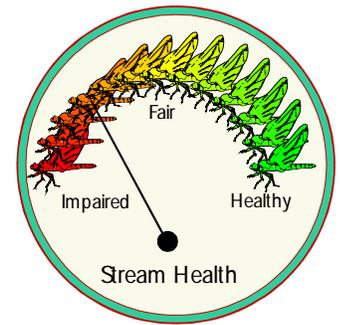


EcoSummary

BioRecon Report



Brushy Creek, Hillsborough County 10 February 1998

BioReconnaissance (BioRecon): A rapid, cost effective screening mechanism for identification of biological impairment.

Purpose

A BioRecon was performed on Brushy Creek in order to gain further information on the biological health of the watershed for use in Florida's for use in the administration of Florida's Medfly Eradication, Ecosystem Management and Total Maximum Daily Loads Programs. Water and sediment samples were also collected for pesticide analysis.

Basin Characteristics

Brushy Creek is located in western Hillsborough County, flowing from the Avila/Chapman area north of Tampa into Rocky Creek, which empties into Old Tampa Bay. The sampling site was located upstream of the Gunn Highway bridge. The riparian zone is limited in the immediate area, and the streambed appears to have been dredged in the past. There is little instream habitat for macroinvertebrate colonization. Land use in the basin consists almost entirely of high density residential development. There are no permitted domestic or industrial waste discharges upstream of the sample site.

Results

The stream was clear and its velocity was 0.5 m/s. Dissolved oxygen was 7.04 mg/l. Conductivity was 123 umho/cm, pH was 6.35 SU and temperature was 15.4 °C. The habitat assessment score was in the low submarginal range, mainly due to altered riparian zone and lack of instream habitat. The pesticide analysis revealed a concentration of 0.51 µg/l of atrazine in the surface water.

This site on Brushy Creek failed all three measurements of the BioRecon. This indicates that the stream did not support a healthy macroinvertebrate community and did not meet its designated use at the time of sampling.

Significance

An unbalanced invertebrate community may result in an inadequate food web for the support of vertebrate animals, such as fish and birds. If water quality is responsible for the impacted invertebrate population, Brushy Creek may also be affecting water quality in Old Tampa Bay.

Atrazine is toxic to aquatic invertebrates at much higher concentrations than 0.5 µg/l. Habitat destruction may be solely responsible for the degraded invertebrate community, but there may be other toxins present, such as heavy metals, which are common in urban runoff. It is therefore recommended that these parameters be investigated. Accordingly, further recommendations for restoration could then be made.



Suggestions

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