TMDL STUDIES

EcoSummary

Myrtle Slough, West Fork upstream of CR 74, Charlotte Co.

August 28, 2003

EXCELLENT

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 Myrtle Slough, WBID 2054, 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. The stream is designated Water Body Identfication 2054 because there are at least two other Myrtle Sloughs in the area. Biological information about WBID 2054 was also needed to determine whether it is impaired under TMDL standards.

Watershed Characteristics

Myrtle Slough's drainage basin includes pine flatwoods, shrub and brush, a large hayfield, and freshwater marshes at the headwaters. There are also fill pits, and citrus groves downstream from the sample site. Residential development is relatively sparse, but is increasing. It used to receive effluent from the City of Punta

Gorda's wastewater treatment plant spray field, but that effluent now goes to an injection well. The area around the sample site is mainly pine flatwoods and brush. The creek flows into Shell Creek below the Punta Gorda water supply reservoir, and on to the Peace River and Charlotte Harbor.

Results

The SCI indicated that Myrtle Slough has adequate water quality to support a healthy aquatic insect community. **The stream scored 27 points out of 33 possible, and was rated "Excellent". Water chemistry met Class 3 standards for all parameters tested**. Dissolved oxygen was low at 4 mg/l. The site is located in a wooded area, mainly oaks and pines, with clumps of palmetto. The riparian (stream bank) zone on both sides was wooded, with little understory. The in-stream habitat consisted of sand (67%), with significant patches of undercut bank and roots (21%), sunken branches and logs (8%), and leaf mats (4%). Flow was good (between 0.3 and 0.5 m/sec). The habitat score was 133 out of 160 possible points.

Significance

These results indicate that this stream has adequate water quality to support a healthy aquatic community. The dissolved oxygen concentration of 4 mg/l is over half of the saturation concentration (7.8 mg/l) at the 28^0 C ambient temperature, and did not appear to have any adverse effect on the biological community. A previous SCI, conducted in 1998 as part of a wastewater treatment plant inspection, rated the stream as "Good", with 21 points.

Listing of Myrtle Slough, WBID 2054, as "Impaired" is not supported by biological data.

Suggestions

Monitor water quality in WBID 2054 on a regular basis to detect any changes in its condition. Encourage good land use practices in the basin, and maintain a biological monitoring program to further refine Stream Condition Index standards and to detect effects of changes in local land use.

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