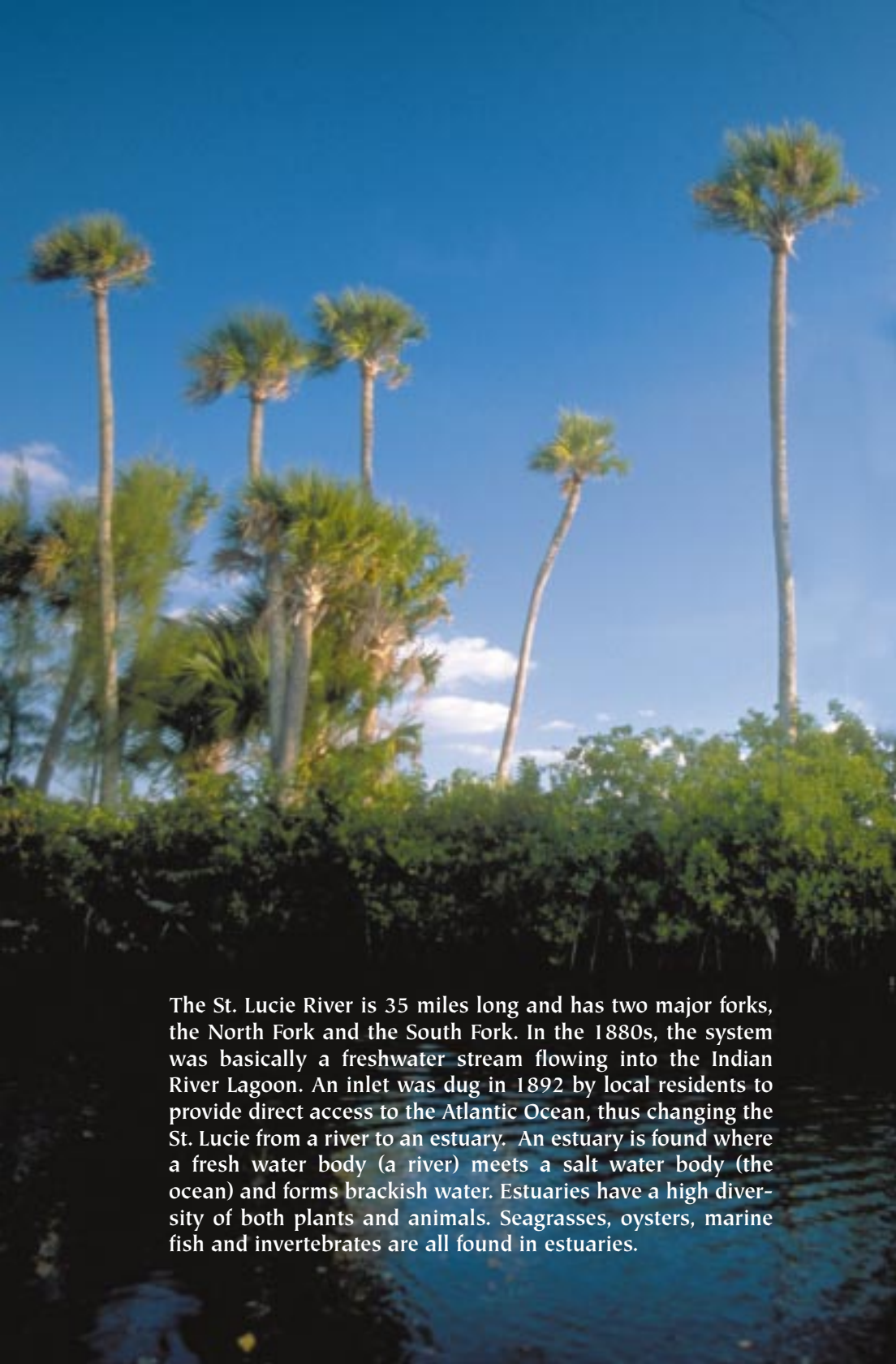




Focus on the  
St. Lucie River



The St. Lucie River is 35 miles long and has two major forks, the North Fork and the South Fork. In the 1880s, the system was basically a freshwater stream flowing into the Indian River Lagoon. An inlet was dug in 1892 by local residents to provide direct access to the Atlantic Ocean, thus changing the St. Lucie from a river to an estuary. An estuary is found where a fresh water body (a river) meets a salt water body (the ocean) and forms brackish water. Estuaries have a high diversity of both plants and animals. Seagrasses, oysters, marine fish and invertebrates are all found in estuaries.



**FORT  
PIERCE**

C-25

C-24

C-24

C-23

**PORT  
ST. LUCIE**

Port St. Lucie Blvd.

U.S. 1

Indian River Dr.

INDIAN RIVER LAGOON

**HUTCHINSON  
ISLAND**

**JENSEN  
BEACH**

Worth Fork

**ST. LUCIE  
RIVER**

South Fork

**STUART**

**PALM  
CITY**

FLORIDA TURNPIKE

I-95

Bessey Creek

**ST. LUCIE  
INLET**

**PORT  
SALERNO**

C-44

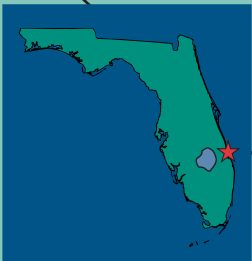
S.R. 76

I-95

**HOBE  
SOUND**

S.R. 710

ST. LUCIE COUNTY  
MARTIN COUNTY





# St. Lucie River

## HISTORY OF THE ST. LUCIE RIVER

The Ais Indians were first documented in 1568 as occupying areas close to the St. Lucie River. The first settlers colonized the area around the St. Lucie River in the 1800s. Land was cheap, wet and mosquito infested.

The Florida State Legislature created a Board of Drainage Commissioners in 1905 to establish drainage districts to reclaim the swamp and overflowed lands. The Everglades Drainage District constructed the St. Lucie Canal (C-44) from 1916 to 1928. The St. Lucie Canal provided a satisfactory outlet from Lake Okeechobee to the sea. The connection from Lake Okeechobee to the South Fork of the St. Lucie Canal was constructed to provide flood relief, as well as for navigational purposes. The system was placed under the control of the Army Corps of Engineers in 1930. Since the 1950s, the St. Lucie River estuary has been a drainage basin for more than 700 square miles throughout the Treasure Coast. The C-24 canal drains a primarily agricultural sub-basin into the North Fork, while the C-23 canal drains a mixture of residential and agricultural lands which enters the estuary near Bessey

Creek in Palm City. The C-44 from Lake Okeechobee carries water east into the South Fork. When Lake Okeechobee water levels get too high, water is released into the canal/river system. A goal of water managers is to maintain the health and integrity of the estuary.

## EDUCATION

The St. Lucie River is an open laboratory holding a wealth of information for the teachers, students and general public alike. Camp WET (Water, Environment, Technology) is a six-week summer program to teach students about the environment. Here participants test the water quality of the St. Lucie River at the South Florida Water



Management District, which is hosted by the Environmental Studies Center. The key to a healthy, sustainable ecosystem tomorrow is dependent on educating our children today.

## ISSUES OF CONCERN

The delicate balance of the salinity and nutrients in the St. Lucie Estuary is key to maintaining the health of all estuarine species in the waterbody. Desired salinity levels, or the salinity envelope, have been developed for the estuary based on the needs of key species.

In the winter of 1997-98 extreme amounts of rainfall occurred over much of South Florida during the "El Niño" event. Lake Okeechobee reached dangerously high levels. The U.S. Army Corps of Engineers and South Florida Water Management District were forced to make maximum regulatory releases to the estuary through C-44 for flood protection purposes.

Shortly thereafter, in early March 1998, anglers from Martin and St. Lucie counties began reporting lesioned or ulcerated fish from the St. Lucie Estuary. Within weeks, 33 species of sick fish had been reported to the Florida Fish and Wildlife Conservation Commission (FWC). The FWC staff has examined more than 500 fish to help determine the cause of the open sores or lesions. The highest numbers of affected fish were captured in April and May 1998.

Although there are many causes, FWC researchers believe that the ulcers on the two species affected most frequently - mullet and sheepshead - are caused by an aquatic fungus.

Water and sediment samples collected from the St. Lucie Estuary continue to be monitored and examined to determine if potentially toxic species may in some way be involved in the fish disease event.

Even during wet seasons, when no water is released from Lake Okeechobee, the estuary can still suffer from too much freshwater from basin runoff alone. The lack of storage in the now developed

lands surrounding the estuary causes major amounts of water to be released through local drainage canals during periods of heavy rain.

## WATER QUALITY TRENDS IN THE ST. LUCIE ESTUARY

During an 18-month period, (January 1998 through July 1999), the St. Lucie River has experienced very unstable water quality conditions. The "salinity envelope" has been violated on both the high (too salty) and low (too fresh) ends. These violations occurred on a fairly regular basis since the flood control and water supply canals were constructed. These 18 months illustrate very clearly the need for storage in the basin. Accelerated water quality clean-up efforts are under way to address not only the timing and quantity of fresh water, but also the nutrient, suspended solid and toxic problems in all areas of the watershed. These areas include agricultural, residential and



urban land uses. Efforts must continue in order to meet the ultimate goal of restoring the estuary to a healthy, functioning system. These multi-agency efforts are being coordinated under three major programs all aimed at cleaning up the St. Lucie Estuary and Indian River Lagoon: the Indian River Lagoon Restudy, Indian River Lagoon Surface Water Improvement Management (SWIM) program and the St. Lucie Issues Team.

## RECREATION

In 1995 alone, fishing in the Indian River Lagoon brought in \$82.1 million dollars in Martin and St. Lucie counties. Boating added \$12.4 million dollars to the local economy, while nature observation added \$4.2 million. As a community, we should strive to maintain a healthy estuarine ecosystem which supports recreation and an abundance of commercially and recreationally important fisheries, while enhancing opportunities for eco-tourism.

## RESEARCH

- Re-establish shoal grass (*Halodule wrightii*) and oysters (*Crassostrea virginica*)
- Develop a St. Lucie River model to study dynamics of fresh and salt water
- Evaluate the environmental status of fin-fish, bottom-dwelling organisms and sediments
- Study the impacts of large regulatory releases of freshwater from Lake Okeechobee
- Look at runoff and nutrient loadings into the St. Lucie River
- Continue fish lesion studies at the Florida Fish and Wildlife Conservation Commission.

## INDIAN RIVER LAGOON-SWIM

The Surface Water Improvement and Management (SWIM) initiative is designed to protect water quality and natural systems, manage watersheds, and coordinate activities between private and public sectors to accomplish these goals. The Indian River Lagoon SWIM Plan includes the St. Lucie Estuary and is jointly administered by the St. Johns River and South Florida Water Management districts. Its mission is to restore and protect environmental resources of the Indian River Lagoon and the St. Lucie Estuary.



# THE LIGHT ON THE HORIZON

The Restudy and the Indian River Lagoon Restoration Feasibility Study is a \$7.8 billion plan to restore the South Florida ecosystem, which includes the Everglades, St. Lucie River estuary, Kissimmee River and Lake Okeechobee. Retention ponds are prescribed for the St. Lucie River basin to hold excess storm water and help the Army Corps of Engineers control the flow of fresh-water into the estuary.

The Indian River Lagoon Restoration Feasibility Study is part of the Restudy focused at addressing the water resource opportunities specific to the watersheds in Martin and St. Lucie counties. The main goals of the Feasibility Study emphasize ecological and economic values. For more information, see [www.restudy.org](http://www.restudy.org).

## BE A PART OF THE SOLUTION

- Conserve water both indoors and outdoors.
- Don't use pesticides, herbicides or fertilizers within 50 feet of a water body.
- Practice Xeriscaping, plant native plants and remove exotics.
- Never discard fishing line, plastics or harmful liquids overboard.
- Never "prop dredge" through sea grasses or other shallow areas.
- Report illegal fishing and wildlife law violators to the FWC hotline.
- Don't allow leakage of petroleum products from boat engines.
- Learn and follow safe boating laws and obey speed limits on the water.
- Never dump raw sewage overboard.
- Buy an Indian River Lagoon license plate  
<http://sjr.state.fl.us/new/licplate.html>

## CONTACT INFORMATION

Indian River Lagoon Owner's Guide	(800) 226-3747
South Florida Water Management District Martin/St. Lucie Service Center	(800) 250-4100
Florida Fish and Wildlife Conservation Commission (FWC) Fish Kill Hotline	(800) 636-0511
Florida Fish and Wildlife Conservation Commission (West Palm Beach)	(800) 432-2046
Florida Dept. of Environmental Protection (Port St. Lucie)	(561) 871-7662
Florida Yards and Neighborhoods Program	(561) 770-5030



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Phone: (800) 432-2045  
Web site: [www.sfwmd.gov](http://www.sfwmd.gov)



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