also enhance U.S. Fish and Wildlife Service recovery efforts for federally threatened Gulf sturgeon as well as at least three freshwater mussel species to be proposed for listing by the Service under the Endangered Species Act (expected June 2011).



Drain gate allows direct sediment pollution to the river and bay along Rattlesnake Bluff Road.
© TNC

Benefits to Injured Natural Resources

The Rattlesnake Bluff Road and Riverbank Restoration Project will provide habitat restoration and rehabilitation of over 25 miles of river affecting approximately 4,000 a. of riverine, marine/estuary wetlands, freshwater wetlands, and sub-tidal habitats, as well as critical habitat for the federally threatened Gulf sturgeon riverine and estuarine habitats. The project will also benefit eight fishes listed among Florida’s Rare and Imperiled Species, including the Gulf sturgeon, alligator gar, Alabama shad, speckled chub, ironcolor shiner, bluenose shiner, spotted bullhead, and speckled darter. This project will also benefit at least three freshwater mussel species (narrow pigtoe, Southern sandshell, and Choctaw bean) to be proposed for listing by the Service under the Endangered Species Act (expected June 2011).

Job Creation and Economic Value

The restoration and rehabilitation of Rattlesnake Bluff Road is expected to employ approximately 20 people in full or part-time construction work. Once completed, the restored area will provide increased retention and assimilation of runoff and substantially reduce sediment pollution entering the river and estuary via the road. Reduced sediment pollution and improved habitat will further restore and/or improve estuarine habitats such as oyster reefs and salt marsh, which support the area’s fishery, state park, and other public resources contributing millions of dollars to the state’s economy.

Local and State Supporters

This project is supported by the U.S. Department of Defense (Eglin Air Force Base), U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration, Florida Fish and Wildlife Conservation Commission, and Florida Department of Environmental Protection.

The Nature Conservancy Worldwide Office

Kacky Andrews
Director of Large Aquatic Ecosystems
703/841-5321
kacky_andrews@tnc.org

The Nature Conservancy in Florida

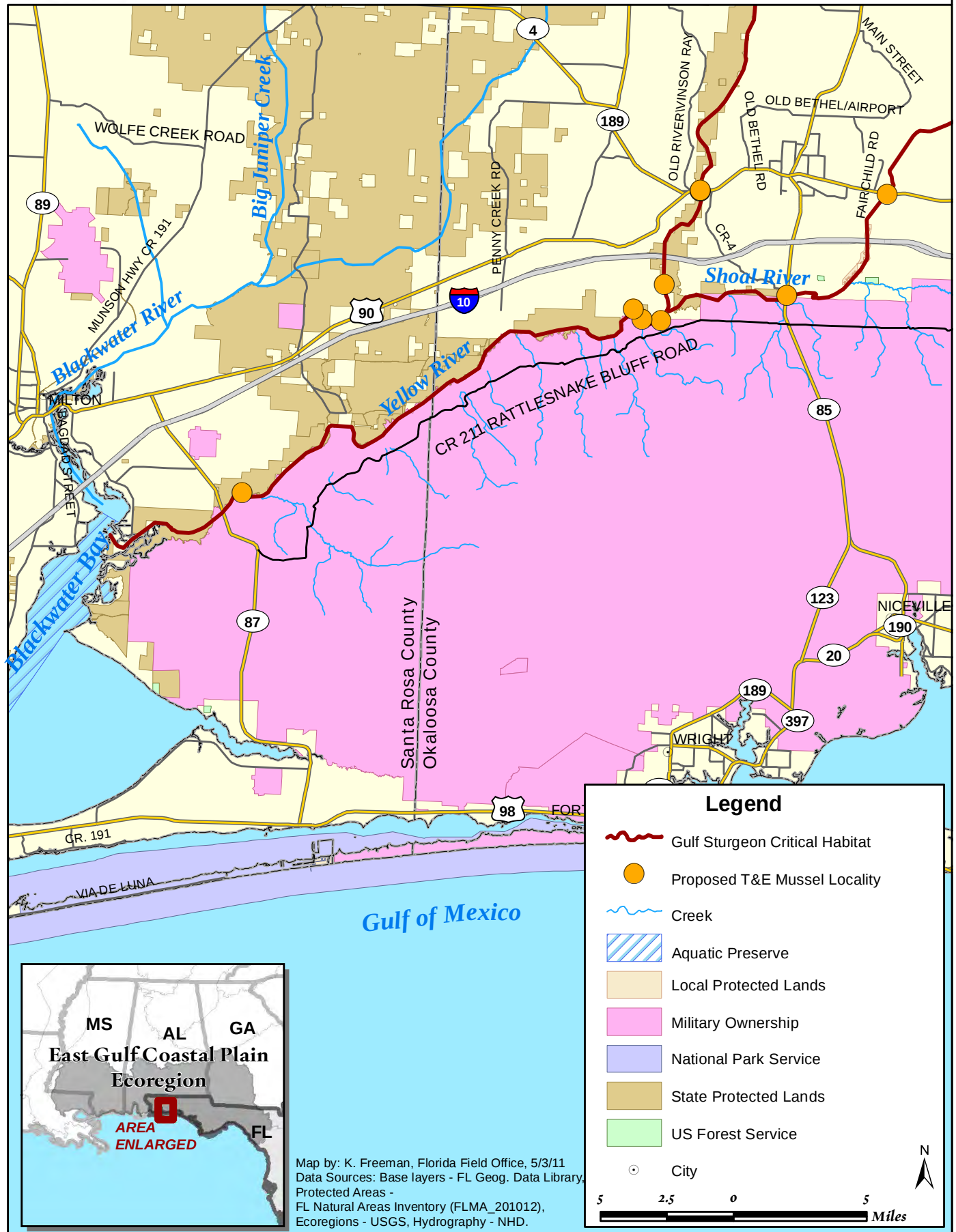
Anne Birch
Coastal Restoration Director
321/956-7711
abirch@tnc.org

Florida Department of Environmental Protection

Lee Edmiston
Director of Coastal & Aquatic
Managed Areas
850/245-2094
lee.edmiston@dep.state.fl.us

Rattlesnake Bluff Road and Riverbank Restoration Project, FL

Gulf of Mexico Restoration Project



2nd District, Representative Stephen Southerland(R)

The Nature Conservancy recommends \$105,000,000 to acquire 69,453 + acres of restorable terrestrial habitats that buffer and protect freshwater flows to high quality estuarine habitats in Franklin and Gulf Counties, FL.



Looking from an area of flatwoods, maritime hammock and salt marsh to the open waters of St. Vincent Sound. © George W. Willson

AT A GLANCE:

Description Acquisition of restorable terrestrial habitats that buffer and protect freshwater flows to high quality estuarine habitats.

Project area 69,453 acres

Recent funding history Apalachicola River and Bay/Box R Ranch: 7,597 acres for \$14,927,712; St. Joseph Bay Buffer/Treasure Shores, Ltd. (Money Bayou): 3,440 acres for \$4,873,000; Apalachicola River and Bay/Wimico Preserve: 2,844 acres for \$4,905,756 (with TNC contributing \$948,233 from the Doris Duke Charitable Foundation).

Estimated total cost \$105,000,000

Project authority The Florida Department of Environmental Protection is authorized to acquire land, as are Florida Fish and Wildlife Conservation Commission and the Division of Forestry.

Other Investments None

Project Criteria

Consistent with Section 1006 of the Oil Pollution Act, this project will:

- Contribute to making the environment and the public whole by acquiring 69,453 + acres of restorable terrestrial communities that buffer and protect freshwater flows to high quality estuarine habitats on St. Vincent Sound and Lake Wimico in the Florida panhandle. Important for sea level rise adaptation and protection of imperiled estuarine, freshwater, wetland and forest habitats including approximately eight miles of shoreline.
- Address the impacts of the oil spill through the protection of the land and waters within this large, landscape-scale watershed which will assist in the preservation of water quality, quantity and seasonal timing of freshwater flows that support the ecological balance, function and community structure of estuarine systems including oyster reefs and seagrass beds and species such as wading birds, gulf sturgeon and several species of sea turtles.
- Compensate for impacts to water quality through restoration of terrestrial resources – specifically historic longleaf pine-dominated communities, mostly flatwoods and sandhill, that are now in commercial silvicultural operations (pine plantations) and that allow run-off of surface water which includes fertilizer, herbicides, pesticides – that function as the watershed for an array of near-coastal estuarine systems, including Apalachicola Bay, St. Vincent Sound, Lake Wimico and St. Joseph Bay.
- Apply in a consistent manner to provide permanent means of protecting estuarine systems, freshwater sources, wildlife, fishes, oysters, scallops and crabs that are the economic life-blood of the region and the underpinnings of the ecology of the near-shore Gulf of Mexico. Project will help to restore a sustainable system of lands and waters that will help stabilize, maintain and enhance seafood industry and tourism throughout the region.

Project Scope

The project is dominated by various kinds of flatwoods now planted in dense off-site pines and subsequently fire suppressed. Restoration of natural habitats will require thinning pine plantations, eventual removal of pines from some areas, ultimate reforestation with longleaf pines and reintroduction of prescribed fire to return the tract to its historic community structure, species composition and ecological integrity. Protection of this vast ecosystem will provide a buffer to the coastal waters of Apalachicola Bay and the Brothers River, currently under consideration as critical habitat for the federally threatened Gulf sturgeon, and the entire shoreline of Lake Wimico that feeds and sustain the various estuaries described above. Once protected, this landscape will also serve to connect several important conservation areas such as the St. Joseph Bay Buffer Preserve, St. Joseph Peninsula State Park,

Apalachicola Wildlife Environmental Area and nearby St. Vincent Island National Wildlife Refuge.

Project Status

The Conservancy had an option contract to purchase the tract approximately four years ago, but did not close the transaction because State of Florida funding was not available to result in public ownership.

Relationship to Existing Federal/State Plans

The project is on the state's Florida Forever list and has been accorded a high ranking over the past years. Both the Florida Fish and Wildlife Conservation Commission and the Division of Forestry are designated as managers, with some lands recently acquired being managed by the FFWCC and the FDEP's Office of Coastal and Aquatic Managed Areas. The project scores highly in the State Wildlife Action plan and in FFWCC's Strategic Habitat Conservation Areas analyses. There is currently \$2.5 million available in Forest Legacy funding and acquisition is being pursued by the DOF. The St. Vincent NWR had plans to considerably expand the refuge into the project area, but these have been placed on hold for the past decade.



Looking from Huckleberry Creek to an area of hydric hammock near the edge of Lake Wimico. © Wendy J. Mathews / TNC

Benefits to Injured Natural Resources

The project area supports exceedingly high species richness and the area has long been identified as a regional and national hotspot of biodiversity. The project protects habitat for several federally listed vertebrate species including Gulf sturgeon, Eastern indigo snake, loggerhead, Kemp's Ridley, leatherback and green sea turtles, piping plover, arctic peregrine falcon, red-cockaded woodpecker, bald eagle, wood stork, as well as manatee and Florida black bear. The project also supports populations of two globally imperiled plant species, Chapman's rhododendron and telephus spurge, that are federally listed by the U.S. Fish and Wildlife Service and both are listed as Endangered by the State of Florida. The project would also contribute to the habitat available for a diversity of other wildlife including Neotropical migratory birds, wintering waterfowl, rails and woodcock, and nesting wood ducks.

The commercially and economically valuable estuarine species associated with the tract include important species such as stone crabs, oysters, scallops, pink shrimp, speckled sea trout, red fish, pompano, snapper, grouper and many others. With the threat of climate change affecting coastal habitats, the project provides a critical corridor for inland migration of species adapting to sea level rise.

Local and State Supporters

Florida Department of Agricultural and Consumer Services/Division of Forestry, United States Fish and Wildlife Service, FL Department Environmental Protection/Office of Coastal and Aquatic Managed Areas

The Nature Conservancy Worldwide Office

Kacky Andrews
Director Large Aquatic Ecosystems
703/841-5321
kacky_andrews@tnc.org

The Nature Conservancy in Florida

Anne Birch
Coastal Restoration Director
321/956-7711
abirch@tnc.org

Florida Division of Forestry

John Browne
Land Aquisition Administrator
850/414-9910
john.browne@freshfromflorida.com

St. Vincent Sound-to-Lake Wimico Land Acquisition Project, FL Gulf of Mexico Restoration Project

