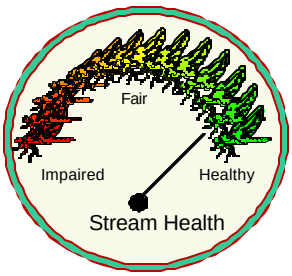


EcoSummary

Flat Creek

08/13/92-06/29/99



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 region are compared. Flat Creek is a reference stream in the Florida panhandle; see Figure 1. Flat Creek flows west through Gadsden County into the Apalachicola River.

Samples were collected from Flat Creek on eight occasions from August 1992 to June 1999. Benthic macroinvertebrate Stream Condition Index (SCI) sampling was conducted; see Figures 2 & 3. Water chemistry samples were taken for ammonia, nitrate-nitrite, total Kjeldahl nitrogen (TKN), total phosphorus, and turbidity analysis; see Figure 2.

Results

With the following exceptions, nutrients in Flat Creek were low to average compared with other Florida streams; see Figure 2. In March, 1994 (0.077 mg/L) and February, 1995 (0.09 mg/L), ammonia concentrations were higher than the 70th percentile. Total phosphorus levels throughout the period of record (0.13-0.87 mg/L) were near or above the 70th percentile value. SCI scores for Flat Creek were consistently in the "excellent" range, indicating that healthy conditions prevailed; see Figures 2 & 3.

Figure 1. Overview Map of the Flat Creek Area

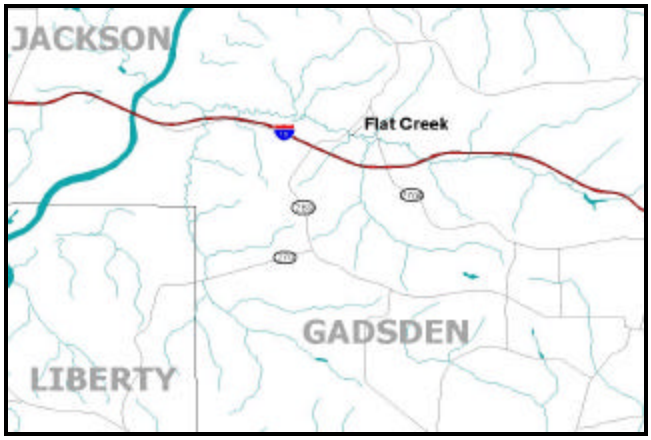
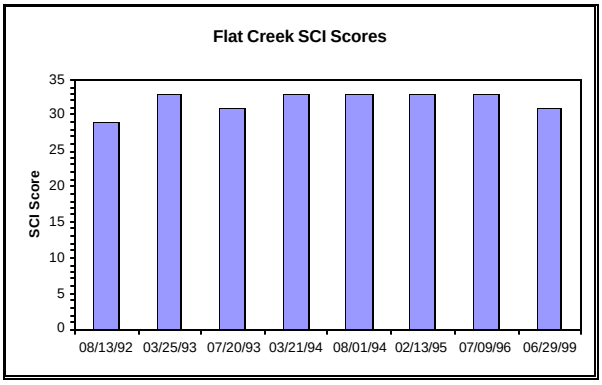


Figure 2. Data Table

Flat Creek – 3101014								
Sampling Date	08/13/92	03/25/93	07/20/93	03/21/94	08/01/94	02/13/95	07/09/96	06/29/99
Macroinvertebrate Parameters								
SCI Score	29	33	31	33	33	33	33	31
Panhandle Evaluation	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Physical-Chemical Data								
Temperature (deg C)	22.5	19	19	21	22	10	23.9	23.6
pH (SU)	7.1	6.9	7.9	7.11	6.59	7.12	8	6.2
Specific Conductance (umho/cm)	58	38	30	50	40	30	36	22
Dissolved Oxygen (mg/L)	8.1	9.2	8.2	8.0	-	11.3	6.9	7.5
Nutrient Data								
Ammonia (mg/L)	-	0.026	0.022 T	0.077	0.025	0.09	0.045	0.03
Nitrate-Nitrite (mg/L)	0.2	0.37	0.4	0.36	0.16	0.3	0.32	0.36
TKN (mg/L)	0.26	0.31	0.28	0.33	0.38	2.4	0.46	0.39
Total Phosphorus (mg/L)	-	0.13	0.17	0.15	0.13	0.87	0.22	0.24
Turbidity (NTU)	39 A	10	-	16	17	-	20	22 A

Figure 3. SCI Scores over Time



FOR MORE INFORMATION, CONTACT:
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