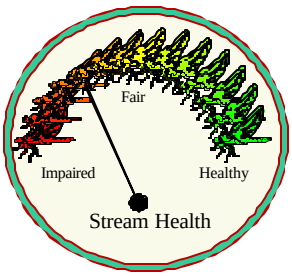


EcoSummary

Silver Glen Springs

04/10/2002

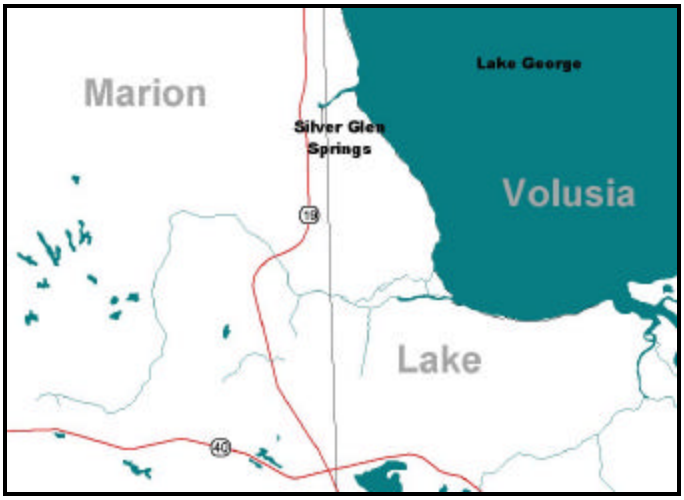


Background

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 April 10, 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. 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

Nitrate-nitrite concentration (0.027 mg/L) in Silver Glen Springs was lower than that found in 70% of Florida streams (0.04 mg/L); see Figure 2. The TKN level (0.21 mg/L) was lower than is found in 90% of Florida streams (0.29 mg/L). The total phosphorus level (0.054 mg/L) was lower than is found in 60% of Florida streams (0.0555 mg/L). Ammonia concentration was below detection limits.

The overall habitat assessment score for Silver Glen Springs (105) was in the sub-optimal range; substrate diversity, water velocity, and habitat smothering were the categories that received marginal or poor scores. *Enterococci* concentration was below the EPA single-sampling guideline value of 61 CFU/100mL for "designated beach areas;" see Figure 2. *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 15 for Silver Glen Springs was in the "poor" range; this score may be in part due to the naturally high specific conductance (1,925 umhos/cm) in the spring run. The periphyton community was dominated by diatoms, with some blue-green and green algal taxa. In conclusion, the poor quality macroinvertebrate community in Silver Glen Springs was potentially related to the naturally high conductivity and/or to select habitat parameters (low velocity, habitat smothering).

Figure 2: Data Table

SILVER GLEN SPRINGS			
Sampling Date		4/10/2002	
Macroinvertebrate Data		**Periphyton Data**	
SCI Score	15	% Bacillariophyceae	96.54
SCI Evaluation	poor	% Cyanophyceae	2.55
Number of Taxa	13	% Chlorophyceae	0.55
EPT Index	0	Dominant Taxon	Fragilariaceae
Florida Index	4	% Dominant Taxon	57.01
% Dominant Taxon	44.32	**Physical-Chemical Data**	
% Diptera	15.91	Total Habitat Assessment Score	105
Total Number of Chironomidae	5	Temperature (deg. C)	22.96
% Filter-Feeders	3.98	pH	7.79
Chemistry Data		Dissolved Oxygen (mg/L)	3.6
Turbidity (NTU)	0.1	Specific Conductance (umhos/cm)	1925
Color (PCU)	5 U	**Bacteria Data**	
Ammonia (mg/L)	0.01 U	*Escherichia Coli* (col/100 mL)	1 K
Nitrate-Nitrite (mg/L)	0.027	*Enterococci* (col/100 mL)	1 K
TKN (mg/L)	0.21	Fecal Coliforms (col/100 mL)	12
Total Phosphorus (mg/L)	0.054	Total Coliforms (col/100 mL)	20

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

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