EcoSummary

BioRecon Report

Pond Creek Arcadia Mill, Santa Rosa County
March 14, 2002

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

Purpose

A bioassessment was performed at the Pond Creek Arcadia Mill site for the University of Florida (Milton campus) Wetland Wildlife Course. The biomonitoring was also in support of a University of West Florida /FDEP Cooperative Study for Identification of Pollution Sources within the Pond Creek Watershed. A bacteriological monitoring project found problems at the Mayo Park swimming area downstream of this site.

Background

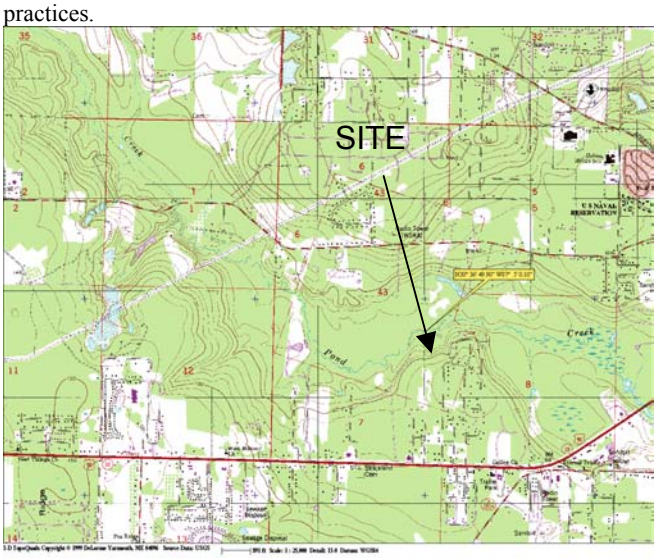
The bioassessment site is located two miles north of Highway US 90, less than 1 mile southwest of Milton (Lat. 30° 36' 49.9" Long. 87° 5' 0.1"). The site is located in a historical society park at an old mill industrial site (1817-1855). Pond Creek originates at Forty Acre Pond approximately eight miles south of Jay and flows to Pensacola Bay via Blackwater and East Bays. Pond Creek at this site is a 4th order stream. This site (STORET station 33030144) located in the Gulf Coast Flatwoods (75a) Ecoregion, drains the Southern Pine Plains and Hills Ecoregion (65f).

Results and Discussion

The BioRecon indicated a healthy biological community. All 3 biological indicators considerably surpassed thresholds established for a healthy aquatic wildlife community:

Biometrics	Value	Thresholds
Taxa Richness	74	≥24
Florida Index	49	≥22
EPT	37	≥17

The biota was dominated by clean water indicating aquatic wildlife including seven stonefly species. The taxa richness (74) and Florida Index (49) were the highest recorded in 330 Northwest Florida BioRecon assessments. The EPT (37) tied for the highest number collected in the panhandle. The stream habitat assessment rated an excellent 93% score. This score was aided by a mature Atlantic white cedar forest riparian zone with a greater than 18 meter buffer width. Five types of productive habitats (woody debris, leaf pack/mats, aquatic vegetation, sandstone rock, and undercut banks/roots) provided excellent habitat for the stream's fish and wildlife. Although the site had an industrial past, it has recovered since 1855 to almost natural conditions. However, Santa Rosa County has experienced one of the fastest population growths in Florida during the past year. A residential community was being developed along Pond Creek downstream of the sample site. An upstream home site owner had cleared stream bank vegetation to install a lawn. This house viewed a pond excavated from wetlands connected to Pond Creek. In Pond Creek's headwaters around Forty Acre Pond and Three Hollow Creek, including areas between Chumuckla and Allentown, agriculture was a common land use. Three Hollow Creek's headwaters next to the University of Florida Agricultural Research Center were eliminated by silvicultural practices.



Significance

This Pond Creek Arcadia Mill site met Class III State Water Quality Standards 62-302 for recreation and the propagation and maintenance of a healthy, well-balanced population of fish and wildlife. This site's forest management protected the native riparian and transitional zone vegetation, enhancing the stream's fish/wildlife diversity and productivity. The riparian buffer zones in many Northwest Florida streams have been reduced by silviculture, agriculture, and or residential development. Pond Creek's excellent health at this site is at risk with the watershed's rapid increase in human population. Watershed land management, including the use of Best Management Practices (BMPs) to minimize problems from nonpoint source runoff, is needed to protect the future health of Pond Creek. BMP's such as maintenance of greater than 18-meter riparian vegetation buffer zones along the watershed's streams would reduce impacts of Santa Rosa County's rapid growth. This would help protect the Pond Creek's outstanding wildlife diversity and productivity. **For more information, contact Donald Ray, FDEP Northwest District, 160 Governmental Center, Pensacola, FL 32501 (850) 595-8300 x1126 or SC 695-8300.**