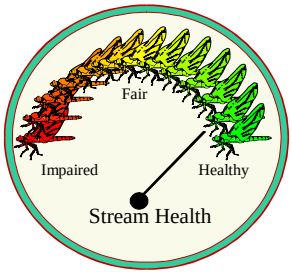


EcoSummary

Juniper Springs

5/4/2004

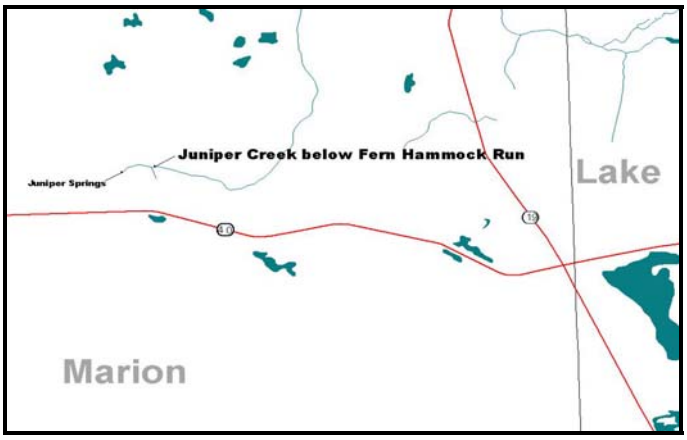


Background

Florida DEP's Division of Water Resource Management selected Juniper 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. Juniper Springs Recreation Area is located in Marion County, Florida, in the Ocala National Forest; see Figure 1. Juniper Creek, which flows from Juniper Springs to Lake George, is a popular canoeing creek known for its aesthetic qualities.

Samples were collected from Juniper Springs in Juniper Creek downstream from the confluence with Fern Hammock Creek 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 Juniper Springs Area



Results

The nitrate-nitrite concentration (0.077 mg/L) in Juniper Springs was lower than average for Florida streams, and much lower than most Florida springs; see Figure 2. The total phosphorus concentration was below the practical quantitation limit. Ammonia and TKN concentrations were below detection limits. Bacteria data are not available from this sampling trip due to holding time issues.

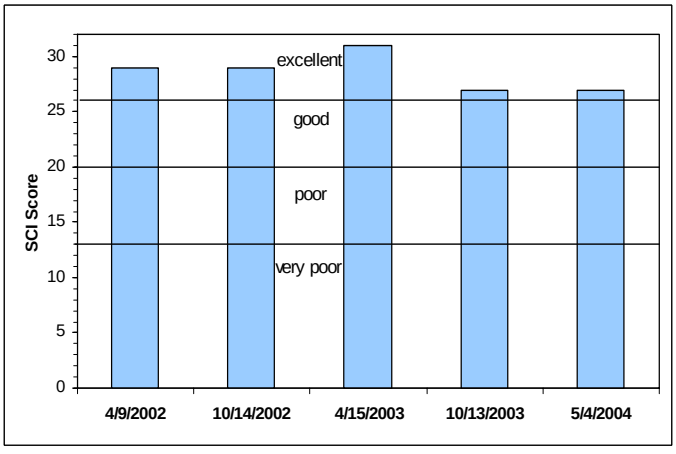
The SCI score of 27 for Juniper Springs was in the "excellent" range. The overall habitat assessment score (142) was in the "optimal" range. The periphyton community was dominated by diatoms, with some blue-green and green algal taxa. In conclusion, biological and water quality parameters indicate that Juniper Springs is ecologically healthy. This system can continue to be used to help define biological and water quality expectations from least disturbed springs in Florida.

Figure 2: Data Table

JUNIPER SPRINGS			
Sampling Date		5/4/2004	
Macroinvertebrate Data		**Chemistry Data**	
SCI Score	27		
SCI Evaluation	Excellent	Turbidity (NTU)	0.4 Q
Number of Taxa	29	Color (PCU)	5 U,Q
EPT Index	7	Ammonia (mg/L)	0.01 U
Florida Index	16	Nitrate-Nitrite (mg/L)	0.077
% Dominant Taxon	30.10	TKN (mg/L)	0.06 U
% Diptera	20.39	Total Phosphorus (mg/L)	0.056 I
Number of Chironomidae	9	**Physical-Chemical Data**	
% Filter-Feeders	0		
Periphyton Data		Habitat Assessment Score	140
% Bacillariophyta	82.79	Temperature (deg. C)	21.9
% Cyanophycota	13.96	pH	8.3
% Chlorophycota	3.25	Dissolved Oxygen (mg/L)	7.7
% Dominant Taxon	19.81	Specific Conductance (umhos/cm)	128

"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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