A site map can be viewed by clicking on the report site name.

EcoSummary

Means Creek below Aspalaga Landing South of I-10

February 18, 2003

FLORIDA AMBIENT

HEALTHY

BioRecon: A rapid, cost-effective screening mechanism for identification of biological impairment

For samples collected before June 8, 2004
All field and laboratory methods followed FDEP Standard Operating Procedures and met FDEP quality assurance/quality control standards.
For samples collected on or after June 8, 2004
All field and laboratory methods followed FDEP Standard Operating Procedures (SOPs) and met DEP quality assurance/quality control standards.



Purpose

A bioassessment was performed at the Means Creek site in support of a States Lands purchase of lands connected to the Torreya State Park. This project was conducted in partnership with The Nature Conservancy, current owners of the land to be transferred to the State. The Nature Conservancy has listed the Florida Panhandle as 1 of 6 hot spots of American biodiversity with the upper Apalachicola River having the highest biodiversity of reptile and amphibian species in the United States, while the river basin holds the country's highest diversity of woody plant species. The Governor and Cabinet members voted to expand protection of land along the Apalachicola River, home to the globally rare animal and plant species. The Apalachicola River acquisition includes over 500 acres of forest, habitat for the nearly extinct Florida Torreya tree. Other listed rare plant species, 16 occurring nowhere else in Florida, will be protected from timbering and unrestricted vehicular access. The Florida Forever purchase will help to preserve the rivers water quality, which feeds Apalachicola Bay, protect important wildlife, and improve the public's recreational pursuits. DEP's Division of Recreation and Parks will manage the State purchased property as an addition to Torreya State Park.

Background

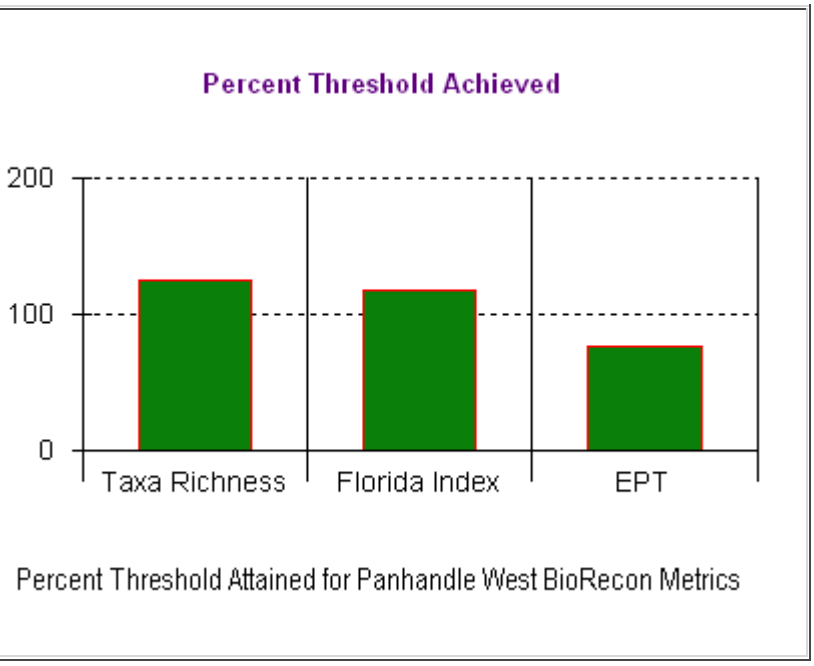
The bioassessment site is located about 1.5 miles south of I-10 and about 4.5 miles southwest Chattahoochee (Latitude 30 degrees 36 minutes 51.1 seconds North, Longitude 84 degrees 54

minutes 24.3 secondsWest) in Gadsden County. Means Creek is a second order stream at this site. Means Creek originates on the bluffs of the Apalachicola River and feeds Apalachicola Bay. This site (STORET station 31010056) drains the Tifton Uplands/ Tallahassee Hills ecoregion/subregion (65h).

Results and Discussion

The BioRecon indicated a suspect biological community. One of 3 biological indicators failed thresholds established for a healthy aquatic ecosystem:

Biometrics	Value	Threshold
Taxa Richness	30	>= 24
Florida Index	26	>= 22
EPT	13	>= 17



Historical watershed erosion and sedimentation were the only observed impacts reducing benthic macroinvertebrate fauna in Means Creek. This stream, along with the adjacent watersheds along the bluffs of the upper Apalachicola River, has the steepest topographical relief in Florida. Severe erosion and gully formation can occur when the region's sandy soil is disturbed along the stream's steep slope after heavy rainfall common to the area. The following is from the unit management plan of the nearby Torreya State Park. " When Torreya State Park was first developed, it consisted in part of lands that had been logged heavily, like so many other Civilian Conservation Corps parks of the 1930's. The CCC not only built parks, it also worked to save the land and to halt disastrous erosion, the bane of the South in the early 20th century. At Torreya, one major eroded area was the hillside overlooking Rock Creek." One could envision the same historical erosion problems in the Means Creek watershed. The area was the center of commerce for the region going back to the early 1800's. Aspalaga Landing, near it mouth, was one of two regional upper Apalachicola River ferry crossings and an important shipping point for area farmers in the 1800's. The numerous old tree stumps observed on Mean's Creek steep hillsides documented logging activities of the past. Logging in Mean's Creek headwaters was observed by the Florida Fish and Wildlife Commission during the 1980's. However, after purchasing the watershed's lands, The Nature Conservancy has stabilized eroded areas and initiated Best Management Practices to control future erosion. The historical harvesting of the watershed's forest has led to a lack of large woody debris in Means Creek to provide aquatic wildlife habitat and protect the stream's condition. Only 2% woody debris was observed in the 100-meter sample reach. Research by the University of Georgia has suggested around 40% woody debris was found naturally in southeastern Coastal Plain streams. Much of the exposed limestone bedrock was scoured by sand, limiting

its use as habitat for aquatic life. Recently deposited sand point bars up to 0.5 meters high were observed in the stream channel. Bank sloughing was noted in one section of the sample reach.

Significance

The steep bluffs and deep ravines of the northern Apalachicola River valley are some of the most significant natural features of the southeastern Coastal Plain. The area's forests are home for many northern, rare and endemic plants and animals such as the nearly extinct Florida Torreya tree. FDEP's Division of Recreation and Parks management of Means Creek watershed's rare forest habitat will help preserve its unique species and biological communities. This acquisition provides the public with scenic areas unlike any other in Florida for hiking and other recreational activities. Preserving the forest on this west bank of the Apalachicola River will help protect the water quality of the river that feeds the productive Apalachicola Bay.

Suggestions

Conservation of these unique bluffs and ravines is the land management goal of the FDEP's Division of Recreation and Parks. Stream restoration would not be difficult because of this goal and The Nature Conservancy's prior stewardship. Addition of large coniferous woody debris to Means Creek using standard fluvial geomorphologic techniques would greatly add to its fish and wildlife biodiversity and productivity. The large woody debris also would help prevent erosion and stabilize the stream banks. With the FDEP management practice of protecting the forest, Means Creek should greatly surpass all 3 biometric thresholds for impairment rating after implantation of this simple restoration technique.

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