EcoSummary

Prairie Creek above SR 31 Bridge, De Soto Co.

February 7, 2001

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 (SCI) sampling was performed at this site 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 may have good water quality, and the biological thresholds on which the SCI is based require further refinement. Prairie Creek was of particular interest because it is a source of drinking water for the city of Punta Gorda and had been receiving large inflows of high-conductivity water from agricultural sources.

Watershed Characteristics

Prairie Creek's drainage basin includes open pastures and orange groves. Major land uses in the area include agriculture and grazing. Much of the area has irrigation/drainage ditches and there are numerous wells in the basin. The creek flows into the Punta Gorda drinking water supply reservoir, then into the Peace River.

Results

The SCI indicated that Prairie Creek has adequate water quality to support a healthy

aquatic insect community. **The SCI score was 33 points, the maximum possible. Water chemistry met Class 3 standards for all parameters tested. Dissolved oxygen was high (8.9 ppm), and conductivity (dissolved solids) were very high (1435 micromho/cm).** The sample site is located in on a ranch, with an orange grove to the north. The banks have borders 10 to 20 meters wide, made up of native hardwoods and understory. . The habitat consisted of sand (70%), with small patches of rubble, leaves, roots, and snags. Flow was strong (0.3 to 0.5 m/sec). . The overall habitat score was 128 points out of 160 possible.

Significance

These results indicate that this stream has adequate water quality to support a healthy aquatic community, despite some potential problems.

Suggestions

Encourage good land use practices in the basin, and maintain a monitoring program to further refine SCI standards for streams and detect effects of changes in local land use. Although the high conductivity did not seem to adversely affect the macroinvertebrate community when the samples were taken, its long-term effects are unknown, and the high conductivity does affect Prairie Creek's usability as a source of drinking water.

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