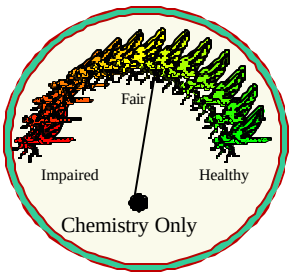
EcoSummary

Troy Spring

12/06/01



Background

Florida DEP's Division of Recreation and Parks selected Troy Springs, as well as several other springs from state parks, for biological and water quality monitoring. Data from these efforts will be used for documenting conditions within each park and for making resource protection decisions. Troy Springs, located in Lafayette County, flows into the west side of the Suwannee River (Figure 1). The surrounding property has recently been purchased by the state of Florida. Water quality characteristics were collected near the spring vent.

Samples were taken at Troy Springs in December 2001. Water chemistry samples were taken for ammonia, nitrate-nitrite, total Kjeldahl nitrogen, total phosphorus, color, turbidity, *Enterococci*, *Escherichia coli*, fecal coliform, and total coliform analysis; see Figure 2.

Results

Nitrate-nitrite concentrations (1.6 mg/L) at the sampling site were higher than the values found in 95% of Florida streams (Figure 2). Ammonia and total Kjeldahl nitrogen were below respective quantitation limits. Total phosphorus (0.052 mg/L) was lower than most Florida streams. *Enterococci* and *Escherichia coli* concentrations complied with the EPA single-sample guideline value of 61 CFU/100mL and 235 CFU/100 mL, respectively, for "designated beach areas." Fecal and total coliform levels complied with Class III water quality standard values. Dissolved oxygen (1.4 mg/L) was less than the Class III water quality standard (5.0 mg/L). This was likely due to sampling near the spring vent, where conditions would be representative of typical (low dissolved oxygen) groundwater levels. The periphyton community in Troy Springs was dominated by diatoms with some blue-green taxa. The particular taxa found were indicative of eutrophic conditions. In conclusion, this sampling indicated that elevated nitrate-nitrite levels and a relatively low-quality algal community were present in Troy Springs. Further sampling is recommended to monitor conditions and obtain a more thorough assessment of the overall health

Figure 1: Overview Map of the Troy Springs Area



Figure 2: Data Table

Troy Springs			
Station	Troy Springs		
Sampling Date	12/6/01		
Macroinvertibrate Parameters		**Periphyton Parameters**	
SCI	-	% Bacillariophyceae	73.83
SCI Evaluation	-	% Cyanophyceae	21.2
Number of Taxa	-	% Chlorophyceae	4.97
EPT Index	-	Dominant taxon	*Achnanthes lanceolata*
FL Index	-	Percent Dominant taxon	16.67
% Dominant Taxon	-	**Physical-Chemical Data**	
% Diptera	-	Habitat Assessment	-
Total number of Chironomidae	-	Specific Conductivity (umhos/cm)	330
% Filter-Feeders	-	Dissolved Oxygen (mg/L)	1.4
Chemistry Data		pH (SU)	7.4
Ammonia (mg/L)	0.01 U	Temperature (deg C)	21.6
Nitrate-Nitrite (mg/L)	1.6	**Bacteria Parameters**	
TKN (mg/L)	0.06 U	*Enterococci* (col/100mL)	1 KQ
Total Phosphorus (mg/L)	0.052 J	*Escherichia coli* (col/100mL)	1 KQ
Color (PCU)	5 U	Fecal Coliforms (col/100 mL)	1 KQ
Turbidity	0.15	Total Coliforms (col/100mL)	1 KQ

"U"- Value Reported is the Minimum Detection Limit; "J"- Estimated Value; "Q"- Sample Held Beyond Normal Holding Time; "K"- Actual Value is Known to be Less Than the Value Given

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