A site map can be viewed by clicking on the report site name.

EcoSummary

Tiger Creek at Walk-In-Water Road

March 12, 2002

EXCELLENT

ECOREG REF STREAMS

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



Tiger Creek is one of the streams used by FDEP biologists as a "best attainable condition" reference site for comparison with other streams in this portion of the state. The results of this bioassessment will be used to monitor the continuing health of Tiger Creek, and will also be a part of the ongoing refinement of FDEP's Stream Condition Index (SCI) bioassessment methodology.

Watershed Characteristics

The north fork of Tiger Creek originates in eastern Polk County southeast of the town of Lake Wales and flows in a southeasterly direction. The south fork flows northeast out of Lake Leonore, which is located between Babson Park and Frostproof. The two forks converge east of Babson Park and the creek continues to the southeast for about three miles before flowing into 7018-acre Lake Weohyakapka. (Weohyakapka means "walk in water".)

Much of the land in the 38 square mile watershed is developed, with large areas of citrus groves, as well as considerable residential development. There are some field crops, as well. In the vicinity of the creek itself, however, the land is largely unaltered, protected from

development by a series of adjacent conservation properties. The Nature Conservancy has purchased a 4600+ tract that encompasses the two forks and about half of the main stem. Farther downstream, the creek flows through land purchased through the CARL program, and then state forest land before reaching Lake Weohyakapka.

At the sampling site, Tiger Creek is tannic, with a sand bottom, and is surrounded by dense bottomland vegetation.

Results

The creek received a very good ranking on the SCI. Its score of 31 placed it in the "excellent" category. Thirty different macroinvertebrate taxa were collected in the subsample. This number included 10 that are members of the sensitive EPT group of larval mayflies, stoneflies, and caddisflies. A very good Florida index score of 19, based on the number of pollution-intolerant macroinvertebrate species present, was calculated for the site. The most abundant macroinvertebrate species found at Tiger Creek was the riffle beetle *Microcylloepus pusillus*. It accounted for 16% of the individuals collected. The macroinvertebrate community was quite diverse and well-balanced, the subsample yielding a score of 4.75 on the Shannon-Weiner diversity index.

Nutrient levels at Tiger Creek were all quite low, with the exception of nitrate-nitrite, which was present at an extremely high concentration of 1.6 mg/L. The source of these high nutrient levels is not known. Many springs around the state have shown sharp elevations in nitrate levels in recent years. There are no springs in this area, but the creek is undoubtedly fed, at least in part, by groundwater.

Bacteriological sampling indicated that, although fecal coliform bacteria were present at a moderate concentration of 137 colonies/mL, total coliforms were extremely high, at 3750 colonies/100mL. This represents a violation of state standards for Class III waters. Again, the source of these high total coliforms is unknown.

Habitat assessment results were very good. Tiger Creek received a score of 145 out of a possible 160 points on the habitat assessment, placing it well into the "optimal" category.

Significance

These results indicate that Tiger Creek is in very good ecological health, despite the greatly elevated nitrate/nitrite and total coliform measurements. The very diverse and robust macroinvertebrate community, otherwise good water quality measurements, and excellent habitat assessment are all indicative of a healthy system.

Suggestions

The source(s) of the high nutrient and bacteria levels should be further explored. As a biological reference site for this area of the state, it is important that the health of Tiger Creek continues to be monitored. The preservation of the near-stream watershed by public and private entities should ensure that the creek remains in good shape for the foreseeable future.

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