EcoSummary

TMDL STUDIES

Daughtrey Creek above Bright Rd, North Ft. Myers

February 9, 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

Daughtrey Creek's upper drainage basin includes pine flatwoods, low-density residential areas, wetlands and improved pasture. Below the sampling site residential uses, including modular home parks, are more common. The area around the sample site is mainly residential on multiacre lots. The creek flows into the Caloosahatchee River, and estuarine influences are present for some distance upstream.

Results

The SCI indicated that Daughtrey Creek has adequate water quality to support an adequate aquatic insect community. **The stream scored 63 points out of 100 possible, and was rated "Fair", which indicates a significant difference from natural conditions. Water chemistry met Class 3 standards for all parameters tested.** The site has an old citrus grove on one side, and a farm house and stables on the other. The riparian (stream bank) zone on both sides was grass, but there was a narrow fringe of oaks and cabbage palms along the edge of the creek. Farther upstream the creek banks were more heavily vegetated. The in-stream habitat consisted of sand (58%), with patches of vegetation, roots, rocks, leaf mats, and snags. Flow was slow in most places (less than 0.05 m/sec), but increased in shallow riffle areas. The habitat score was 101 out of 160 possible points.
A BioRecon sampling conducted at the same time as the SCI resulted in a score of 6 points, the minimum passing score.

Significance

These results indicate that this stream has adequate water quality to support a reasonably healthy aquatic community. They do not support adding Daughtrey Creek to the list of waters not meeting their designated uses. The SCI score may reflect the relatively low habitat score and slow flow during the dry season rather than indicate a water quality problem.

Suggestions

Encourage good land use practices and Best Management Practices for development 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.

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