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

FLORIDA AMBIENT

EcoSummary

Canoe Creek below Bratt Road

July 23, 1997

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 impacts on the biota and wildlife habitat from nonpoint source runoff at the stream approaches of clay surfaced Bratt Road. This bioassessment was in technical support of the ecosystem partnership between FDEP and Escambia County to address dirt road sedimentation issues.

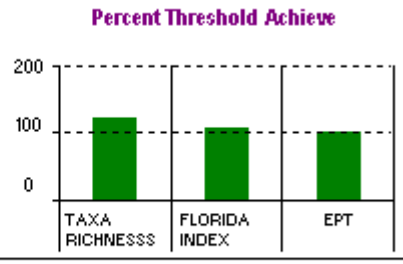
Watershed Characteristics

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 pre-paved condition indicated stream community barely met thresholds for all 3 biometrics. See biometric results given below.

Biometrics	Value	Threshold
TAXA RICHNESS	29	>= 24
FLORIDA INDEX	23	>= 22
EPT	17	>= 17



Values and Percent Threshold Attained for Panhandle West BioRecon Metrics

Sediments filled the stream riparian zone and channel in the sample reach and smothered about 96% of the in-stream wildlife habitats with clay and sand. With only 4% of in-stream habitats available , productivity of aquatic life was limited in this sample reach. Only midges were found in abundance while clean water indicating aquatic invertebrates were scarce in number. The fast stream velocity (0.5 meter/sec) and increased discharge rate at this higher order stream site prevented complete habitat smothering by deposition of clay and fine sand. The site's original wildlife habitats included woody debris, leaf pack/mats, undercut banks/roots, and sandstone rock along with a gravel bottom substrate now smothered with road clay and sand. This sediment load will be eventually transported to Pensacola Bay via the Escambia River and Bay. This Bratt Road stream crossing was on the Natural Resources Conservation Service's (NRCS) paving priority list for Escambia County. The NRCS had listed the County's 25 most impacted sites where dirt road runoff filled stream channels. This site was one of the 25 dirt road stream crossings monitored by a FDEP bioassessment. The Canoe Creek watershed land use was mostly silviculture and agriculture with a few scattered homes. Both stream banks had pine plantations with some areas cleared to a 0 to 5 meter buffer zone. The stream habitat assessment rated a marginal 50% mainly from sediment impacts.

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. However, sediment runoff severely limited wildlife habitat to only 5% coverage in-stream. Unique in Florida, the Panhandle has highly erodible soils on steep sloping land with intense thunderstorms and tropical storms. This combination causes the area's soils to be susceptible to excessive erosion, which leads to sediments filling Northwest Florida's wetlands and waterways. If sedimentation from dirt road erosion was eliminated and Bratt Road was engineered to allow natural flow at this stream crossing, the stream's hydrology (i.e. depth/width ratio) should improve after normal rainfall cycles. Restoration of the stream hydrology, elimination of dirt road sediment runoff, and maintenance of a >18 meter riparian forest buffer zone will allow the watershed's fish and wildlife habitat (woody debris, leaf packs, undercut banks, roots, and sandstone) to return to a more productive and healthier status. 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.

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For more information on the DEP Bioassessment programs, please visit our web site at http://www.dep.state.fl.us/water/bioassess

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