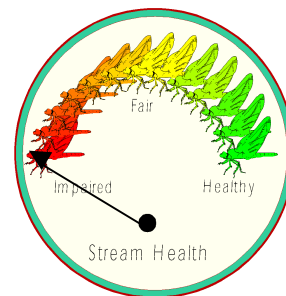


EcoSummary

BioRecon Report



“Claypit” Branch, Eglin AFB, Okaloosa County

6 August 1998

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

Purpose

A BioRecon was performed at this site to assess the impacts of clay mining to the biota and wildlife habitat in a tributary to Lightwood Knot Creek. This bioassessment was a partnership with the Jackson Guard staff at Eglin Air Force Base.



Background

“Claypit” Branch at the bioassessment site is a first order steephead stream located north of Fort Walton Beach (Lat. 30° 31' 37.6" Long. 86° 36' 35.3"). This steep-head stream flows to Lightwood Knot Creek and Garniers Bayou in the Choctawhatchee Bay system. This site drains the southern pine plains and hills of subcoregion 65F.

Results

The BioRecon indicated severe impairment to the biological community. All 3 biological indicators failed to meet thresholds established for healthy aquatic ecosystems:

Biometrics	Value	Background	Thresholds
Taxa Richness	8	42	≥24
Florida Index	2	25	≥22
EPT	1	20	≥17

The aquatic community had a low diversity and productivity. The background site listed above, a Lightwood Knot Creek steephead above “Clay Pit” Branch had a diverse and productive fish and wildlife community. Mine sediments created an impoundment above the confluence of “Claypit” Branch by damming Lightwood Knot Creek. “Claypit” Branch stream habitat was virtually eliminated (habitat assessment score 26%). Sediment deposition (99.25% sand) filled all productive habitats. These sediments wash downstream after rainfall creating turbid conditions in the river and bays and eventually deposit in the Choctawhatchee Bay system.

Significance

The results confirm that this stream is degraded by human activities. “Claypit” Branch does 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.

Sediment runoff from the historical mining had smothered wildlife habitat and eliminated the native riparian wetland vegetation. This runoff contributes to downstream turbidity and the filling of bayou and bay bottoms. Steephead streams are a distinct type of slope forest found only in Northwest Florida. These steephead habitats contain many species of endemic biota as well as rare northern plants. The



loblolly bay (*Gordonia*), Ashe magnolia, and native camellia (*Stewartia*) are examples of plants whose habitats have been eliminated at this site. The endangered Okaloosa darter found exclusively in steephead streams was listed from the adjacent Turkey Creek watershed.

Suggestions

Stream restoration has begun with the Eglin AFB staff at Jackson Guard recommending this site as a high priority for restoration funding. 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. It is recommended to expand Eglin’s successful ecological restoration program to include steephead and stream riparian and transitional zone forests. **For more information, contact Donald Ray, FDEP Northwest District, 160 Governmental Center, Pensacola, FL 32501 (850) 595-8300 x1126 or SC 695-8300**