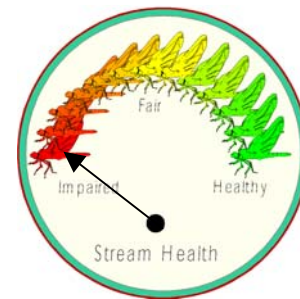




EcoSummary

BioRecon Report



“Harrison” Branch below Closed Lower Landfill, Sterling Fibers Inc, Pace June 12, 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 “Harrison” 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 stream flows to Escambia Bay in the Pensacola Bay system. The watershed drains the Sterling Fibers Facility’s closed lower landfill and wastewater spray irrigation field. “Harrison” Branch at the bioassessment site is a first order stream originating on the seepage slopes above the landfill. The creek is located about 4 miles southwest of Milton in Santa Rosa County (Lat. 30° 34’ 6” Long. 87° 8’ 21”). This site is located in the Gulf Coast Flatwoods subecoregion 75A.



Results and Discussion

The BioRecon indicated impaired biological community. All 3 biological indicators failed thresholds established for healthy aquatic ecosystems:

Biometrics	Value	Thresholds	Hicks Creek reference
Taxa Richness	15	≥24	50
Florida Index	13	≥22	38
EPT	4	≥17	24

The aquatic wildlife community was sparse except for pollution tolerant red midges commonly found in areas with heavy organic loading. Hicks Creek, a Gulf Coast Flatwoods subecoregion 75A in the Pensacola Bay basin ~11 miles to the east is provided for comparison. It has the expected ambient water quality conditions and biometric scores typical of Pensacola Bay basin streams. This “Harrison” Branch site rated a stream habitat assessment of an optimal 86% score. This was the only stream out of the past 300 habitat assessments that had an almost 100% coverage potentially productive habitat. However, a low dissolved oxygen (3.7 mg/l), organic loading, and chemical contamination limited the aquatic wildlife community. The DO was in violation of the Class III State Water Quality Standard of a minimum of 5mg/l (62-302530(31). The specific conductance

(333 umho/cm) indicated loading from chemical sources. Sterling Fibers found highly elevated concentrations of sodium thiocyanate (500 mg/l) in groundwater monitoring wells adjacent to this site below “New Pond” during 1992. Vinyl chloride (1-56 ug/l) and nitrate (5-15 mg/l) contamination were also found in this area. Their limited March 1, 2001 monitoring at this site found elevated total nitrogen (1.97mg/l). The elevated specific conductance (333 umho/cm) compared to local streams (≥ 40 umho/cm), high nitrogen and low DO concentrations suggest contamination from the impounded lower landfill and/or possibly the sprayfield. A bioassessment of the impounded landfill in 1981 found a highly toxic condition. The landfill was formerly a riparian wetland zone used to dispose of acrylonitrile, a chemical manufacturing product. Results from bioassays at this site in October 1981 indicated acute toxicity to both fresh and saltwater test species. The Biological section of the Bureau of Water Analysis recommended that American Cyanamid not be allowed to discharge this waste to surface waters.



Conclusions

It appeared groundwater contamination and runoff from Sterling Fiber’s closed lower landfill and/or wastewater treatment system continued to affect “Harrison” Branch. The watershed’s groundwater may need treatment for chemical contaminants. Chemical loading found during groundwater monitoring, should be reduced or eliminated in the “Harrison” Branch watershed to protect stream health. The discharge from the impounded landfill, groundwater contamination and possible sprayfield seepage caused “Harrison” Branch site to not 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. For more information, contact Donald Ray, FDEP Northwest District, 160 Governmental Center, Pensacola, FL 32501 (850) 595-8300 or SC 695-8300 x 1126