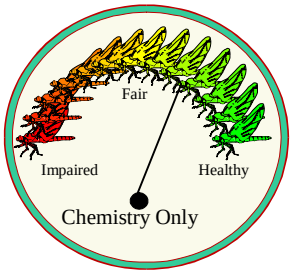
EcoSummary

Troy Spring

4/27/04



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, is currently underway 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, qualitative periphyton sampling, and benthic invertebrate stream condition index (SCI) sampling were 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, yet it was somewhat lower than the September 2003 sampling (2.4 mg/L) (Figure 2). The ammonia and total Kjeldal nitrogen concentrations were below minimum detection limits (see Figure 2). Total phosphorus (0.051 mg/L) 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 "designed beach areas". Fecal and total coliform levels complied with Class III water quality standards. Dissolved oxygen (1.1 mg/L) was less than the Class III water quality standard (5.0 mg/L), but 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 Spring was dominated by diatoms with some blue-green taxa.

In conclusion, elevated nitrate-nitrite levels in Troy Spring continue to. Continued monitoring is recommended, especially during and after the park construction is complete, in order to assess any potential effects from increased public use.

Figure 1: Overview Map of the Troy Spring Area

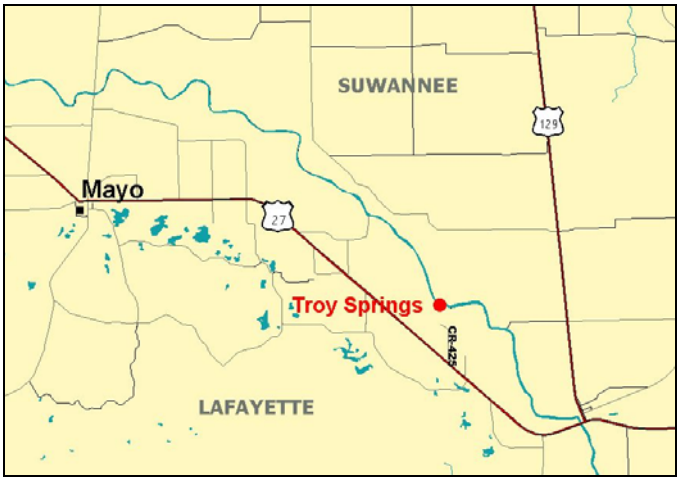


Figure 2: Data Table

Troy Springs			
Sampling Date		4/27/2004	
Macroinvertibrate Parameters		**Periphyton Parameters**	
SCI	-		
SCI Evaluation	-	%Bacillariophyceae	83.0
Number of Taxa	-	%Cyanophyceae	12.1
EPT Index	-	%Chlorophyceae	4.9
FL Index	-	Percent Dominant taxon	20.7
%Dominant Taxon	-	**Physical-Chemical Data**	
%Diptera	-	Habitat Assessment	-
Total number of Chironomidae	-	Specific Conductivity (umhos/cm)	335
%Filter-Feeders	-	Dissolved Oxygen (mg/L)	1.1
Chemistry Data		pH (SU)	7.5
Ammonia (mg/L)	0.01 U	Temperature (deg C)	21.2
Nitrate-Nitrite (mg/L)	1.8	**Bacteria Parameters**	
TKN (mg/L)	0.06 U	*Enterococci* (col/100mL)	1 KQ
Total Phosphorus (mg/L)	0.051 I	*Escherichia coli* (col/100mL)	1 KQ
Color (PCU)	5	Fecal Coliforms (col/100 mL)	1 KQ
Turbidity	0.25	Total Coliforms (col/100mL)	3 BQ

"U"- Value Reported is the Minimum Detected; "K"- Actual Value is Known to be Less Than the Value Given; "I"- Value Reported is Less Than the Minimum Quantitation Limit and Greater Than or Equal to the Minimum Detection Limit; "A"- Value Reported is the Mean of Two or More Determinations

FOR MORE INFORMATION, CONTACT:
Thomas Deck, FDEP Environmental Assessment Section
2600 Blair Stone Road MS#6511 Tallahassee, FL 32399-2400
(850) 245-8074 thomas.deck@dep.state.fl.us