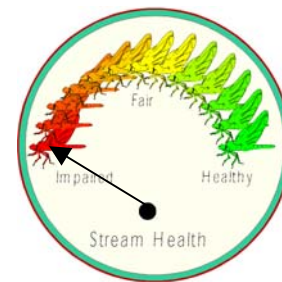




EcoSummary

BioRecon Report



St. Regis Branch below SW-3, 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 St. Regis 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 via Judges Bayou. The watershed drains the Sterling Fibers Facility's upper landfill, new pond No.3, original wastewater spray irrigation field, and sludge lagoons "A", "B", and "C" southwest of the railroad tracks. St. Regis Branch at the bioassessment site is a first or possible second order stream originating on the seepage slopes above the industrial waste ponds. The creek is located about 4 miles southwest of Milton in Santa Rosa County (Lat. 30° 33' 44.4" Long. 87° 8' 12.4"). This site is located in the Gulf Coast Flatwoods subcoregion 75A.



Results and Discussion

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

Biometrics	Value	Thresholds	Hicks Creek reference
Taxa Richness	10	≥24	50
Florida Index	1	≥22	38
EPT	0	≥17	24

Pollution tolerant aquatic macroinvertebrates dominated the sparse biota. Hicks Creek, a Gulf Coast Flatwoods subcoregion 75A in the Pensacola Bay basin ~11 miles to the east is provided for comparison. It has more typically expected ambient water quality conditions and biometric scores for basin streams. This St. Regis Branch site rated a stream habitat assessment of a suboptimal 68% score. Lack of habitat from silt smothering and hydromodification from road crossing lowered the habitat rating. However, it appeared water quality factors were the main factors limiting stream health. Sterling Fibers found highly elevated concentrations of sodium thiocyanate (500 mg/l) in groundwater monitoring wells above 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 January 30,

2001 groundwater monitoring at this site found elevated total nitrogen, 3.95mg/l, chemical oxygen demand (COD), 107 mg/l, and specific conductance, 250 umho/cm. During this stream survey the dissolved oxygen (DO) concentration 2.42 (above culvert) to 2.86mg/l (below culvert) indicated loading from organic (carbon/nitrogen) and/or chemical sources. The DO was in violation of the Class III State Water Quality Standard of a minimum of 5mg/l (62-302530(31)). An elevated specific conductance (233 umho/cm) compared to local streams (≥ 40 umho/cm), high nitrogen and COD along with low DO concentrations suggest contamination from the sprayfield and/or runoff from the landfills and wastewater ponds. Other possible pollution sources were hydromodification/habitat alteration to the stream from at least 2 dirt roads and railroad using culverts at crossings, which filled the floodplains.



Conclusions

It appeared groundwater contamination and runoff from Sterling Fiber's wastewater treatment system affected St. Regis Branch. The watershed's groundwater may need treatment for chemical contaminants. Chemical loading found during groundwater monitoring needs to be reduced or eliminated in the St. Regis Branch watershed to protect stream health. Best Management Practices (BMP's) for forest management are needed to protect the stream's fish and wildlife by preserving the native riparian and transitional zone forests. Also BMP's for dirt roads, especially minimizing affects on stream morphology, would improve its biota. Wastewater and nonpoint source runoff and lack of BMP's caused St. Regis 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**