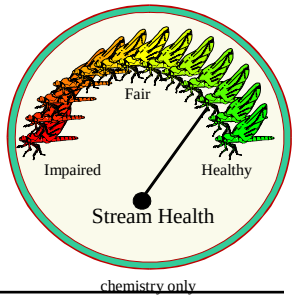


EcoSummary

Juniper Springs
11/9/2004

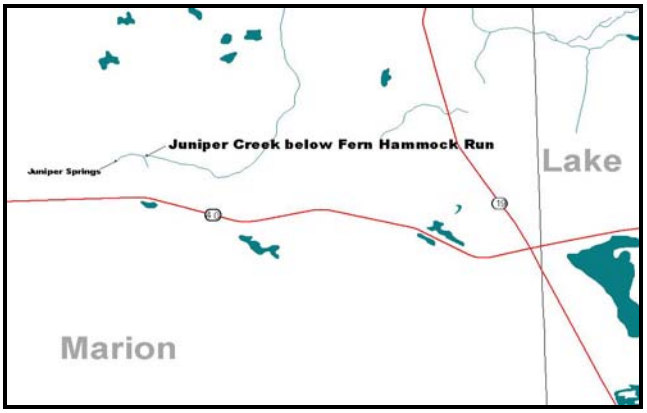


Background

Florida DEP's Division of Water Resource Management selected Juniper Springs for biological and water quality monitoring as part of the Springs Initiative. Data from these efforts will be used for documenting conditions within springs throughout Florida and for making resource protection decisions. Juniper Springs Recreation Area is located in Marion County, Florida, in the Ocala National Forest; see Figure 1. Juniper Creek, which flows from Juniper Springs to Lake George, is a popular canoeing creek known for its aesthetic qualities.

Samples were collected from Juniper Springs in Juniper Creek downstream from the confluence with Fern Hammock Creek on November 9, 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.

Figure 1: Overview Map of the Juniper Springs Area



Results

The nitrate-nitrite concentration (0.074 mg/L) in Juniper Springs was lower than average for Florida streams, and much lower than most Florida springs; see Figure 2. The total phosphorus and TKN concentrations were below practical quantitation limits. Ammonia concentration was below detection limits.

Enterococci (976 CFU/100 mL) density exceeded the EPA single-sampling guideline 61 CFU/100 mL for designated beach areas. These results may not be used for regulatory purposes because the samples exceeded their specified holding time prior to analysis. Also, some species of *Enterococci* are free-living in warm waters. *Escherichia coli* concentration complied with the EPA single-sample guideline of 235 CFU/100 mL for designated beach areas. Fecal and total coliform levels complied with Class III water quality standards.

Stream condition index (SCI) sampling and habitat assessment were not conducted because of site access limitations. Recent hurricanes in the area caused debris to restrict access to only the upper reach of the sampling site. Elevated *Enterococci* density may have also been due to disturbance from the hurricanes. In conclusion, water quality parameters indicate that Juniper Springs continues to be an overall healthy system.

Figure 2: Data Table

JUNIPER SPRINGS	
Sampling Date	11/9/2004
Chemistry Data	
Turbidity (NTU)	0.3
Color (PCU)	10
Ammonia (mg/L)	0.01 U
Nitrate-Nitrite (mg/L)	0.074
TKN (mg/L)	0.067 I
Total Phosphorus (mg/L)	0.034 I
Bacteria Data	
Escherichia coli (col/100 mL)	112 Q
Enterococci (col/100 mL)	976 B,Q
Fecal Coliforms (col/100 mL)	102 Q
Total Coliforms (col/100 mL)	72 Q
Physical-Chemical Data	
Temperature (deg. C)	21.5
pH	8.0
Dissolved Oxygen (mg/L)	7.4
Specific Conductance (umhos/cm)	179

"U"=Below detection limit; "I"=Below practical quantitation limit; "B"=Based on colony counts outside the acceptable range; "Q"=Outside of holding 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