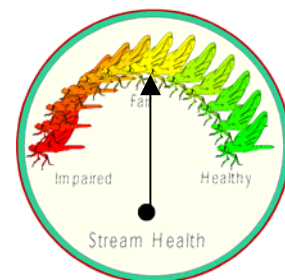




EcoSummary

BioRecon Report



Hickory Hammock Branch below lower Coachman Road Santa Rosa County March 7, 2000

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

Purpose

A bioassessment was performed on Hickory Hammock Branch in an effort to document the environmental health of streams flowing into the Yellow River Aquatic Preserve (YRAP). The BioRecon was conducted in partnership with the YRAP staff.

Background

Hickory Hammock Branch at the bioassessment site is a second order stream originating near Hickory Hammock Church south of I-10. The creek is located about 3 miles southeast of Milton in Santa Rosa County (Lat. 30° 35' 01.1" Long. 86° 58' 53.8"). This stream flows to Ward Basin in Blackwater Bay, east of Petersen Point, then into Pensacola Bay. This site drains the Gulf Coast Flatwoods subecoregion (75a).



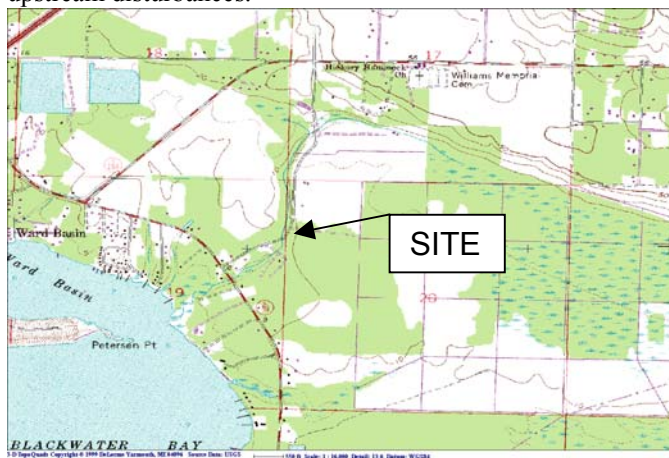
Results

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

Biometrics	Value	Thresholds
Taxa Richness	29	≥24
Florida Index	25	≥22
EPT	12	≥17

Water withdrawal was reported as a problem in Hickory Hammock Branch. According to a local landowner, one land developer drained headwater wetlands across the watershed boundary to the Yellow River and another dammed the remaining water for a commercial recreational impoundment thus reducing downstream flow. Local residents have observed horses using the stream, possibly causing bacterial and turbidity problems. Fecal (700/100ml) & total (2300/100ml) coliform bacteria concentrations collected under dry conditions just passed State Water Quality Standards (800 & 2400/100ml). Local long-term residents noted organic sedimentation and

aquatic plants that were not present at this site before the upstream disturbances.



Significance

This Hickory Hammock Branch site marginally met 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. However, nonpoint runoff during normal wet weather periods could prevent Hickory Hammock Branch from meeting State designated use. Organic sediment loading created an elevated biochemical oxygen demand (1.4mg/l) that could cause oxygen depletion during summer temperatures. Reduced stream flow negatively affects fish and wildlife diversity and productivity along with the system's nursery function. Altered habitats from clearing streambank riparian zones, culverts and, channelization negatively affects the Yellow River Aquatic Preserve's fish and wildlife in Ward Basin and the upper portion of Blackwater Bay. Reduced flows and organic sediment loading could affect the federally endangered Gulf of Mexico sturgeon.

Suggestions

Restoration of the stream's natural hydrology (i.e. flow, quantity) and riparian wetland forests would benefit the Aquatic Preserve's fish and wildlife community including the sturgeon. Replacing culverts with bridges that span the streamside wetlands and restoration of the watershed's natural hydrological patterns could enhance Ward Basin as a nursery area for aquatic wildlife in the Pensacola Bay basin. Use of agricultural best management practices to keep sediment and bacteria out of State Waters is important to prevent habitat destruction and disease. **For more information, contact Donald Ray, FDEP Northwest District, 160 Governmental Center, Pensacola, FL 32501 (850) 595-8300 x1126 or SC 695-8300**