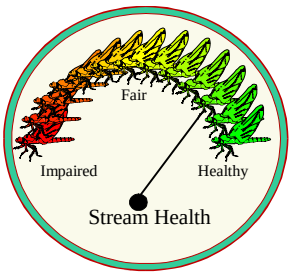


EcoSummary

Ichetucknee Springs

4/27/2004

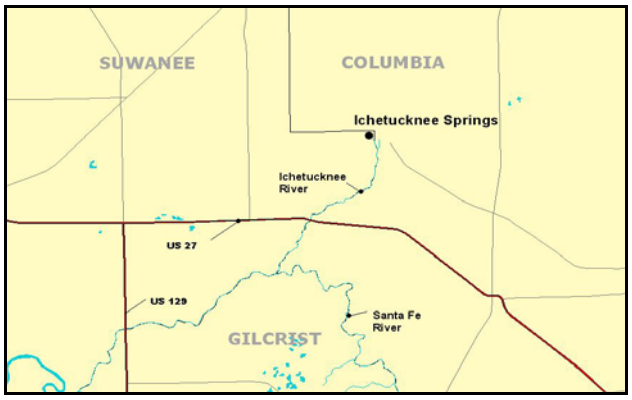


Background

Florida DEP's Division of Recreation and Parks selected Ichetucknee Springs for biological and water quality monitoring. Data from these efforts will be used for documenting conditions within the park and for making resource protection decisions. Ichetucknee Springs State Park is located in Suwannee and Columbia Counties; see Figure 1. Ichetucknee Springs is a Floridan Aquifer-dominated system known for its recreational and aesthetic qualities.

Samples were collected from Ichetucknee Springs on April 27, 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. SCI scores over time are shown in Figure 3. Samples were collected approximately two miles south of the boil within the park limits.

Figure 1: Overview Map of the Ichetucknee Springs Area



Results

The nitrate-nitrite concentration in Ichetucknee Springs (0.39 mg/L) was higher than the values found in 80% of Florida streams (0.35 mg/L); see Figure 2. The total phosphorus concentration was average for Florida streams. Ammonia and TKN levels were below detection limits.

Enterococci and *Escherichia coli* concentrations were below the EPA single-sample guideline values of 61 CFU/100 mL and 235 CFU/100 mL, respectively, for "designated beach areas." Fecal and total coliform levels complied with Class III water quality standards.

Although the habitat was not assessed for this sampling event, Ichetucknee Springs has consistently scored in the "optimal" range. Diatoms, with some blue-green taxa, dominated the periphyton community. The SCI score (23) for Ichetucknee Springs was in the "good" range.

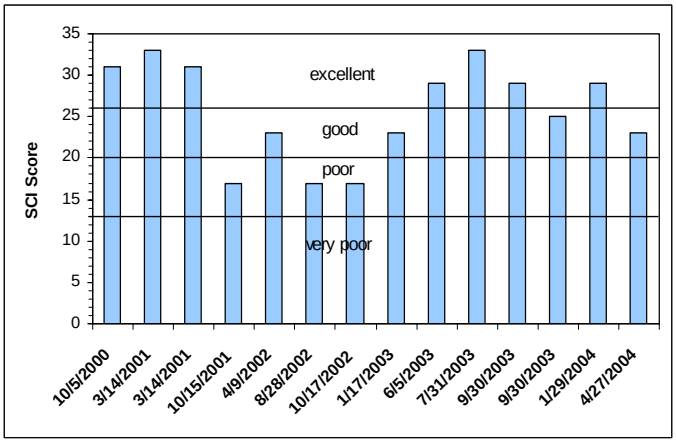
In conclusion, an elevated nitrate-nitrite concentration continued to be a parameter of concern in Ichetucknee Springs. The invertebrate community indicated that healthy ecological conditions prevail.

Figure 2: Data Table

ICHTUCKNEE SPRINGS			
Sampling Date		4/27/2004	
Macroinvertebrate Data		**Periphyton Data**	
SCI Score	23	% Bacillariophyta	83.88
SCI Evaluation	Good	% Cyanophycota	14.47
Number of Taxa	21	% Chlorophycota	1.64
EPT Index	5	% Cryptophycophyta	0
Florida Index	13	% Dominant Taxon	11.51
% Dominant Taxon	34.29	**Physical-Chemical Data**	
% Diptera	25.71		
Number of Chironomidae	5	Temperature (deg. C)	21.2
% Filter-Feeders	29.52	pH	7.8
Chemistry Data		Dissolved Oxygen (mg/L)	5.8
Turbidity (NTU)	0.3	Specific Conductance (umhos/cm)	296
Color (PCU)	5	**Bacteria Data**	
Ammonia (mg/L)	0.01 U	*Escherichia coli* (col/100 mL)	8 B,Q
Nitrate-Nitrite (mg/L)	0.39	*Enterococci* (col/100 mL)	70 Q
TKN (mg/L)	0.06 U	Fecal Coliforms (col/100 mL)	10 B,Q
Total Phosphorus (mg/L)	0.07	Total Coliforms (col/100 mL)	200 Q

"U"=Below detection limit; "Q"=Outside of holding time; "B"=Results based on colony counts outside the acceptable range

Figure 3: SCI 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