



ECOSUMMARY

A SWAMP Report

BLACK CREEK, N. FORK, @ CR 218

A BioRecon Assessment

06 AUGUST 1996

Purpose

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

BioRecon sampling was performed at Black Creek to assess the relative health of the macroinvertebrate community living there. Potential impacts to the stream include non-point source stormwater runoff from mining, agricultural and residential areas.

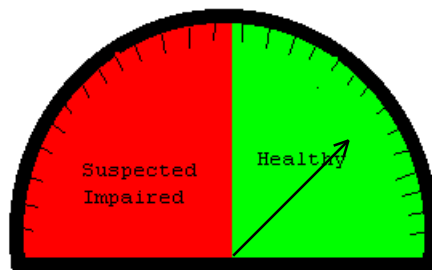
BioRecon is a field methodology based on three metrics which measure the health of the macroinvertebrate community. They are; the number of different species, the number of good water quality indicators (Florida Index) and the number of Ephemeroptera (mayflies), Plecoptera (stoneflies), and Trichoptera (caddisflies) (EPT) present at a site. A stream scoring at or above the threshold limit for two or more metrics is considered healthy. If less than two metrics are reached it is considered suspected impaired.

Basin Characteristics

Black Creek at this location is a third order tributary to the St. Johns River. It is located in the Lower St. Johns River Ecosystem Management Area. It drains approximately thirty square miles. Land use upstream from this site includes silviculture, agriculture, mining and light rural areas.

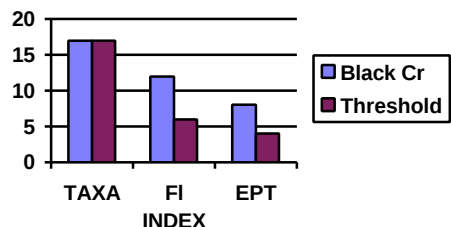
Results

The BioRecon results indicate that Black Creek at SR 218 supports a healthy macroinvertebrate community. All three

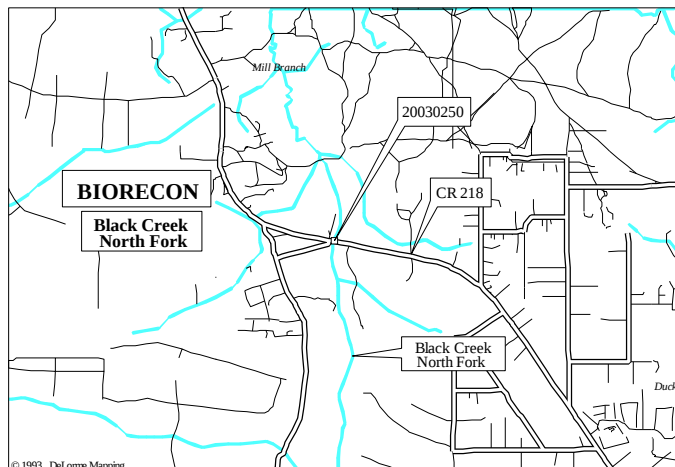


Stream Health

metrics met or exceeded the threshold limits. The habitat quality was in the optimal range(123 out of a possible 145). Productive habitats included snags, leaf packs, aquatic vegetation and undercut banks/roots. Both banks are lined with good riparian zones.



Water velocity was good (0.3 M/sec). Water chemistry shows a pH of 5.88, typical of the black water systems in the Northeast Bioregion, and a dissolved oxygen of 7.1 mg/L, well above the Class III standard of 5 mg/L.



Significance

These results suggest that the water and habitat quality provide adequate conditions for a healthy macroinvertebrate population.

There is a potential non point source impact from land use upstream. Current land management practices have minimized this threat.

Suggestions

Maintain a monitoring program to detect effects of changes in local land use and provide data for refinement of BioRecon thresholds and methods, and encourage good land management practices in the basin.

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