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

EcoSummary

Canoe Cr below Bratt Road

July 30, 2002

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 this site on Canoe Creek to evaluate the impacts on biota and wildlife habitat from paving the dirt-surfaced Bratt Road stream approaches with hot mix asphalt. The paving was completed in April 2000. This bioassessment was in technical support of an EPA 319(h) nonpoint source grant through the FDEP to Escambia County. The 1997 pre-paved bioassessment ecosummary can be found at http://tlhdwf2.dep.state.fl.us/eswizard/ecosummary.asp?code=18187

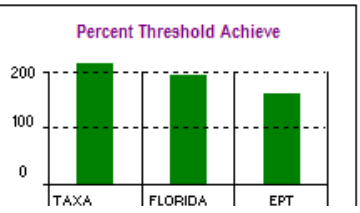
Watershed Characteristics

Canoe Creek at the bioassessment site is a fourth order stream, located about 1.5 miles southwest of Byrneville in northern Escambia County (Latitude 30 degrees 57' 22.4" Longitude 87 degrees 20' 48.5"). Canoe Creek flows into Pensacola Bay via the Escambia River and Bay. This site (STORET station 33020062) drains the Southern Pine Plains and Hills of subecoregion 65f.

Results

The BioRecon indicated a healthy biological community. Results from this post-paved condition indicated stream community easily met thresholds for all 3 biometrics. See biometric results given below.

Biometrics	Value	Threshold
TAXA RICHNESS	51	>= 24
FLORIDA INDEX	42	>= 22
EPT	27	>= 17



The previous (07/23/97) bioassessment had a Taxa Richness, Florida Index, and EPT of only 29, 24, and 17 respectively. Paving the Bratt Road bridge approaches reduced the nonpoint source sedimentation in Canoe Creek and the stream macro-invertebrate community has responded in a very positive manner. Habitat smothering by sediment decreased after road paving from 85% of the instream habitat affected by clay and sand accumulation to 50% affected. The Canoe Creek site's available productive wildlife habitat substrates (woody debris, leaf pack/mats, undercut banks/roots) increased from 4 to 11% coverage after paving (greater than 30% coverage of productive stream wildlife habitat is the optimal condition). This additional habitat, resulting from the reduced sediment runoff, has noticeably increased the aquatic invertebrate productivity. After paving, clean water species, such as mayflies and caddisflies, were found in abundance with stoneflies as common. Improvement in Canoe Creek's overall habitat assessment score occurred after the road paving (1997-45%, 2002-58%). This site was on the Natural Recourses Conservation Service's (NRCS) priority list of Escambia County dirt road stream crossings recommended for paving. The NRCS had listed the 25 most impacted sites where dirt road runoff filled stream channels.

Significance and Suggestions

This Canoe Creek 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. The reduction of road sediment runoff by paving the previously clay-surfaced road, as well as stabilizing and vegetating swales, has allowed the site's fish and wildlife habitat (woody debris, leaf packs, undercut banks, roots, and aquatic vegetation) to increase significantly. This has enhanced Canoe Creek's fish and wildlife diversity and productivity. There is a local unofficial recreational area near the southwest corner of the bridge that would benefit from having its disturbed soil along the stream stabilized with native vegetation. Best management practices, including expanding buffer zones for wetlands and stream riparian corridors, are needed for the Canoe Creek watershed. Paving the road approaches to area streams was found to be an effective method of protecting Northwest Florida's aquatic resources. It is recommended that Escambia County prioritize paving stream crossings using the NRCS list and that the other 15 Northwest District Counties develop a similar list.

For more information, please contact
Donald H. Ray
Northwest District Office
160 Government Center, Pensacola, FL 32502
(850) 595-8300 (Suncom 695-8300 x 1126)
E-mail: donald.ray@dep.state.fl.us

Published by the Florida Department of Environmental Protection
Tallahassee, Florida
For more information on the DEP Bioassessment programs, please visit
our web site at http://www.dep.state.fl.us/water/bioassess

Canoe Cr below Bratt Road

