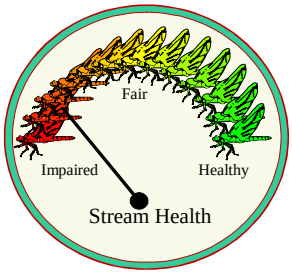


EcoSummary

Alexander Springs

5/4/2004

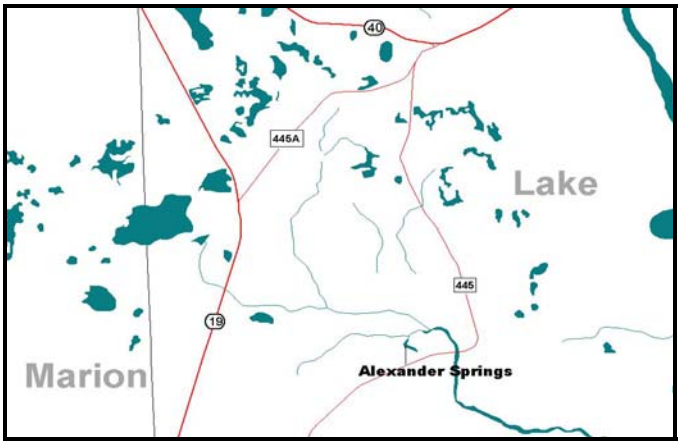


Background

Florida DEP's Division of Water Resource Management selected Alexander 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. Alexander Springs Recreation Area is located in Lake County, Florida, in the Ocala National Forest; see Figure 1. Alexander Springs flows into the St. John's River and is a popular recreation area.

Samples were collected from Alexander Springs on May 4, 2004. 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. See Figure 3 for SCI scores over time.

Figure 1: Overview Map of the Alexander Springs Area



Results

The nitrate-nitrite concentration (0.028 mg/L) in Alexander Springs was lower than the values found in 70% of Florida streams (0.04 mg/L); see Figure 2. Total phosphorus concentration (0.086 mg/L) was relatively average for Florida streams. TKN was below the practical quantitation limits. Ammonia was below detection limits. Bacteria data are not available from this sampling trip due to holding time issues.

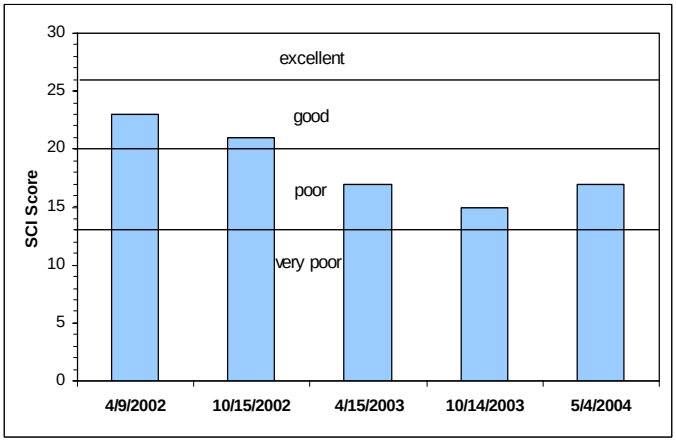
The overall habitat assessment score (120) was at the low end of the "optimal" range. Substrate diversity and habitat smothering were habitat parameters of concern. The SCI score of 15 for Alexander Springs was in the "poor" range; this may have been partially due to the high conductivity at the site (1,116 umhos/cm). The high conductivity (somewhat "salty" water) in Alexander Springs is a natural condition. However, this high conductivity will limit the diversity of freshwater organisms that can inhabit the site. The periphyton community was dominated by diatoms, with some blue-green and green algal taxa. In conclusion, a limited macroinvertebrate community, probably related to high conductivity and habitat smothering, continued to be observed in Alexander Springs.

Figure 2: Data Table

ALEXANDER SPRINGS			
Sampling Date		5/4/2004	
Macroinvertebrate Data		**Chemistry Data**	
SCI Score	17		
SCI Evaluation	Poor	Turbidity (NTU)	0.05 Q
Number of Taxa	17	Color (PCU)	5 U,Q
EPT Index	2	Ammonia (mg/L)	0.01 U
Florida Index	1	Nitrate-Nitrite (mg/L)	0.028
% Dominant Taxon	51.40	TKN (mg/L)	0.14 I
% Diptera	14.02	Total Phosphorus (mg/L)	0.086
Number of Chironomidae	6	**Physical-Chemical Data**	
% Filter-Feeders	0.93		
Periphyton Data		Habitat Assessment Score	120
% Bacillariophyta	87.21	Temperature (deg. C)	23.2
% Cyanophycota	10.49	pH	8.2
% Chlorophycota	2.30	Dissolved Oxygen (mg/L)	3.3
% Dominant Taxon	18.36	Specific Conductance (umhos/cm)	1116

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

Figure 3: SCI Scores Over Time



FOR MORE INFORMATION, CONTACT:
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