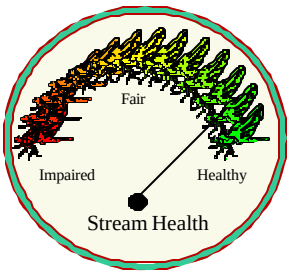
EcoSummary

Polar Creek @ SR 59

1/16/02



Background

Since 1992, minimally disturbed reference streams have been sampled throughout Florida for the purpose of establishing biological community expectations and identifying specific thresholds for assessing stream health. The Stream Condition Index (SCI) has been the primary assessment method, which consists of collecting 20 D-frame dipnet sweeps (0.5 m in length) of the most productive habitats in a 100 m reach of stream. The organisms are sub-sampled, sorted, and identified to the lowest practical taxonomic level. Seven measurements of invertebrate health are calculated and compared with the expectations established by the reference site sampling. These reference streams are sampled periodically to maintain accurate expectations to which other streams in the same ecoregion are compared. Polar Creek, which drains into the St. Marks River, is located in Jefferson County.

Polar Creek was sampled on January 16, 2002 as part of routine reference stream monitoring. Stream Condition Index (SCI) sampling was conducted along with habitat assessment; see Figure 2. Water chemistry samples were also taken for nitrate-nitrite, total Kjeldahl nitrogen (TKN), total phosphorus, turbidity, *Enterococci*, *Escherichia coli*, total coliform, and fecal coliform analysis; see Figure 2.

Results and Discussion

Nitrate-nitrite and total phosphorus concentrations (0.094 mg/L and 0.13 mg/L, respectively) at the sampling site were were relatively average compared with other Florida streams. *Enterococci* and *Escherichia coli* exceeded the EPA single-sample maximum allowable density for a designated beach area (61CFU/100mL and 235 CFU/100mL respectively), but the applicability of these indicators in warm Florida waters is still under investigation. Fecal and total coliform levels complied with Class III water quality standards. The overall habitat assessment score (139) was in the optimal range (>120). The Stream Condition Index (SCI) scored in the "excellent" category.

In conclusion, overall good water quality, optimal habitat, and an "excellent" score on the Stream Condition Index indicate that Ocklawaha Creek is a healthy aquatic ecosystem.

Figure 1: Overview Map of the Polar Creek Area

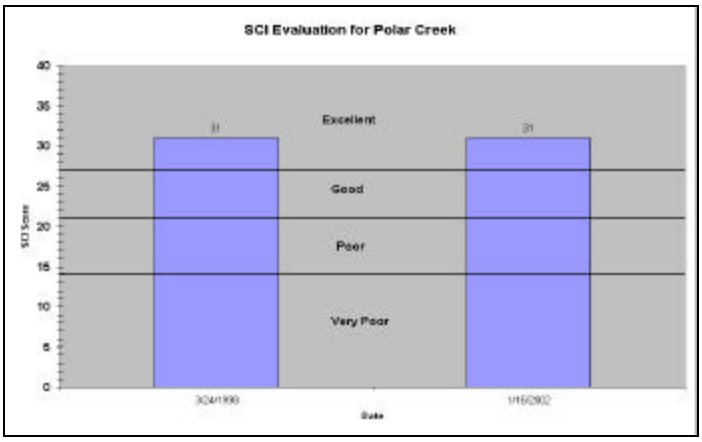


Figure 2: Data Table

Polar Creek			
Sampling Date		1/16/2002	
Macroinvertibrate Parameters		Chemistry Data	
SCI	31	Ammonia (mg/L)	na
SCI Evaluation	Excellent	Nitrate-Nitrite (mg/L)	0.094 J
Number of Taxa	34	TKN (mg/L)	0.31
EPT Index	13	Total Phosphorus (mg/L)	0.13
FL Index	22	Color (PCU)	na
% Dominant Taxon	16.4	Turbidity (NTU)	2.7 A
% Diptera	23.1	TSS (mg/L)	4 U
Total number of Chironomidae	11	Physical-Chemical Data	
% Filter-Feeders	9.7	Habitat Assessment	139
Bacteria Parameters		Specific Conductivity (umhos/cm)	38
Enterococci (col/100mL)	670	Dissolved Oxygen (mg/L)	10.4
Escherichia coli (col/100mL)	280	pH (SU)	5.2
Fecal Coliforms (col/100 mL)	400	Temperature (deg C)	8.05
Total Coliforms (col/100 mL)	1800		

"J"-Estimated Value; "U"-Below detection limit; "A"-Value reported is the mean of two or more determinations.

Figure 3: SCI Data



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