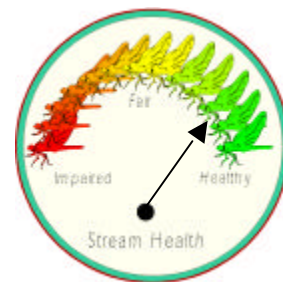


# EcoSummary

BioRecon Report



## Rocky Creek below Eglin Road 214/374, Walton County July 20, 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' 53.1. 2 " Long. 86° 20' 02.0") 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 BioRecon indicated a healthy biological community. All 3 biological indicators passed thresholds established for a healthy aquatic wildlife community:

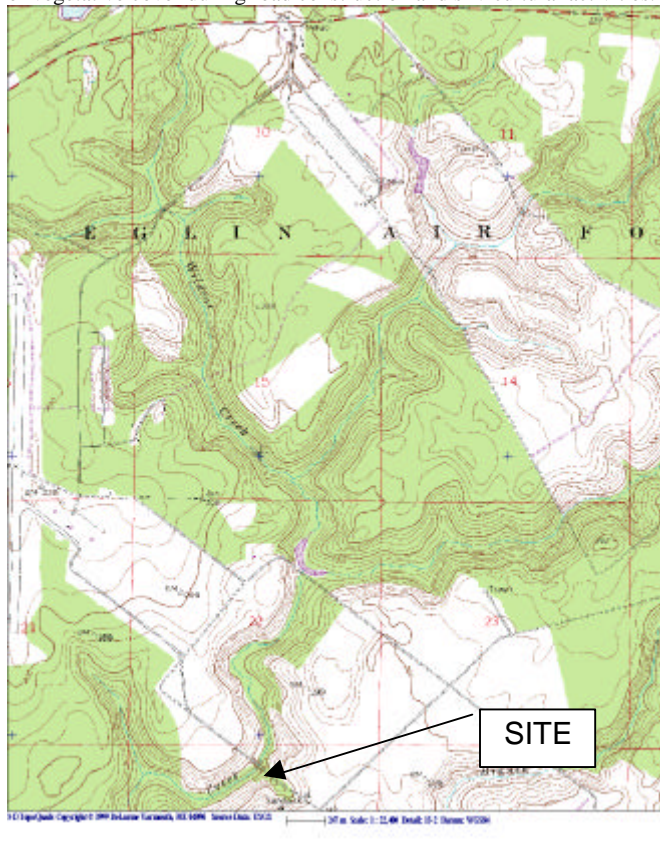
Biometrics	Values	Thresholds
Taxa Richness	37	≥24
Florida Index	28	≥22
EPT	18	≥17

However, sediments have smothered habitat, which limited fish and wildlife productivity in this stream reach. Stream habitats were smothered by sand/gravel (94%) from runoff along the clay filled Eglin Road 626(see photo). Instead of bridge at this site, 3 new culverts and fill dirt were used to span the stream and its riparian zone. The culverts were set too high and created a waterfall barrier to upstream fish migration. Asphalt and concrete pebbles were observed in the stream below the road apparently from previous road washouts. Both stream banks were mostly unstable with many raw eroded areas. The resulting bank sloughing increased the stream's width/depth ratio leaving sand bars smothering previously vegetated areas. Most of the riparian zone vegetation was young with shrubs as the dominant canopy. Atlantic white cedar logs and stumps in the riparian zone indicated the type forest cover before human disturbance.

### Significance

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 hillside road 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 Rocky Creek. The western panhandle of Florida experiences severe gully erosion. Soft sandy soil, intense rainfall, and steep topographical relief make this area highly susceptible to erosion after removal of vegetative cover during road construction and silvicultural activities.



### Suggestions

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 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. 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**