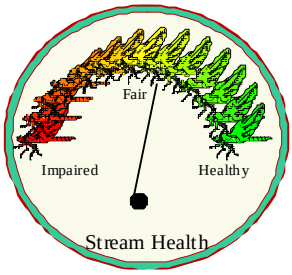


EcoSummary

Troy Spring

12/13/06



Background

Florida DEP's Division of Recreation and Parks selected Troy Spring 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. Troy Spring, located in Lafayette County; flows into the west side of the Suwannee River (see Figure 1). The surrounding property was purchased by the state of Florida in 2001, and construction, with the addition of boardwalks, facilities, trails and camping grounds, has recently been completed to improve the public use of Troy Springs.

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. Habitat assessment and qualitative periphyton sampling were also conducted.

Results

The nitrate-nitrite concentration (1.8 mg/L) at the sampling site was higher than the values found in 95% of Florida streams (1.05 mg/L or less). The ammonia and total Kjeldal nitrogen concentrations were below Method Detection Limits (see Figure 2). The total phosphorus concentration was below the Practical Quantitation Limit.

Enterococci and *E. coli* concentrations complied with the EPA single-sample guideline value 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.

Dissolved oxygen (0.44 mg/L) was less than the Class III water quality standard of 5.0 mg/L, but these low levels are typical of Floridan aquifer groundwater, and represent a natural condition. The Habitat Assessment score was in the "Suboptimal" range.

In conclusion, elevated nitrate-nitrite levels in Troy Spring continue to be cause for concern. Continued monitoring is recommended, especially in order to assess any potential effects from increased public use related to recent infrastructure improvements.

Figure 1: Map of the Troy Spring Area



Figure 2: Data Table

Troy Spring	
Sampling Date	12/13/2006
Chemistry Data	
Turbidity (NTU)	0.15
Color (PCU)	5
Ammonia (mg/L)	0.01 U
Nitrate-Nitrite (mg/L)	1.8
TKN (mg/L)	0.080 U
Total Phosphorus (mg/L)	0.028 I
Field Data	
Habitat Assessment Score	113
Temperature (deg. C)	21.61
pH	6.87
Dissolved Oxygen (mg/L)	0.44
Specific Conductance (umhos/cm)	361
Bacteria Data	
Escherichia coli (col/100 mL)	2 U
Enterococci (col/100 mL)	34 B
Fecal Coliforms (col/100 mL)	2 U
Total Coliforms (col/100 mL)	4 B

"U"- Below Method Detection Limit; "I"=Below Practical Quantitation Limit; "B"=Results based on colony counts outside the acceptable range

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