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

TMDL STUDIES

EcoSummary

Rock Springs Run 50m upstream of Wekiva River

April 24, 2002

HEALTHY

BioRecon: A rapid, cost-effective screening mechanism for identification of biological impairment

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

This sampling was carried out to assess the health of Rock Springs Run, which had been placed on the planning list for possible TMDL study. Also, it has been designated as an Outstanding Florida Water (OFW), and as such, is afforded the highest level of protection from water quality degradation according to F.A.C. 62-302.700.



Watershed Characteristics

Rock Springs Run arises from Rock Springs, a second-magnuitude spring located in northern Orange County. The head spring is located in the county's Kelly Park, and is used as a recreational area. (For more information on Rock Springs, see http://sjrwmd.com/programs/plan_monitor/gw_assess/springs/orange/rock.pdf.) Downstream of Kelly Park, Rock Springs Run follows a winding route, flowing first north, then east, then basically south for several miles before joining the Wekiva River (which forms the county line between Orange and Seminole Counties in this area) just north of the city of Longwood in Seminole County. Beyond Kelly Park, the entire run is surrounded by state parks. To the south lies Wekiwa Springs State Park, whereas Rock Springs Run State Park lies on the north side. Consequently, the stream enjoys a high degree of protection along its entire course.

The 33.5 square mile watershed of Rock Springs Run has a more or less trilobed shape. The

two lobes to the east, basically corresponding to the two state parks, are minimally developed. Most of the land is essentially natural, with some areas of improved pasture and a very few dwellings. The western lobe, however, is much more highly developed. It is an essentially rural area characterized by nurseries, pastures, horse farms, and low- to medium density residences. Residential developments are increasing rapidly in this area.

As might be expected for a spring run, Rock Springs Run has clear, flowing water and a white sand bottom. It is considered one of the prime canoeing streams in central Florida.

Results

The biorecon performed at Rock Springs Run indicated that the stream is in very good ecological health. Thirty-six different macroinvertebrate taxa were collected, including nine from the water quality-sensitive EPT group (larval mayflies, stoneflies, and caddisflies). Rock Springs Run earned a Florida Index score of 24, based on the presence of a number of pollution-intolerant macroinvertebrates. The most abundant macroinvertebrate collected was the amphipod *Gammarus* sp.

Water chemistry results were generally good. All nutrients were present at low to moderate levels, with the exception of nitrate/nitrites, which were found at a high concentration of 0.94 mg/L. Elevated nitrates have been noted recently in many Florida springs. Research is being carried out throughout the state to determine the cause(s) of this enrichment. It is believed that a major contributor is past agricultural practices. Coliform bacteria levels were low to moderate. Turbidity and BOD were also low.

The habitat assessment was also good, giving Rock Springs Run a score of 127 out of a possible 160 points, putting it in the optimal category.

Significance

These results suggest that Rock Springs Run is in good ecological health at this time. The elevated nitrates are a problem in many areas of the state, and a large amount of research is being undertaken to determine the specific sources of eutrophication, as well as the best ways to deal with the problem.

Suggestions

Since Rock Springs Run is almost entirely surrounded by State Parks, the stream should be protected from degradation for the foreseeable future. Landowners in the portion of the watershed that is not public land should be careful to avoid practices that could contribute to the degradation of this beautiful Florida stream.

For more information, please contact
Dana R. Denson
Central District Office
3319 Maguire Blvd., Suite 232, Orlando, FL 32803
(407) 894-7555 x 2355 (Suncom 325-2355)
E-mail: dana.denson@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

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