EcoSummary

TMDL STUDIES

Powell Creek upstream of Valencia Drive bridge, N. Ft. Myers, Lee Co.

March 1, 2005

FAIR

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 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 do not necessarily have poor water quality, and the biological standards on which the SCI is based require further refinement.

Watershed Characteristics

Powell Creek's drainage basin includes mobile home residential areas above the sample point and pine flatwoods farther upstream in the headwaters. Gilchrist Creek is connected to Powell by ditches, and has similar surrounding land uses. The area around the sample site is primarily houses on quarter-acre lots. The creek flows into the Caloosahatchee River.

Results

The SCI indicated that Powell Creek has adequate water quality to support an adequate aquatic insect community. **The stream scored 53 points out of 100 possible, and was rated "Fair". Water chemistry met Class 3 standards for all parameters tested**. The site is located between mowed grass yards. The riparian (stream bank) zone on both sides was open grass, but there was a very thin fringe of oaks and cabbage palms along the edge of the creek. The creek was very shallow (a foot or less). The in-stream habitat consisted of rock and rubble (37%), vegetation (30%), sand (14%), leaf mats (11%), and undercut banks and exposed roots (8%). Flow was moderate (about 0.1 m/sec). The habitat score was 97 out of 160 possible points.

Significance

These results indicate that this stream has adequate water quality to support an adequate aquatic community, although it is clearly different from the natural condition. They indicate that Powell Creek still meets its designated use as aquatic habitat.

Suggestions

Conduct additional sampling to better define the biological condition of Powell Creek. 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.

For more information, please contact
Albert S. Walton
South District Branch Office
7451 Golf Course Blvd., Punta Gorda, FL 33982
(941) 575-5814 (Suncom 765-5814)
E-mail: Albert.Walton@dep.state.fl.us

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

Powell Creek upstream of Valencia Drive bridge, N. Ft. Myers, Lee Co.

