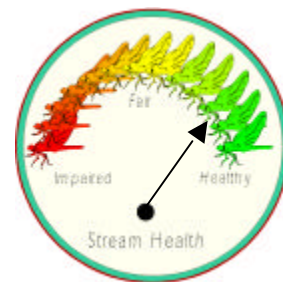


EcoSummary

BioRecon Report



Swift Creek below Eglin Road 626 Okaloosa County July 11, 2000

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

Purpose

A bioassessment was performed at this Swift Creek site to document its biota and wildlife habitat before start of an Eglin Air Force Base watershed rehabilitation project. The BioRecon was conducted to assist the Base's Jackson Guard program monitoring the federally listed endangered Okaloosa Darter, found only in streams in the Niceville area.

Background

Swift Creek at the bioassessment site (Lat. 30° 33' 38.2 " Long. 86° 27' 31.9") is a second order stream originating in steepheads along Pierce Field west of Highway 285 northeast of the Niceville city limits. Swift Creek flows into Choctawhatchee Bay via Rocky Bayou. This site drains the Southern Pine Plains and Hills subecoregion (65f).



Results

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

Biometrics	Values	Thresholds
Taxa Richness	35	≥24
Florida Index	26	≥22
EPT	19	≥17

However, sediments have smothered habitat, which limited fish and wildlife productivity in this stream reach. Stream habitats were smothered by sand/silt (87%) from gully forming erosion along an un-stabilized abandoned railroad bed at Eglin Road 626. The left bank's riparian buffer zone was only 1 to 12 meters wide due to silviculture and fire management. For optimal protection from human activities, buffer zone should be greater than 18 meters. Much of the riparian zone vegetation was young with the titi shrub as the dominant canopy. Evidence observed indicated the riparian zone before human disturbance was an Atlantic white cedar type forest cover.

Significance

This Swift 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. Nevertheless, sediments from hillside erosion had affected fish and wildlife productivity by eliminating habitat. This limits the stream's fish and wildlife nursery function, and

impacts the federally listed endangered Okaloosa Darter found in Swift Creek. Continued sediment loading could lead to filling the Roberts Lake impoundment downstream. The western panhandle of Florida experiences severe gully erosion. Soft sandy soil, intense rainfall, and steep topographical relief make this area highly susceptible to gully formation after removal of vegetative cover during road construction and silvicultural activities.



Suggestions

Adding habitat such as large woody debris, along with stream bank protection and channel restoration during a proposed stream rehabilitation program for the Okaloosa Darter should enhance fish and wildlife productivity and diversity. Proper placement of large pine logs along the stream bank would restore the missing riffle/pool habitat (velocity and depth) for the darters and other stream wildlife. Riparian buffer zones greater than 18 meters should be maintained. The buffer zones provide the shade, food, habitat (woody debris/leaf fall) and filter runoff necessary for the propagation of Swift Creek's biota. Buffer zones are critical since the area's sand hills are very susceptible to erosion after removal of vegetation. Restoration of the stream's natural hydrology (i.e. increase depth/width ratio) and riparian forests (replanting native Atlantic white cedars) buffer zones would benefit the watershed's fish and wildlife including the endangered Okaloosa darter. **For more information, contact Donald Ray, FDEP Northwest District, 160 Governmental Center, Pensacola, FL 32501 (850) 595-8300 x1126 or SC 695-8300**