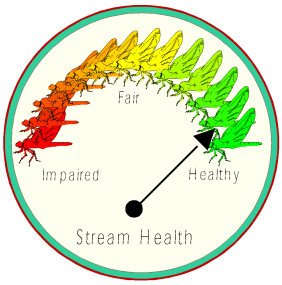
Bio-Reconnaissance

EcoSummary

BioRecon Report



Hicks Creek Yellow River Aquatic Preserve Boundary near Eglin Road 809
February 13, 2000

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

Purpose

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

Basin Characteristics

Hicks Creek at the bioassessment site is a second order stream originating in headwater steepheads. The creek is located about 5 miles southeast of Milton in Santa Rosa County (Lat. 30° 32' 29.2" Long. 86° 57' 1.3"). This steephead stream flows to Weaver River, part of the Yellow River delta flowing to Blackwater Bay in the Pensacola Bay system. This site drains the southern pine plains and hills of subecoregion 65F.

Results

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

Biometrics	Value	Thresholds
Taxa Richness	50	≥24
Florida Index	38	≥22
EPT	24	≥17

This Hicks Creek site had a diverse and productive fish and wildlife community. The stream habitat assessment score was rated suboptimal at 59%. The 8 individual habitat parameter scores ranged from optimal (substrate diversity), suboptimal (water velocity, bank stability, riparian buffer zone width, riparian zone vegetation quality), marginal (substrate availability, artificial channelization), and poor (habitat smothering). These parameters were affected by silvicultural activities and logging roads upstream.

Significance

This Hicks Creek site 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. Steepheads are a distinct type of slope forest stream found only in Northwest Florida. They are formed when groundwater leaks through porous sand onto a sloping surface at the head of the stream. Steephead streams can easily disappear after upland erosion deposits sediment into the channel. In contrast, a stream developed by surface runoff from rainfall is better able to wash sediment from its channel. These steephead habitats contain many species of endemic biota as well as rare northern plants. Protection of the stream's steep sandy hillside transitional zone natural vegetation is an important management tool to preserve this rare Florida community.

Suggestions

Historical silviculture activity has reduced the riparian zones in many Northwest Florida streams. Forest management to restore and protect native riparian and transitional zone forests would enhance fish and wildlife diversity and productivity. Using best management practices for dirt roads, especially minimizing affects on stream morphology is important to protect sensitive steephead ecosystems. Examples of observed watershed problems were road culverts damming the stream, road sediment filling wetlands and stream channel, and fire management impacts in steephead habitats containing many rare plants species such as, Ashe's magnolia, native camellia (*Stewartia*), and loblolly bay (*Gordonia*). Removal of vegetation along these steep slopes by fire allows downward movement of the exposed soil to fill the riparian wetland and stream channel.

For more information, contact Donald Ray, FDEP Northwest District, 160 Governmental Center, Pensacola, FL 32501 (850) 5958300 or SC 695-8300