

EcoSummary

BioRecon Report



Muddy Branch State Road 4, Okaloosa County 27 February 1998

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

Purpose

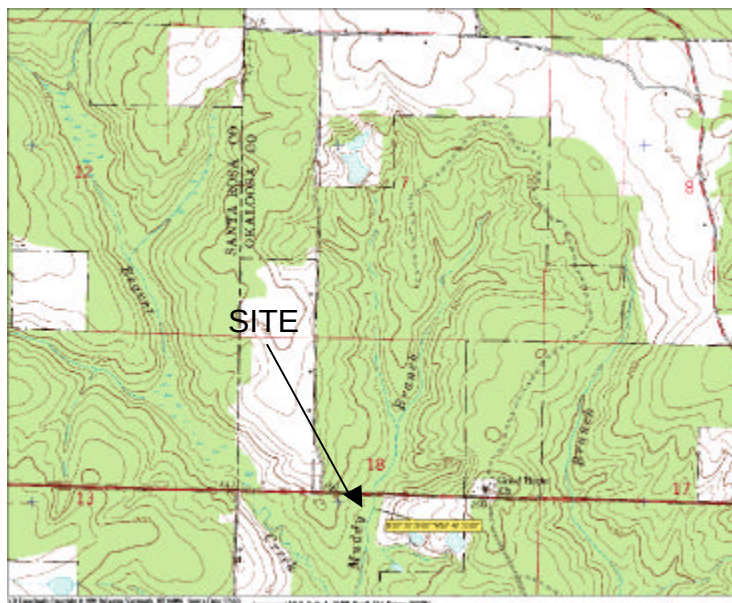
A BioRecon was performed at this site as part of a TMDL study in the Blackwater River. This bioassessment was used to determine the health of Muddy Branch's biota and habitats.

Background

Muddy Branch at the bioassessment site (Lat 30 50' 59" Long 86 46' 53") is a first order tributary to Beaver Creek and the Blackwater River, which is classified as Outstanding Waters under the Florida Water Quality Standards. The Blackwater River flows into Pensacola Bay via Blackwater and East Bays. The Yellow River Marsh along Blackwater Bay is a State Aquatic Preserve. "Muddy" Branch drains the southern pine plains and hills of subecoregion 65F.



deep. Muddy Branch was in the process of restoration as the area was formerly braided by historical watershed erosion from silviculture and agricultural practices. That historical erosion from dirt roads and cleared lands is now stabilized with vegetation. A pasture adjacent to the site was fallow as the owner is retired from farming. This site was sampled after a heavy rain ($\geq 2"$) 12 hours earlier. The water was clear with a secchi reading of over 1.3 meters (to bottom). This gives an indication of the protection from flooding and water pollution that natural forest buffer can provide. Planned sampling at other sites that day had to be postponed due high water and turbidity.



Results

The BioRecon indicated a healthy biological community. All 3 biological indicators met thresholds established for healthy aquatic ecosystems:

Biometrics	Value	Threshold
Taxa Richness	51	≥ 24
Florida Index	40	≥ 22
EPT	31	≥ 17

The aquatic community had high diversity and productivity. The site's 47% available habitat substrate rated optimal. The channel had good width/depth ratio of 2.5 meters wide and 0.35 -1.3 meters

Significance

This Muddy Branch site meets 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. These small 1st order tributaries are the major food and habitat sources for the downstream river and estuarine fish and wildlife.

Suggestions

Forest and agricultural management practices that restore native riparian and transitional zone forests should continue. These native forests protect water quality and enhance fish and 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**