EcoSummary

BioRecon Report

Double Branch Steephead above Buck Pond Santa Rosa County
February 22, 2000

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

Purpose

A bioassessment was performed on Double Branch in an effort to document the environmental health of streams flowing into the Yellow River Aquatic Preserve (YRAP). Its headwater steephead was sampled to determine if the Buck Pond dam impacted this rare aquatic community. The BioRecon was conducted in partnership with the YRAP staff.

Background

Double Branch at the bioassessment site is a first order stream originating west of State Road 87 about 9 miles south of Milton in Santa Rosa County (Lat. 30° 33' 10.2" Long. 86° 54' 20.5"). This stream flows to Weaver Creek and Weaver River, which forms a delta with the Yellow River at the mouth of Blackwater Bay before emptying into Pensacola Bay. Double Branch drains

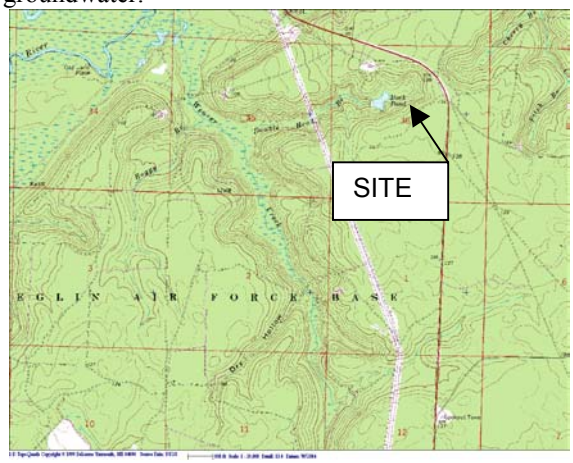
the Southern Pine Plains and Hills ecoregion (65f).

Results

The BioRecon indicated an impaired biological community. Two of 3 biological indicators failed thresholds established for a healthy aquatic wildlife community:

Biometrics	Value	Thresholds
Taxa Richness	29	≥24
Florida Index	21	≥22
EPT	10	≥17

The biota was limited by the affects of damming the stream to create Buck Pond. The dam had flooded the seepage springs and reduced or eliminated stream velocity vital to many cleanwater indictors found in panhandle streams. The riparian zone had been clear-cut and burned leaving a canopy of small shrubs lightly shading the stream. In the flooded open areas, the invasive exotic torpedo grass replaced the natural habitat of woody debris, leaf pack, roots/undercut banks. Mud, muck, and silt covered 82% of the stream bottom because of restricted stream velocity from the dam effects. Gullies formed from logging roads, silviculture and mining pit, were observed sending sediments to the stream. Note the steep contours on the map below. After vegetation removal, the area's sandy soil and pockets of clay are highly conducive to erosion when combined with the topography and the intense thundershowers characteristic of the western panhandle. However, Florida's climate under natural conditions keeps soil covered with vegetation. Steephead streams with their flow derived from groundwater rather than surface water runoff do not normally have the energy to flush man induced sediments from the stream channels. Steephead systems can disappear if eroding hillsides fill the stream channel causing the surface flow to become groundwater.



Significance

This Double Branch site did 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. The dam had a negative impact on stream hydrology and impaired the once diverse steephead fish and wildlife community. The impoundment reduced and eliminated stream velocity causing organic sediment deposition to smother aquatic wildlife habitats. Sediment from nonpoint sources such as dirt roads, silviculture, and mining contributed to the impairment of this rare steephead ecosystem.

Suggestions

Restoration of the stream's natural hydrology (i.e. dam removal) and preserving the steep hillside transitional forests along the stream would benefit the watershed's fish and wildlife community. **For more information, contact Donald Ray, FDEP Northwest District, 160 Governmental Center, Pensacola, FL 32501 (850) 595-8300 x1126 or SC 695-8300**