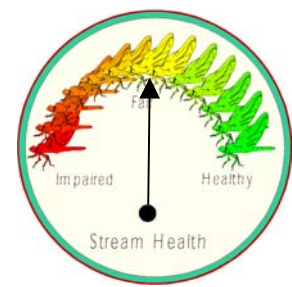




EcoSummary

BioRecon Report



North Fork Judges Branch below St. Regis Road, Sterling Fibers Inc, Pace June 13, 2001

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

Introduction

The RCRA Hazardous Waste section in Tallahassee requested a bioassessment on the North Fork Judges Branch at the Sterling Fibers Facility to document its environmental health. The BioRecon was conducted in partnership with the RCRA and Sterling Fibers staff. The watershed drains to the Escambia Bay in the Pensacola Bay system via Judges Bayou. The stream flows through the Sterling Fibers Facility's "weak" wastewater spray irrigation expansion field below the railroad tracks. A RCRA Hazardous Waste Management Unit was located in the watershed near the headwaters. North Fork Judges Branch at the bioassessment site is a first order stream originating on the seepage slopes adjacent to the developed manufacturing site border. The creek is located about 4 miles southwest of Milton in Santa Rosa County (Lat. 30° 33' 47.8" Long. 87° 7' 37.2"). This site is located in the Gulf Coast Flatwoods subcoregion 75A.



Results and Discussion

The BioRecon indicated a suspect biological community. One of 3 biological indicators failed thresholds established for healthy aquatic ecosystems:

Biometrics	Value	Thresholds
Taxa Richness	30	≥24
Florida Index	22	≥22
EPT	11	≥17

This North Fork Judges Branch site had a potential diverse and productive fish and wildlife community as the stream habitat assessment rated an excellent 93% score. However, it appeared water quality factors limited the stream health. Sterling Fibers found high total nitrogen (4.75 mg/l) at this site on 01/30/01, a concentration greater than 95% of the streams in Florida. A lower than expected dissolved oxygen concentration indicated loading from organic (carbon/nitrogen) and/or chemical sources (the Chemical Oxygen Demand was 36.5mg/l). The percent dissolved oxygen saturation typically found during winter in area streams is near 100% at the reported water temperature of 16.5 degrees C. The expected dissolved oxygen concentration at that temperature would be 9.75 however; it was only 5.8mg/l, depressed by 41%. An elevated specific conductance (290 umho/cm) compared to local streams (≥ 40 umho/cm), high nitrogen, and

below expected dissolved oxygen concentrations suggest contamination from the sprayfield and/or runoff from the manufacturing facility. Other possible pollution sources were hydromodification/habitat alteration to the stream from at least 2 dirt roads and a railroad using culverts at crossings, which filled the floodplains.



Conclusions

Larger buffer zones may be needed to protect from sprayfield and facility nonpoint source runoff. Groundwater should be checked as a possible source of chemical contaminants. If chemical loading is found during groundwater monitoring, application rates can be reduced or eliminated in the North Fork Judges Branch watershed to protect stream health. With elimination of wastewater and nonpoint source runoff, this North Fork Judges Branch site could meet Class III State Water Quality Standards 62-302 for recreation and the propagation and maintenance of a healthy, well-balanced population of fish and wildlife. The site's forest management had helped to protect the stream's fish and wildlife by preserving the native riparian and transitional zone forests. Best management practices for dirt roads, especially minimizing affects on stream morphology would improve its biota. **For more information, contact Donald Ray, FDEP Northwest District, 160 Governmental Center, Pensacola, FL 32501 (850) 595-8300 or SC 695-8300 x 1126**