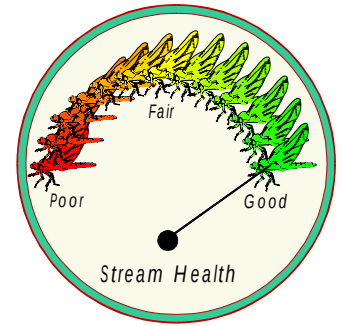


EcoSummary

SCI Report



Mill Creek at 148th Terrace Bridge, Marion Co. September 16, 1996

Stream Condition Index (SCI): The standardized biological assessment tool used by FDEP biologists to indicate ecosystem health and identify impairment as compared to reference (natural) conditions of streams within the various ecoregions of the State of Florida

Purpose

Although several sites in the area had been sampled in the past by DEP biologists, Mill Creek had not been monitored prior to this time. It was therefore chosen for biological and physical-chemical assessment.

Basin Characteristics

The Mill Creek drainage basin covers 22,691 acres (35.5 mi²) in northern Marion County. It is made up of approximately 82% undeveloped wetlands and upland forests. Only about 13% is urban, the rest being devoted to agriculture and rangeland. Mill Creek flows east into Lake Ocklawaha, a reservoir formed by a partial impoundment of the



Ocklawaha River at Rodman Dam, a component of the

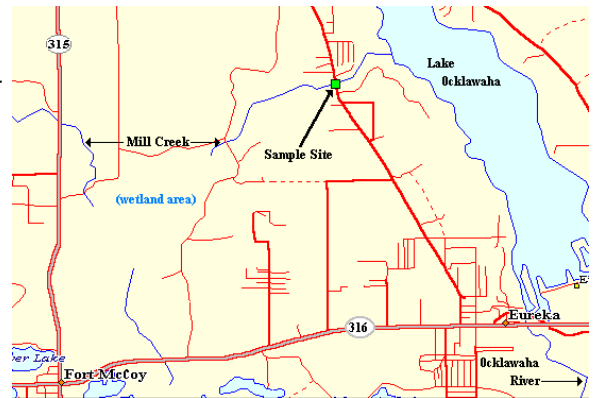
aborted Cross Florida Barge Canal Project. The site is 3 miles NE of Ft. McCoy and 16 miles NE of the Ocala city limits. Mill Creek meets the Ocklawaha 2 miles downstream of the never-finished Eureka Lock and Dam. Ill-defined in its middle reaches, Mill Creek flows through a wetland area SW of the site. At sampling, stream depth was 0.2 meters, and the velocity of the tannic water ranged from zero to 0.1 m/sec.

Results

Biological sampling yielded an SCI score of 29 for Mill Creek, putting it in the "excellent" category. Thirty-four different kinds of aquatic macroinvertebrates were collected at the site. Eight of these were members of the sensitive water quality group designated "EPT", which includes larvae of mayflies, stoneflies, and caddisflies. A score of 23 was recorded for Florida Index (good water quality) taxa. The macroinvertebrate community was well-balanced, indicating a healthy aquatic environment.

Physical and chemical measurements taken reveal good water quality. Nutrient levels were low to normal, as were chlorides and

sulfates. Alkalinity, conductivity, turbidity, and pH measurements were normal. Dissolved oxygen was low, but this is to be expected in a small, shallow, tannic stream with slow flow, in warmer months of the year.



Mill Creek received an optimal habitat assessment ranking. Aquatic substrates were plentiful and varied. The riparian zone was extensive and bank vegetation was of high quality. There was little or no evidence of erosion, habitat smothering, or alteration of the natural stream channel.

Significance

Results show that Mill Creek is a water body in very good health. This is probably due to the relatively low level of residential and agricultural development within its immediate watershed, which reduces the amount of point source and nonpoint source pollution and habitat destruction that might otherwise be present.

Suggestions

Because it is a contributor to the Ocklawaha River, it is important to preserve the good water quality of Mill Creek. Assuming that present levels of impact are not increased, the outlook for Mill Creek looks positive.



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