

FISHAMERICA FOUNDATION APPLICATION

I. Reference Number: FAF-4024 Date Received: RECEIVED (FAF use only)

MAY 24 2004

II. **Applicant Organization:**

- A. *Organization:* St. Lucie County
- B. *Address:* 2300 Virginia Avenue, Fort Pierce, Florida 34982
- C. *Website:* www.stlucieco.gov

III. **Project Contact**

- A. *Project Officer and Title:* Jim David, St. Lucie County Mosquito Control Director
- B. *Address of Contact:* 3150 Will Fee Road, Fort Pierce, Florida 34982
- C. *Telephone:* (772) 462-1686
- D. *Fax:* (772) 462-1565
- E. *Email:* jdavid@co.st-lucie.fl.us

IV. **Project Information**

- A. *Project Name:* Wildcat Cove Salt Marsh Restoration
- B. *Project Location:*
 - 1. North Hutchinson Island, St. Lucie County, Florida (See Exhibit Location Map)
 - 2. Congressional District: Florida 16th
 - 3. Longitude/Latitude: Latitude: 80 18' 22"W
27 29' 32" N
- C. *Type of Ecosystem:* Marine estuary
- D. *Sport Fish To Benefit From Project:* Tarpon, Common Snook, Mangrove Snapper, Red Drum, Black Drum.
- E. *Public Access:* Access to Wildcat Cove Preserve by automobile is by Florida Highway A1A, which borders the eastern boundary of the site. Access by water is from the Indian River Lagoon. A canoe mooring/launch exists within the Preserve. The Preserve is also part of the North Hutchinson Island Trail, which provides pedestrian and bicycle access by means of a multipurpose pathway that runs adjacent to Highway A1A. Within the Preserve is a 3.5-mile hike/bike trail that connects to the multipurpose pathway. Six observation piers, that connect to the hike/bike trail, provide directed and structured access to the waterway.
- F. *Property Control:* St. Lucie County currently owns 82 acres of Wildcat Cove Preserve. The State of Florida owns 10 acres. St. Lucie County also has a contract to acquire the remaining 37 acres. This restoration project does not involve that portion of Wildcat Cove that is owned by the State of Florida.
- G. *Project Start Date:* January, 2005
- H. *Project End Date:* July, 2005
- I. *Local Newspaper:* Fort Pierce Tribune, 600 Edwards Road, Fort Pierce, FL 34982

V. **Volunteers**

- A. *Number of Volunteers:* 25
- B. *Total Volunteer Hours:* 120

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- C. *Details of Volunteer Activities:* Volunteers will be utilized to plant mangrove and other native wetland seedlings within a 5-acre area and along the shoreline.

VI. Amount of Funds Requested
\$50,000

VII. Permits
All permits have been secured and a copy is included in this application (See Exhibit Permits).

VIII. Objectives of Project and Concise Project Summary

Wildcat Cove Preserve is a 129-acre site located in northeastern St. Lucie County, Florida that provides greater than 2 miles of shoreline along the Indian River Lagoon, the most ecologically diverse estuary in North America with over 4,000 species of plants and animals (See Exhibit Indian River Lagoon). Since 1990, St. Lucie County and the State of Florida have owned 16 acres of the site. St. Lucie County, with assistance from the State of Florida Department of Community Affairs, acquired an additional 76 acres of the site in 2001 at a cost of approximately \$375,000. St. Lucie County currently has a contract to acquire the remaining 37 acres. It is anticipated this acquisition will be concluded within the next year at a cost that is close to \$50,000. Other than an approximately 10-foot-wide berm that forms the boundary of the property and a 10-acre recreational park area, the property is primarily a mangrove saltwater marsh. The marsh area was impounded in the early 1960's for mosquito control purposes and was totally separated from the Indian River Lagoon by the berm. In the early 1990's, the St. Lucie County Mosquito Control District gained limited access to the property, that was then under private ownership, and began a process of reconnecting the tidal swamp to the Lagoon by a system of pumps and nine culverts. One additional culvert was installed since St. Lucie County recently obtained title to the additional 76 acres. The master plan for the site recommends six additional culverts.

It is the purpose of this project to continue the reconnection of the mangrove tidal swamp to the lagoon by installing six culverts. It is also the intent of the project to remove invasive plants (primarily Brazilian pepper and Australian pine) from the berm and shoreline. Research has demonstrated that the presence of Brazilian pepper and Australian pine adversely affect land crab and fiddler crab populations which are an important link in the food chain of a coastal salt marsh community. Removal of the invasive plants will also improve the buffer function of the uplands. The project will also provide environmental education at the site through educational signage and the involvement of volunteers in the replanting of native plant species. Additionally, the project will provide increased access to the site through the construction of an observation pier and an observation platform. The objectives of this salt marsh restoration/reconnection project are the following:

- A. Restore the historic wetland hydrology and marsh filtering functions of the 119-acre mangrove salt marsh area.
- B. Promote historic mangrove and salt marsh floral dominance in the 119-acre salt marsh area.

- C. Improve historic fish and macro-crustacean migration and exchange between the salt marsh and the Indian River Lagoon.
- D. Restore shoreline habitat value for land crab, fiddler crab and their predators by removal of all non-native invasive plants from the berm and shoreline.
- E. Protect and enhance sea grass beds immediately off shore of the project area through acquisition and conservation of the project site; by providing structured, directed access to the shoreline and away from the sea grass beds; and by enhancing water circulation through the sea grass beds and by improving water clarity of immediate area through filtration provided by wetland reconnection.
- F. Restore the adjacent upland system of the project site (berm) to improve its buffer function by removing non-native, invasive plants.
- G. Provide access and educational opportunities regarding the importance of wetland conservation.

This project will be managed by Mr. Jim David, St. Lucie County Mosquito Control District Director. The St. Lucie County Mosquito Control District, under Mr. David's direction, was the winner of the 2001 Walter B. Jones Memorial and NOAA Excellence Award in Coastal and Ocean Resources (See Exhibit NOAA Excellence Award). It was for Mr. David's work in impoundment reconnection and wetland restoration that the District won this award. The same methods that enabled the District to win this award will be utilized in this project. Based upon Mr. David's twenty-year experience in similar wetland restoration/reconnection projects, it is probable this project will result in:

- A. A significant improvement in the water quality and water clarity of the impounded wetland and of the waters of the Lagoon immediately off shore from the project area.
- B. A significant and high increase in the population of snook, tarpon, other game fish, and macro-crustaceans within the wetland impoundment and an increase in the exchange of these species into the Lagoon.
- C. Significant growth and proliferation of sea grass beds immediately off shore of the impoundment areas due to the increased circulation of water resulting from pumped intake and discharge of water through the impoundment.
- D. A significant increase in fiddler crabs and giant land crabs along the shoreline secondary to removal of invasive, non-native plants.

IX. Project Description And Need

- A. *Specific Resource, Educational and/or Socioeconomic Needs the Project Will Address:*
 - 1. Resource needs addressed by the project include:
 - a. Improve water quality of the Indian River Lagoon by improving the reconnection of adjacent wetlands and enhancing the filtering functions of the wetlands.
 - b. Enhance sea grass beds immediately off shore of the project site by increasing water circulation through the sea grass beds and improving clarity of water in the immediate area.
 - c. Protect sea grass beds immediately off shore by providing directed and structured access to the water by means of observation piers and platforms.

- d. Increase fish and macro-crustacean populations of the Indian River Lagoon by expanding food sources and nursery habitat provided by improved sea grass beds and reconnected marsh areas.
 2. Educational needs addressed by the project include:
 - a. Educate general public regarding need to conserve wetland areas and important function wetlands contribute to water quality and maintenance of marine species.
 - b. Educate general public regarding important function of sea grass beds and mangroves to preservation of marine species.
 3. Socioeconomic needs addressed by the project include:
 - a. Improve water quality and fish population of the Indian River Lagoon in an effort to preserve jobs and economic activity contributed to local economy by sport fishing activities.
 - b. Improve water quality and fish population of the Indian River Lagoon in an effort to preserve low-cost, recreational fishing activities for families from Fort Pierce's lower socioeconomic areas.
- B. *On-The-Ground Activities To Be Undertaken On-Site To Achieve Project Objectives:***
1. Conduct pre-project surveys of water quality, flora and fauna.
 2. Physically remove and/or herbicide all non-native plants from the berm and shoreline.
 3. Improve the hydrology of the tidal swamp through increased reconnections to the Indian River Lagoon by installing six 30-inch-diameter culverts with tidegates.
 4. Plant mangrove seedlings and other native plants (herbaceous shrubs such as glasswort and saltwort) along shoreline and in the tidal swamp to re-establish natural mangrove and salt-marsh community.
 5. Construct fishing/observation pier and platform for directed and structured access to water.
 6. Construct signage for educational purposes.
 7. Monitor tidal swamp for daily water levels, mosquito landing rates, vegetation status and rainfall; monthly for water quality and annually for fauna surveys.

C. *Description of Site:*

Wildcat Cove, a 129-acre preserve, is located on North Hutchinson Island in St. Lucie County. To the west, the Preserve is bordered by the Indian River Lagoon. To the east, it is bordered by State Highway A1A. Adjacent to Wildcat Cove Preserve across Highway A1A is Pepper Park; a county park offering 1/3 mile of Atlantic Beach access, tennis, volleyball, basketball, baseball, and playgrounds. Also located within Pepper Park is the U.S. Navy Seal Museum. Wildcat Cove Preserve is one of a series of 9 State and St. Lucie County preserves and parks, all of which are located within approximately 7 miles along Highway A1A. The preserves and parks are connected by a multipurpose pathway that extends along Highway A1A (See Trails map in Exhibit Site Photos). Each of the preserves has hike/bike trails that border the Indian River Lagoon.

The land cover of the site consists predominantly of a mangrove salt marsh community. The section of the preserve adjacent to Highway A1A contains a

picnic area. Constructed berms around the tidal swamp provide a crushed coquina, 3.5-mile, loop trail that is suitable for hiking and bicycling activities. There are seven observation outlooks/piers along this trail. There is also a canoe mooring/launch within the preserve. The plant community of the site lends itself to significant environmental diversity within the site.

D. Measures of Success:

1. Approximately 2 miles of shoreline along the Indian River Lagoon will be conserved and restored through acquisition of the land and by removal of invasive plants and planting with mangroves and other native salt-marsh plants.
2. The reconnection to the Indian River Lagoon of 119 acres of mangrove salt marsh will be improved enhancing the water filtering function of the wetland and augmenting an important nursery/feeding area for marine species including snook, tarpon, mangrove snapper, red drum, black drum, shrimp, blue crab, and lobster.
3. Sea grass beds, important feeding areas for numerous marine species, along the 2 miles of shoreline will be protected and enhanced by conservation of the land, by improvements to water quality and water circulation, and by directed and structured access to the site provided by the berm and the observation piers.
4. Visitors to the site will be educated by installed signage regarding importance of preserving wetlands, mangrove communities, and sea grass beds.

E. Planned Monitoring Activities

To determine if the quantifiable restoration goals are met; water quality, flora and fauna surveys will be conducted before, during and after restoration is completed. Monitoring will include daily monitoring of water levels, mosquito landing rates, vegetation status and rainfall. Monthly monitoring of water quality and annual aerial overflights (with photography) and faunal surveys will be completed.

F. Project Partners

This project is consistent with both the Indian River Lagoon National Estuary Program and the Indian River Lagoon Comprehensive Conservation and Management Plan. One of the stated goals of these programs (See Exhibit National Estuary Program) is to “restore wetlands, reconnect impoundments, and restore impoundment shorelines to near pre-impoundment condition in partnership with county mosquito control districts, the U.S. Fish and Wildlife Service, and others.”

Partners specifically involved in this project include the following:

1. Florida Communities Trust, a land conservation program managed by the Florida Department of Community Affairs, has contributed approximately \$280,000 to assist in paying land acquisition costs.
2. The South Florida Water Management District, through the Indian River Lagoon License Plate Program, will be contributing \$20,000 to the project to remove invasive plants from the shoreline and upland berm.
3. The Florida Office of Greenways and Trails and the U.S. Department of Transportation, if a grant application is approved, will be providing funding of \$13,800 for improvements to the hike/bike trail that include two observation platforms.

4. The Florida Inland Navigation District, if a grant application is approved, will also be providing funding of \$13,800 for improvements to the hike/bike trail that include two observation platforms.
5. The University of Florida Extension Service has agreed to both assist in the replanting of mangroves at the site and to assist in the development of educational programming for the site.
6. The Marine Resources Council, a nonprofit organization that focuses on issues involving the Indian River Lagoon, has agreed to assist in the replanting of mangroves.
7. St. Lucie County's contribution to all aspects of this project exceeds \$148,000.

X. Timeline of Project Activities

- A. *Land Acquisition* (To be completed by December 2004)
- B. *Engineering and Permitting* (Completed).
- C. *Bid Process for Removal of Exotics* (January 2005 through mid-February 2005).
- D. *Bid Process for Observation Piers* (January 2005 through mid-February 2005)
- E. *Restore Hydrology – Install Culverts and Tidegates* (January, 2005 through February, 2005).
- F. *Removal of Exotics – Clear and Grub Berm of Exotics* (February, 2005 through March 2005);
- G. *Construction of Observation/Fishing Pier and Installation of Signage* (March 2005 through May 2005)
- H. *Native Planting – Shoreline and Salt Marsh Plantings* (April 2005 through July 2005).

XI. Budget

(See Exhibit Budget for greater detail.)

- A. *FishAmerica Funds Requested: \$50,000*
 \$24,000 will be utilized to install six culverts with tide gates. These will be installed by the St. Lucie County Mosquito Control District. The funding is for materials and labor of staff. The work will be supervised by Mr. Jim David, Director of the St. Lucie County Mosquito Control District. An additional \$20,000 will be utilized to acquire seedlings to replant a five-acre area from which a heavy infestation of invasive plants (Brazilian Pepper and Australian Pine) are being removed. The labor necessary to plant the seedlings will be donated by volunteers. \$6,000 will be utilized for entrance and educational signage. The educational signage will be concerned with the importance of wetland conservation to the Indian River Lagoon.
- B. *Total Project Costs*

1. Land Acquisition (Lands acquired in 2001)	\$375,400
2. Installation of culvert (Completed in 2002)	\$4,000
3. Land Acquisition (To be acquired by 12/2004)	\$50,000
4. Permitting	\$1,000
5. Clear and scrape down of berm of exotic plants (Including equipment rental)	\$20,000
6. Purchase and install 6, 30 inch diameter corrugated aluminum culverts with tidegates	\$24,000

7. Purchase of seedlings for replanting	\$20,000
8. Shoreline restoration planting – labor	Volunteers
9. Construct observation pier and platform	\$27,600
10. Construct educational and entrance signage	\$6,000
11. TOTAL	\$528,000

C. *Matching Contributions and Source*

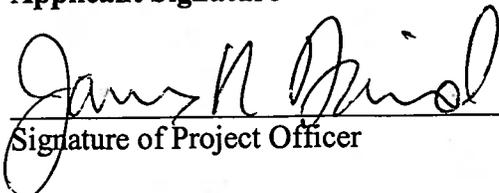
St. Lucie County has secured funding of \$281,500 from Florida Communities Trust to assist in the acquisition of 76 acres of the project site. St. Lucie County contributed \$93,900 toward this acquisition, which is now completed. St. Lucie will be contributing \$50,000 toward the acquisition of an additional 37 acres. St. Lucie County has also paid for all permits and for the installation of one culvert at a cost of approximately \$5,000. The Florida Inland Navigation District will be contributing \$13,800 for the construction of observation pier and platform. The Florida Department of Environmental Protection, through the Indian River Lagoon License Plate Program, will be contributing \$20,000 to remove invasive plants. The Florida Office of Greenways and Trails in partnership with the U.S. Department of Transportation will be contributing \$13,800 for enhancements to the hike/bike trail. Assuming all federal grants are approved, the ratio of federal funds to non-federal funds will be approximately 1:7. Although a number of organizations have volunteered to assist in the re-planting of mangroves and other native salt-marsh plants, these services are not being claimed as in-kind match. St. Lucie County staff labor contributed to this project (installation of six culverts and tidegates) is being claimed as match. Anticipated funding partners are the following:

	<u>Federal</u>	<u>Non-Federal</u>
1. Florida Communities Trust		\$281,500
2. St. Lucie County		\$148,900
3. SFWMD (IRL License Plate)		\$20,000
4. Florida Inland Navigation District		\$13,800
5. U.S. Dept. of Transportation (Florida Office of Greenways & Trails)	\$13,800	
6. FishAmerica	\$50,000	
7. TOTAL	\$63,800	\$464,200

XII. Contact at State Natural Resource Agency

- A. *Name and Title:* Brian S. Barnett, Interim Director
 B. *Agency:* Office of Environmental Services
 Florida Fish and Wildlife Conservation Commission
 C. *Address:* 620 South Meridian Street, Tallahassee, FL 32399-1600
 D. *Telephone:* (850) 488-9542
 E. *Fax:* (850) 922-5679
 F. *Email:* brian.barnett@fwc.state.fl.us

XIII. Applicant Signature



 Signature of Project Officer

5/18/04

 Date