



WEOHYAKAPKA CREEK AT ARMINGTON RANCH, Polk County 5/9/00

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

Purpose

The purpose of this assessment was to collect biological information to be used for the further refinement of the biocon and other bioassessment methodologies for the state of Florida.

Basin Characteristics

The name "Weohyakapka" is shared by this creek and the lake from which it flows. It is a Seminole Indian word meaning "walk in water", suggesting the shallowness of the lake. Weohyakapka Creek is actually one segment of the Tiger Creek system, which links lakes Leonore, Weohyakapka, Rosalie, Tiger, and Kissimmee. The portion linking Weohyakapka and Rosalie is referred to as Weohyakapka Creek. Land use in the vicinity of the creek is a mixture of natural land, citrus, row crops, ranches, and residential developments. The sampling site was a short distance upstream of Lake Rosalie on the Armington Ranch (access to which was graciously provided by Mr. Armington). In the immediate vicinity of the creek, the land is wetland forest with some cleared ranch area. The creek at this point is similar to a spring run, with the aquatic macrophytes *Vallisneria americana* (tapegrass), *Cabomba* sp., *Hydrilla verticillata*, and *Nuphar luteum* abundant and large deposits of silt near the banks. The creek is approximately one meter deep in the middle.

Results

The results of the biocon suggest that Weohyakapka Creek is healthy, despite the considerable human land alteration in the watershed. It passed the thresholds for all three of the component metrics used in this type of assessment in the Florida peninsula. There were 40 different macroinvertebrate taxa found, including 8 from the sensitive "EPT" group (larval mayflies, stoneflies, and caddisflies). It scored a 14 on the Florida Index, a means of evaluating the macroinvertebrate community based on the presence or absence of specific indicator taxa. Among the most common macroinvertebrates collected were chironomid midges, the damselfly *Enallagma*, the dragonfly *Neurocordulia alabamensis*, water mites, grass shrimps, the mayfly *Caenis diminuta*, and the caddisfly *Orthotrichia*. The assessment of the habitat at the site was also good.

Out of a possible score of 160, the site scored 133, putting it in the middle of the "optimal" category for aquatic and shore zone habitat. A lack of habitat diversity - it was mostly aquatic plants - and considerable silt smothering prevented it from getting a *very* high score on the habitat assessment.

These results suggest that the ecological health of this part of the Tiger Creek lake/stream system is good. The diverse biological community and good habitat assessment are evidences of a healthy system

Significance

These results suggest that the ecological health of this tributary of Mormon Branch is very good. The excellent biological community and optimal habitat assessment are evidence of a healthy system.

Suggestions

A reduction in the amount of silt entering the system would a good way to protect and enhance the health of the stream system. Continued preservation of the riparian zone of the stream is advised. Continued monitoring of this system, perhaps at other spots, may be planned in the future.

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