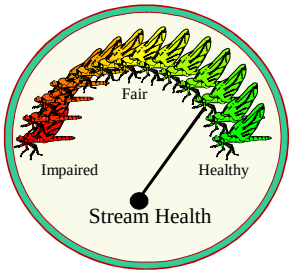


EcoSummary

Silver Glen Springs

10/14/2003



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 October 14, 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

The nitrate-nitrite concentration (0.034 mg/L) in Silver Glen Springs was lower than the values found in 70% of Florida streams (0.04 mg/L); see Figure 2. Total phosphorus and TKN concentrations were below practical quantitation limits. The ammonia concentration was below the detection limit.

The *Enterococci* concentration was below the EPA single-sampling guideline value of 61 CFU/100mL for "designated beach areas;" see Figure 2. The *Escherichia coli* concentration was below the EPA designated beach guideline of 235 CFU/100 mL. Fecal and total coliform levels complied with Class III water quality standards.

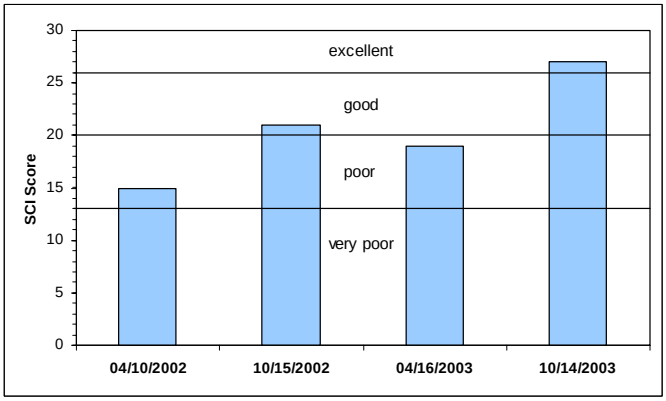
The SCI score of 27 for Silver Glen Springs was in the "excellent" range. This is a large, and currently unexplained improvement over the SCI scores observed for the past two years; see Figure 3. The overall habitat score (112) was in the "sub-optimal" range. Habitat smothering and water velocity continued to be problematic in the spring run. The periphyton community was dominated by diatoms, with some blue-green and green algal taxa. In conclusion, smothering of macroinvertebrate habitats and water velocity were the issues of concern in Silver Glen Springs, although biological health was good.

Figure 2: Data Table

SILVER GLEN SPRINGS			
Sampling Date		10/14/2003	
Macroinvertebrate Data		**Periphyton Data**	
SCI Score	27	% Bacillariophyta	86.77
SCI Evaluation	Excellent	% Cyanophycophyta	12.26
Number of Taxa	32	% Chlorophycota	0.97
EPT Index	2	Dominant Taxon	Fragilariaceae
Florida Index	7	% Dominant Taxon	19.03
% Dominant Taxon	20.51	**Physical-Chemical Data**	
% Diptera	44.44	Habitat Assessment Score	112
Number of Chironomidae	14	Temperature (deg. C)	23.4
% Filter-Feeders	11.54	pH	7.8
Chemistry Data		Dissolved Oxygen (mg/L)	5.9
Turbidity (NTU)	0.15	Specific Conductance (umhos/cm)	1812
Color (PCU)	5 U	**Bacteria Data**	
Ammonia (mg/L)	0.01 U	*Escherichia coli* (col/100 mL)	80 Q
Nitrate-Nitrite (mg/L)	0.034	*Enterococci* (col/100 mL)	40 Q
TKN (mg/L)	0.13 I	Fecal Coliforms (col/100 mL)	76 Q
Total Phosphorus (mg/L)	0.041 I	Total Coliforms (col/100 mL)	800 Q

"U"=Below detection limit; "I"=Below practical quantitation limit; "Q"=Outside of holding time

Figure 3: Stream Condition Index Scores Over Time



FOR MORE INFORMATION, CONTACT:
Amy Wheeler, FDEP Environmental Assessment Section
2600 Blair Stone Road MS#6511 Tallahassee, FL 32399-2400 (850) 245-8070 Amy.Wheeler@dep.state.fl.us