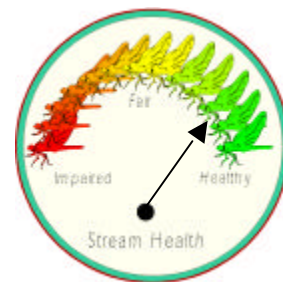


EcoSummary

BioRecon Report



Rocky Creek above Eglin Road 214/374, Walton County July 18, 2000

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

Purpose

A bioassessment was performed at this Rocky Creek site to document its biota and wildlife habitat at the 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.

Background

Rocky Creek at the bioassessment site (Lat. 30° 38' 56.2 " Long. 86° 19' 59.6") is a third order stream originating in steepheads along Highway 285 west of DeFuniak Springs. Rocky Creek flows into Choctawhatchee Bay via Rocky Bayou. This site drains the Southern Pine Plains and Hills subcoregion (65f).



Results

The macro-invertebrate biometrics indicated a healthy biological community. All 3 biological indicators passed thresholds established for a healthy aquatic wildlife community:

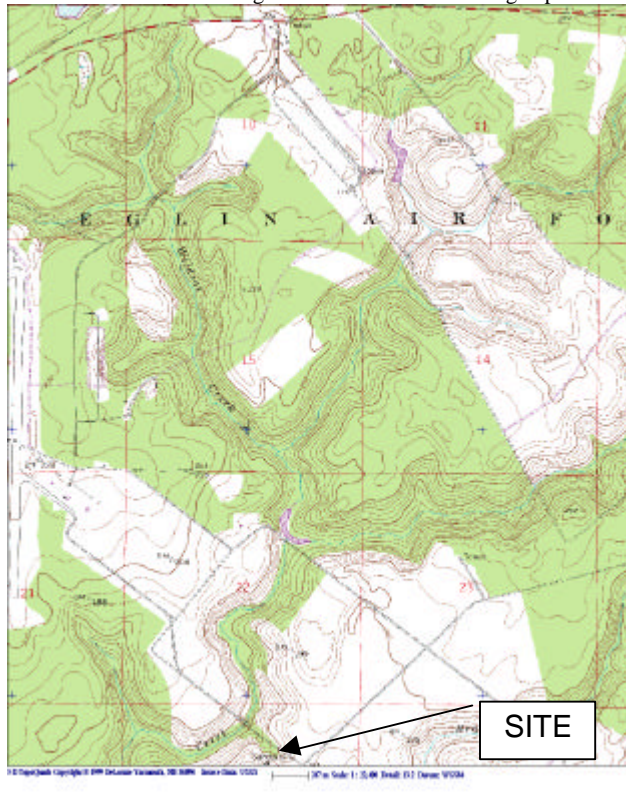
Biometrics	Values	Thresholds
Taxa Richness	31	≥24
Florida Index	26	≥22
EPT	20	≥17

However, sediments have smothered habitat, which limited fish and wildlife productivity in this stream reach. Stream habitats were smothered by sand/silt (99.5%) from weapons test range C-72 runoff (see photo). Road 214/374 culverts and fill material used to span the stream and riparian zone acted as a dam to exacerbate this smothering. Hydrological modifications to Rocky Creek have widened the stream 10 fold. The stream had a width of 35 meters at one point with the average depth of only 0.15 meters. Both stream banks had many raw, unstable eroded areas. Bank erosion had washed away the preexisting riparian vegetated zone. This increased the stream's width/depth ratio leaving sand bar deposits to smother previously vegetated areas. Range personnel eliminated the riparian zone's tree canopy by mechanical/chemical means converting the streamside plant community to St. Johns Wort and forbs. The riparian zone forest cover before human disturbance was an Atlantic white cedar type forest.

Significance

Based on the biometric scores this Rocky 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 test range erosion had affected fish and wildlife productivity by eliminating habitat. This had limited the stream's fish and wildlife nursery function, and impacted the federally listed endangered Okaloosa Darter found in Rocky Creek. The western panhandle of Florida experiences severe erosion. Soft sandy soil, intense rainfall, and steep topographical relief make this area highly susceptible to erosion after removal of vegetative cover related to range operations.



Suggestions

Removing road fill and replacing with a bridge spanning Rocky Creek and its floodplain would restore the stream's natural morphological characteristics. Adding habitat such as large woody debris, along with stream bank protection and channel restoration during the 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 enhance riffle/pool habitat (velocity and depth) for the darters and other stream wildlife. Riparian buffer zones greater than 18 meters should be created and maintained. The buffer zones provide the shade, food, habitat (woody debris/leaf fall) and filter runoff necessary for the propagation of Rocky Creek's biota. Restoring the stream's natural hydrology (i.e. increase depth/width ratio) and riparian forests (replanting native Atlantic white cedars, allowing streamside tree growth) 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