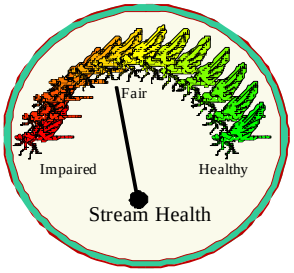


EcoSummary

De Leon Springs

11/1/2006



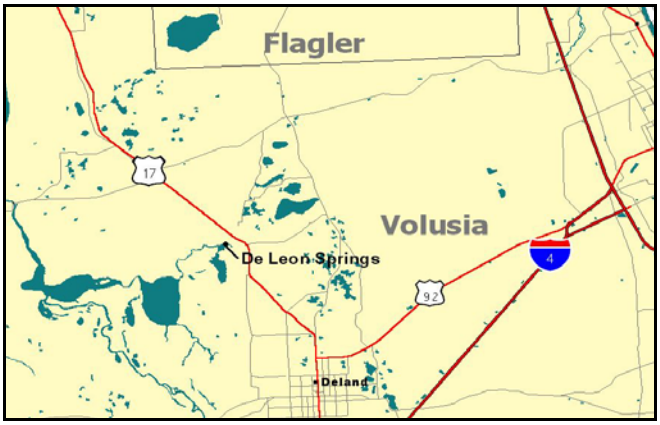
Chemistry only

Background

Florida DEP's Division of Recreation and Parks selected De Leon Springs for biological and water quality monitoring. Data from these efforts will be used for documenting existing conditions and for making resource protection decisions. De Leon Springs, located in Volusia County, flows into Spring Garden Lake; see Figure 1. De Leon Springs is a Floridan Aquifer-dominated system known for its recreational and aesthetic qualities.

Water chemistry samples were taken for ammonia, nitrate-nitrite, total Kjeldahl nitrogen (TKN), total phosphorus, color, and turbidity analysis; see Figure 2.

Figure 1: Map of the De Leon Springs Area



Results

The nitrate-nitrite concentration (0.49 mg/L) at the sampling site was higher than values found in 80% of typical Florida streams (0.32 mg/L or less). The elevated nitrate-nitrite level in De Leon Springs is related to nitrogen loading in the recharge basin. Ammonia (0.055 mg/L) and TKN (0.32 mg/L) continued to be non-problematic. Total phosphorus was below the practical quantitation limit.

Enterococci and *Escherichia coli* concentrations complied with 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.

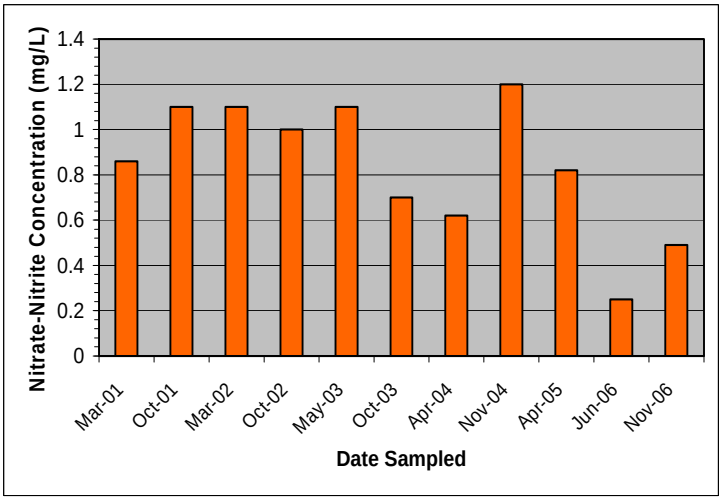
In conclusion, elevated nitrate-nitrite levels continue to be a concern in De Leon Springs.

Figure 2: Data Table

DeLEON SPRINGS	
Sampling Date	11/1/2006
Chemistry Data	
Turbidity (NTU)	0.5
Color (PCU)	5
Ammonia (mg/L)	0.055
Nitrate-Nitrite (mg/L)	0.49
TKN (mg/L)	0.32
Total Phosphorus (mg/L)	0.051 I
Physical-Chemical Data	
Temperature (deg. C)	22.8
pH	7.9
Dissolved Oxygen (mg/L)	6.4
Specific Conductance (umhos/cm)	750
Bacteria Data	
Escherichia coli (col/100 mL)	10 BQ
Enterococci (col/100 mL)	36 BQ
Fecal Coliforms (col/100 mL)	2 BQ
Total Coliforms (col/100 mL)	56 Q

"I"= Below Practical Quantitation Limit; "B"= Based on colony counts outside the acceptable range; "Q"= Outside of holding time

Figure 3: Nitrate-Nitrite Values Over Time



FDEP Bureau Of Laboratories

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