



EcoSummary

Peace River above Oak Creek, Hardee
County.
September 2, 1998



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

Purpose

Surface water samples were collected in the Peace River above the confluence of Oak Creek in order to gain further information on the ecological health of the watershed for use in the administration of Florida's Ecosystem Management Water Quality Assessment (EMWQAS) and Total Maximum Daily Loads programs. Biological sampling was not performed because the water depth prevented wading. All work conducted by EMWQAS was conducted according to established DEP standard operating procedures and quality assurance plans.

Background

This Peace River stream reach is located on the Ken Hill Griffin Ranch, above the confluence of Oak Creek with the Peace River. This is the Oak Creek on the eastern side of the river; there is a second Oak Creek that is located on the western side. The river is quite large here, approximately 10 m wide and greater than 2 m in depth. The immediate drainage basin consists solely of cattle pasture, but phosphate mining dominates upstream. This site has not been sampled since 1982/83, at which time the data revealed high levels of total nitrogen (TN) and total phosphorus (TP).

Results

The high water mark at the site was estimated at 7.25 m. We saw little evidence of river usage by cattle. It is probably too deep most of the time for them to actually enter. Water velocity was slow, but steady. The riparian zone, though natural, was only about 10 m wide on the right bank, but the banks were moderately stable on both sides. Dissolved oxygen was above the State standard of 5.0 mg/l (Rule 62 - 302 FAC), at 6.18 mg/l. The TN concentration was 1.37 mg/l which is low to moderate as compared to typical values of Florida streams. However, nitrates were elevated (0.6 mg/l). The TP measurement was 0.9 mg/l, which is quite high as compared to streams across the state, but only moderately elevated for streams in the Southwest district, which contains large phosphatic deposits.

Significance

It appears that nutrient loading, though still occurring, has decreased considerably since the early

1980s. The phosphate industry has implemented various best management practices (BMPs) to reduce discharge, runoff and catastrophic spills. Other sources of nutrients, such as agriculture and domestic waste, may have changed or improved in the past 20 years. However, a single sampling event is not sufficient evidence to support this conclusion. The FDEP and local agencies are planning to conduct a detailed watershed study within 5 years to determine the Total Maximum Daily Loading (TMDL) of nutrients and other parameters and to assess the biological health of the Peace River Watershed.

Suggestions

Once the TMDL study has been analysed, Best Management Practices (BMPs) can be installed where appropriate.

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Published by the Florida Department of Environmental Protection,
Tallahassee, FL.

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