EcoSummary

Shell Creek at Circle K Groves, north of County Road 74, Charlotte Co.

February 24, 2004

EXCELLENT

NPS BIOASSESSMENTS

Stream Condition Index (SCI): The standardized biological assessment tool used by FDEP biologist to indicate ecosystem health and identify impairment as compared to reference (natural) conditions of streams within the various ecoregions of Florida

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 single Stream Condition Index sampling was performed at Shell Creek in order to examine the water quality in the stream and document the organisms that inhabit a potentially impacted stream in this geographical area. This is important because streams that are affected by human activities do not necessarily have poor water quality, and the biological standards on which the SCI is based require further refinement. Shell Creek is of particular interest because it is a source of drinking water for the City of Punta Gorda, and some streams in the general area have received ground water with higher than normal amounts of dissolved salts.

Watershed Characteristics

Shell Creek's drainage basin includes mainly pine flatwoods and crop and pasture land, with a little cypress, and freshwater marsh.. Residential development is relatively sparse, but is increasing, as are citrus groves. The area around the sample site is mainly pine flatwoods, with citrus groves just downstream. The creek flows into the Punta Gorda water supply reservoir and then into the Peace River and Charlotte Harbor.

Results

The SCI indicated that Shell Creek has adequate water quality to support a healthy aquatic insect community. The stream scored 33 points out of 33 possible, and was rated "Excellent". Water chemistry met Class 3 standards for all parameters tested. Specific Conductivity (a measure of dissolved salts) was slightly high at 1032 microsiemens/sq. cm. The site is located in a wooded area, mainly oaks. The riparian (stream bank) zone on both sides had oaks, willows, and cabbage palms. A few cypress trees were in the stream bed, and there was very little understory on the banks. The in-stream habitat consisted of sand (52%), with patches of rubble (17%), leaf packs and mats (16%), undercut banks and roots (12%), and snags(3%). Flow was slow (less than 0.1 m/sec). The habitat score was 131 out of 160 possible points.

A Biorecon assessment performed at the same time as the SCI also rated the stream as "Healthy."

Significance

These results indicate that this stream has adequate water quality to support a very healthy aquatic community. The conductivity at the time of sampling was not unusually high for the general area, and the biological community showed no effects of excessive conductivity

Suggestions

Encourage good land use practices in the basin, and maintain a monitoring program to further refine Stream Condition Index standards and to detect effects of changes in local land use. The Southwest Florida Water Management District has a program in place to reduce discharge of high-conductivity ground water in the area.

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