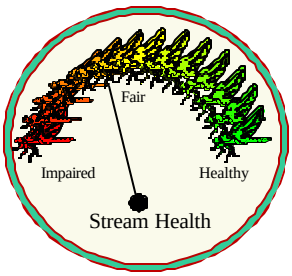


EcoSummary

Silver Glen Springs

04/16/2003



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 April 16, 2003. Water chemistry samples were taken for ammonia, nitrate-nitrite, total Kjeldahl nitrogen (TKN), total phosphorus, *Escherichia coli*, *Enterococci*, fecal coliform, and total coliform analyses; see Figure 2. Habitat assessment, qualitative periphyton sampling, and benthic invertebrate stream condition index (SCI) sampling were conducted.

Figure 1: Overview Map of the Silver Glen Springs Area



Results

Nutrients are very low in Silver Glen Springs. The nitrate-nitrite concentration (0.021 mg/L) in Silver Glen Springs was lower than the values found in 70% of Florida streams (0.04 mg/L); see Figure 2. The total phosphorus level (0.025 mg/L) was lower than is found in 80% of Florida streams (0.03 mg/L). Ammonia concentration was below the detection limit; TKN concentration was below the practical quantitation limit.

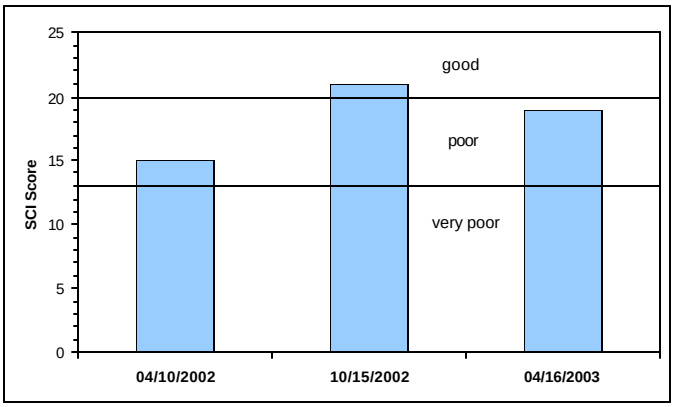
The *Enterococci* concentration was below the EPA single-sampling guideline value of 61 CFU/100 mL for "designated beach areas;" see Figure 2. The *Escherichia coli* concentration was below the designated beach guideline of 235 CFU/100 mL. Fecal and total coliform levels complied with Class III water quality standards. The SCI score of 19 for Silver Glen Springs was in the "poor" 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, macroinvertebrate community health, smothering of macroinvertebrate habitats, and water velocity were the issues of concern in Silver Glen Springs.

Figure 2: Data Table

SILVER GLEN SPRINGS			
Sampling Date		04/16/2003	
Macroinvertebrate Data		**Periphyton Data**	
SCI Score	19	% Bacillariophyta	88.96
SCI Evaluation	poor	% Cyanophycophyta	8.44
Number of Taxa	23	% Chlorophycota	2.60
EPT Index	0	Dominant Taxon	Fragilariaceae
Florida Index	6	% Dominant Taxon	28.90
% Dominant Taxon	39.80	**Physical-Chemical Data**	
% Diptera	41.84	Habitat Assessment Score	109
Number of Chironomidae	12	Temperature (deg. C)	22.9
% Filter-Feeders	12.24	pH	7.8
Chemistry Data		Dissolved Oxygen (mg/L)	4.6
Turbidity (NTU)	0.15	Specific Conductance (umhos/cm)	1877
Color (PCU)	5 U	**Bacteria Data**	
Ammonia (mg/L)	0.01 U	*Escherichia coli* (col/100 mL)	26
Nitrate-Nitrite (mg/L)	0.021	*Enterococci* (col/100 mL)	30
TKN (mg/L)	0.089 I	Fecal Coliforms (col/100 mL)	28
Total Phosphorus (mg/L)	0.025	Total Coliforms (col/100 mL)	560

"U"=Below detection limit; "I"=Below practical quantitation limit

Figure 3: Stream Condition Index Scores Over Time



FOR MORE INFORMATION, CONTACT:
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