EcoSummary

Wolftrap Branch below North River Road

August 10, 1999

NPS BIOASSESSMENTS

SUSPECT

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.

Introduction



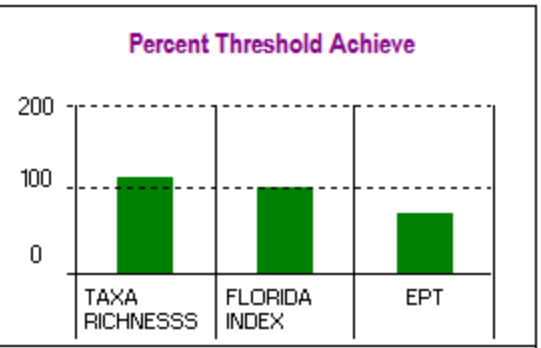
A BioRecon was performed at this site to assess the impacts to its biota and wildlife habitat from a dirt road ford crossing Wolftrap Branch. This bioassessment was a partnership with the Blackwater River State (BRSF), United States Geologic Survey, and the Gulf Plain Ecosystem Partnership (GCPEP). The BRSF had planned to close this section of North River Road because of severe erosion caused by four-wheel drive recreational vehicles. A bioassessment was planned to monitor expected improvement to stream health after road closure and the site re-vegetated. Because of extenuating circumstances (see Conclusions), a follow-up bioassessment has not yet been conducted. Wolftrap Branch (STORET 33030106) at the bioassessment site (N30 43 0.7 W86 50 0.6) is second order tributary to the Blackwater River, which is classified as Outstanding Florida Waters (OFW) under the State 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 and also listed as an OFW. The Blackwater River State Park is located just over 2 miles downstream. Wolftrap Branch drains the southern pine plains and hills of subecoregion 65f

Results and Discussion

The BioRecon indicated some impairment to the biological community. The stream failed to meet one of three biometrics thresholds (EPT) established for healthy stream ecosystems. EPT

(mayflies, stoneflies, caddisflies) is the strongest measure of stream health and declines in relation with human disturbance. The Florida Index (cleanwater indicators) just met the threshold.

Biometrics	Value	Threshold
TAXA RICHNESS	27	>= 24
FLORIDA INDEX	22	>= 22
EPT	12	>= 17



Values and Percent Threshold Attained for Panhandle West BioRecon Metrics

Wolftrap Branch's biometric values were considerably lower than Muddy Branch, a similar size Blackwater River tributary. Muddy Branch had a taxa richness of 51, Florida Index of 40, and an EPT of 31 (see website for report http://water.dep.state.fl.us/eswizard/esdata/pdfs/190.pdf). The dirt road at Wolftrap Branch had contributed most of the 91% of sediments that smothered the stream's fish and wildlife habitats. Another impact was range cattle that utilized the stream as evidenced by hoof prints and cow "patties" in the streambed. Range cattle were observed retreating to the mouth of Wolftrap Creek in the Blackwater River on approach to the site. Nuisance blackflies, which filter bacteria from the water for food, were abundant in Wolftrap Branch. Likewise midges, which consume organic matter like cattle waste, were also abundant. In addition, nutrient indicating blue-green algae were abundant. The County Health Department had periodically posted no swimming at the Blackwater River State Park because of elevated fecal and total coliform bacteria concentrations from an unknown upstream source. Park officials had not been aware that cattle had access to State Waters in the BRSF just above the State Park because livestock Best Management Practices (BMPs) such as fencing were not employed. BRSF had the cattle removed from its lands upon notification of the problem, which reduced coliform bacteria loading to the River. This effort restored water contact recreation activities for the public downstream at the State Park. The habitat assessment rated marginal with a score of only 41% due to poor conditions for Habitat Smothering, Riparian Buffer Zone Width for both banks; marginal conditions for Substrate Availability, Artificial Channelization, Bank Stability on both sides, and Riparian Zone Vegetation Quality on both banks. Water Velocity rated suboptimal and Substrate Diversity rated optimal. Impacts from the dirt road were the main reason for the low habitat assessment score. However, lack of BMP's for livestock and silviculture in Wolftrap Branch's riparian zone corridor negatively affected scores for Riparian Buffer Zone Width and Riparian Zone Vegetation Quality. The buffer zone width was only zero to two meters wide with fire management burning across the stream in places. The riparian vegetation quality was limited as the stream canopy cover was eliminated by cutting/burning the forested wetlands. This left the dominant vegetation to be shrubs and non-woody macrophytes, the grasses and forbs preferred by livestock.

Conclusions

Because of habitat smothering from North River Road runoff, this Wolftrap Branch site did not meet Class III State Water Quality Standards 62-302 for recreation and propagation and maintenance of a healthy well-balanced population of fish and wildlife. Wolftrap Branch's biological health should improve once vehicular traffic through the stream is prevented, especially since livestock was removed. The stream's location in the Blackwater River State Forest has the potential to afford managerial riparian forest protection. Stream corridor management should include maintaining an undisturbed riparian buffer zone width of at least 18-meters that prevents burning, logging, and vehicles from driving in the stream. These management activities would facilitate the restoration and preservation of Wolftrap Branch. Closing North River Road at this site would enhance the stream reach's fish and wildlife population, in addition to limiting sediment load to the Blackwater River. Navigation in the Blackwater River downstream near Race Track Landing has been impeded by sedimentation filling the channel to the extent of not floating a canoe, impairing recreation activities and canoe livery businesses. The post-road closure bioassessment has not been performed as of July 2005. Continued erosion caused by four-wheel drive vehicles ignoring signs and bypassing or removing/destroying road closure devices had defeated restoration efforts as of July 2005.

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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

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