EcoSummary

Silver Glen Springs

10/15/2002

Background

Florida DEP's Division of Water Resource Management selected Silver Glen Springs for biological and water quality monitoring as part of the Springs Initiative. Data from these efforts will be used for documenting conditions within springs throughout Florida and for making resource protection decisions. Silver Glen Springs Recreation Area is located in Marion and Lake Counties, Florida, in the Ocala National Forest; see Figure 1. Silver Glen Springs flows into Lake George and is a popular location for boaters to gather.

Samples were collected from Silver Glen Springs on October 15, 2002. Water chemistry samples were taken for ammonia, nitrate-nitrite, total Kjeldahl nitrogen (TKN), total phosphorus, other chemical parameters, *Escherichia coli*, *Enterococci*, fecal coliform, and total coliform analyses; see Figure 2. Qualitative periphyton sampling, and benthic invertebrate stream condition index (SCI) sampling were conducted.

Figure 1: Overview Map of the Silver Glen Springs Area



Results

The nitrate-nitrite concentration (0.041 mg/L) in Silver Glen Springs was low, although it was slightly higher than in the previous sampling event (0.027 mg/L); see Figure 2. TKN (0.22 mg/L) and total phosphorus concentrations (0.045 mg/L) were lower than those found in the majority of Florida streams. The ammonia concentration was below the practical quantitation limit.

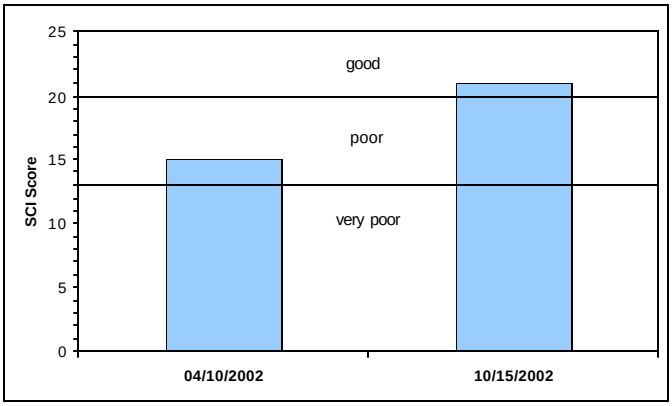
Enterococci and *Escherichia coli* concentrations were below the EPA single-sampling guideline values for "designated beach areas;" see Figure 2. Fecal and total coliform levels complied with Class III water quality standards. The SCI score of 21 for Silver Glen Springs was in the "good" range. Habitat smothering and water velocity continued to be problematic in the spring run. The periphyton community was dominated by diatoms, with some blue-green and green algal taxa. In conclusion, although the SCI has improved, algal smothering of macroinvertebrate habitat continues to be a parameter of concern in Silver Glen Springs.

Figure 2: Data Table

SILVER GLEN SPRINGS			
Sampling Date		10/15/2002	
Macroinvertebrate Data		**Periphyton Data**	
SCI Score	21	% Bacillariophyta	79.34
SCI Evaluation	good	% Cyanophycophyta	18.30
Number of Taxa	23	% Chlorophycota	2.21
EPT Index	0	% Euglenophycota	0.16
Florida Index	5	Dominant Taxon	Diatomaceae/ Fragilariaceae
% Dominant Taxon	19.59	% Dominant Taxon	27.60
% Diptera	46.39	**Physical-Chemical Data**	
Total Number of Chironomidae	8	Temperature (deg. C)	23.32
% Filter-Feeders	13.40	pH	7.7
Chemistry Data		Dissolved Oxygen (mg/L)	3.32
Turbidity (NTU)	0.15	Specific Conductance (umhos/cm)	1929
Color (PCU)	5 U	**Bacteria Data**	
Ammonia (mg/L)	0.016 I	*Escherichia Coli* (col/100 mL)	18 Q
Nitrate-Nitrite (mg/L)	0.041	*Enterococci* (col/100 mL)	14 Q
TKN (mg/L)	0.22	Fecal Coliforms (col/100 mL)	14 Q
Total Phosphorus (mg/L)	0.045	Total Coliforms (col/100 mL)	130 Q

"U"=Below detection limit; "K"= Actual value is < value given

Figure 3: Stream Condition Index Scores Over Time



FOR MORE INFORMATION, CONTACT:
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