



EcoSummary

Horse Creek at Croton Road, Eau Gallie,
Brevard County
March 12, 1998



BioRecon: A rapid, cost-effective screening mechanism for identification of biological impairment.

Introduction

Horse Creek is one of several small creeks which flow into the Indian River in the Melbourne vicinity. The stream, which is less than two miles in length, interconnects several small excavated golf course and residential ponds in its upper reaches. Land use in the watershed is 66% residential (including the golf course) and 26% natural land. The remainder is made up of pasture and industrial developments. This stream was placed on the 303(d) list due to low dissolved oxygen levels. Waterbodies on the 303(d) list are required to undergo a Total Maximum Daily Load (TMDL) study. The purpose of the TMDL is to determine the amount of pollution reduction needed to restore the system to a condition suitable for its designated use. In this case, the designated use is for recreation and maintenance of a healthy, well-balance aquatic community. DEP's Central District Surface Water Monitoring staff was requested to assess the status of selected waterbodies on the TMDL list that were placed on the list with

"limited data". "Limited data" waterbodies were those with less than 10 observations in the STORET database, with the most recent observations occurring prior to 1990, or those with qualitative, non-



point source survey data only.

Results and Discussion

Benthic macroinvertebrate communities and physical/chemical parameters were sampled on March 12, 1998. Macroinvertebrate communities were sampled from in-stream habitats using 4 discrete dip-net sweeps, field picked, and lab identified (the Biorecon procedure). Three metrics, consisting of total taxa richness, the Florida Index and total EPT taxa (Ephemeroptera, Plecoptera and Trichoptera), are calculated and compared to existing thresholds to determine the community's health. Horse Creek met all three of the thresholds, suggesting adequate ecological health at this site. There were 25 macroinvertebrate taxa present, 13 of which are Florida Index (good water quality) species, and six of which are EPT taxa. The dissolved oxygen level recorded at this site at the time of sampling was 7.3 mg/L, which is well above the state minimum standard of 5 mg/L. The conductivity was fairly high (642 mmhos/cm), but this is not unexpected in a stream such as this which is closely associated with brackish water.

Conclusions

Based on the good oxygen levels found here and the healthy aquatic community present, we suggest that Horse Creek might be a candidate for removal from the 303(d) list.

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