



Southeast District  
Ambient Monitoring Program  
EcoSummary  
South Fork St. Lucie River  
Martin County  
updated May, 1997

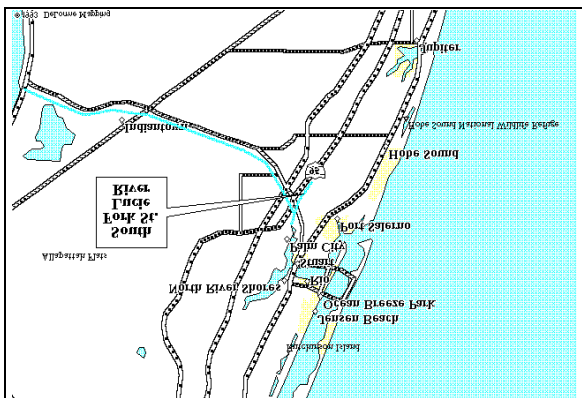


"Drifting on the surface of a Florida jungle river, like the South Fork of the St. Lucie ..., I experience the feeling that nothing is ordinary, nothing is commonplace. The onyx surface of the water reflects in perfect color the images of the bush headed cabbage palms, the moss draped live-oaks... Cascading clumps of wild asters and a fragile white spider lily are mirrored on the smooth blank film." E. Lyons. 1969. My Florida. Valentine Books, Port Salerno, Florida.

### A Site Worth Watching

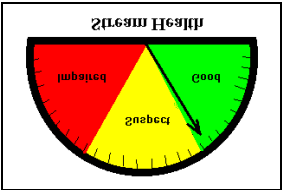
The South Fork is the only remaining section of the historic St. Lucie River system that has escaped intensive development of the riparian zone and channelization of the stream bed. It is one of south Florida's few remaining meandering blackwater streams.

Along the western shore is the 139 acre

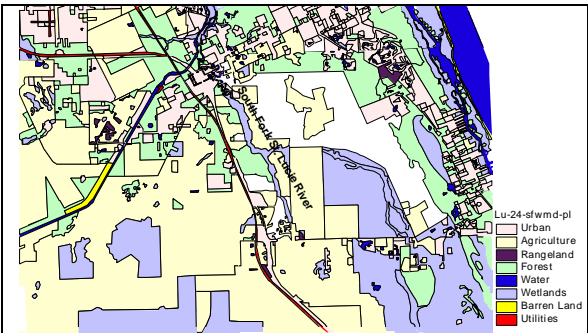


South Fork St. Lucie River Management Area. This tract of land was purchased by the South Florida Water Management District's (SFWMD) "Save Our Rivers" program. In cooperation with SFWMD, the Florida Trail Association has developed a

wilderness hiking trail that stretches about a mile along the edge of the floodplain. The trail begins and ends at a canoe landing. (For more information about the trail, call SFWMD at 1-800-432-2045.)



The eastern shore is also a natural area; however, most of the land is privately owned and plans for development (Sea Wind) are being reviewed. This area (part of the Atlantic Coastal Ridge Ecosystem) is ranked Number 2 for preservation under the CARL program. In 1993, SFWMD acquired 78 acres from the Sea Wind Corporation.

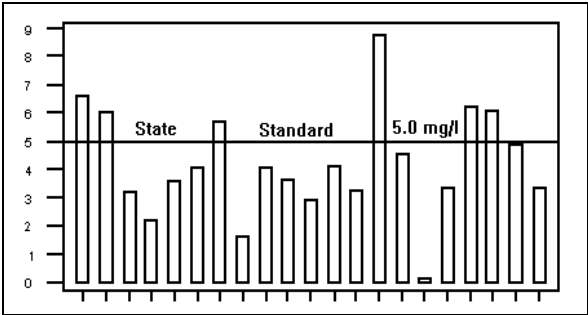


Common animals often seen near the South Fork are the barred owl, wild turkey, manatee, alligator, indigo snake, heron, merlin hawk and egret. Tarpon, snook, bass and bowfin are sought by fishermen. The threatened river goby (*Awaous tajasica*) appears to be common in the headwaters of the South Fork.

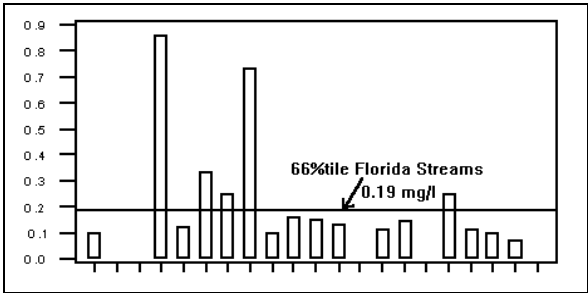
Much of the upper riparian zone remains undeveloped, consisting of wetlands and forests of slash pine, water oak, red maple and water hickory. Other common plants include cocoplum, wild coffee and pond apple. The drainage basin supports cattle, citrus and vegetable farming. The lower riparian zone is residential and has been partially bulkheaded. Excessive runoff from these developed areas has resulted in frequent spates and has exacerbated erosion. Occasional algae blooms and minor fish kills have also been observed.

Physical and Chemical Status

Dissolved oxygen content has often failed to meet state standards of 5.0 mg/l; dissolved oxygen has averaged 4.3 mg/l over the last 17 years and exhibits no apparent trend. Conductivity and pH appear normal for this type of stream.



The waters of the South Fork contain elevated concentrations of phosphorus, averaging over 0.22 mg/l (based on 17 samples from 1978 to present). There is some indication that total phosphorus concentrations may be decreasing.



Traces of the pesticides ethion, atrazine and norflurazon have been detected in South Fork sediments. These are likely due to runoff from upstream agricultural operations.

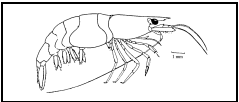
Biological Status -Unimpaired

The macroinvertebrate community structure is the foundation of an aquatic ecosystem. Despite sub-standard dissolved oxygen, traces of pesticides and high nutrient concentrations, the South Fork still supports a healthy population of aquatic organisms. This is probably due in part to the excellent habitat afforded by the extended riparian zone. Determinations of Stream Condition Index (SCI) from 1992 to the present have yielded 8 "Excellent" and 3 "Good" stream health ratings.

Several Florida Index Class I aquatic species (the highest class) are common to the South Fork of the St. Lucie River. Examples of

these good water quality indicators include the flies *Ablabesmyia mallochi* and *Rheotanytarsus* spp. (among others), and the caddisfly *Oxyethira* sp.

Due to the unique tidal yet freshwater nature of this stream, several estuarine species are found. Examples include the isopods *Edotea montosa* and *Munna reynoldsi*, Tanaids (shrimp-like organisms) and the Atyid shrimp *Potimirim potimirim*.



Recommendations

Reference site and trend monitoring by FDEP will be continued on the South Fork to track the effects of future developments. The efforts by the FDEP and the SFWMD to acquire undeveloped land in the headwaters should be continued. The extensive riparian buffer zone enables this stream to maintain good biological health. Ways to improve the quality and regulate the quantity of runoff should be pursued. Additionally, the South Fork should qualify for designation as an Aquatic Preserve, thus gaining OFW protection.

For Further Information

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