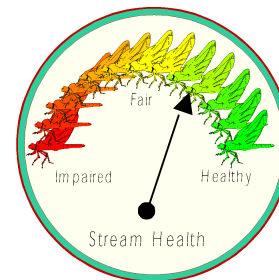


EcoSummary

BioRecon Report



Hicks Steephead South Branch East of Eglin Road 608 & west of 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 Steephead South Branch 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.

Background

Hicks Steephead at the bioassessment site is a first order stream originating at a steephead spring. The stream is located about 6 miles southeast of Milton in Santa Rosa County (Lat. 30° 32' 51.0" Long. 86° 56' 53.1"). 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 equaled or surpassed thresholds established for healthy aquatic ecosystems:

Biometrics	Value	Thresholds
Taxa Richness	34	≥24
Florida Index	22	≥22
EPT	17	≥17

This Hicks steephead site was sampled from the headwater springs to 100 meters downstream where it widened to 5 meters. The stream habitat assessment score was rated in upper scale marginal at 51%. The 8 individual habitat parameter scores ranged from optimal (bank stability), suboptimal (substrate diversity, water velocity, riparian zone vegetation quality), marginal (artificial channelization, riparian buffer zone width), and poor (substrate availability, habitat smothering). These parameters were affected by

historical landuse (log transport, hog pen, still, resin stump removal) and recent silvicultural burning practices and logging road culverts downstream.

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, streams developed by surface runoff from rainfall are able to flush channel sediment deposits. These steephead habitats contain many species of endemic biota as well as rare northern plants. Examples are the rare caddisflies, *Agarodes* and *Heteroplectron* commonly found at this site. Protection of the stream's steep sandy hillside transitional zone natural vegetation is an important management tool to preserve this rare Florida community. The north branch steephead of Hicks Creek observed, but not sampled; was more severely impacted from damming by a downstream dirt road crossing, burning of the slope forest and non-native feral hog damage.

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. Addition of properly placed large woody debris could help mitigate problems caused by historical log transportation and riparian zone cutting. Using best management practices for dirt roads, especially minimizing effects 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.

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