



EcoSummary

BioRecon Report



Pipeline Branch west of Cox Road, Escambia County March 21, 2002

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

Introduction

A bioassessment was performed at this Pipeline Branch site as a biota and wildlife habitat comparison to Camp Five Branch located downstream of Escambia County's Camp Five landfill. This bioassessment was in technical support of a compliance action by the FDEP Northwest District's Waste Management Cleanup Section. Pipeline Branch at the bioassessment site is a second order stream, originating below Cox Road ~3.5 miles southeast of Bratt, Escambia County (Lat. 30° 55' 12.6" Long. 87° 21' 27.3"). The site was ~ 20 meters above an area disturbed by an east/west running petroleum pipeline. This spring-seepage ravine stream type was typical of the geology of the northern part of the westernmost county of Florida. Pipeline Branch flows into Pensacola Bay via the Escambia River and drains the Southern Pine Plains and Hills of subecoregion 65f.



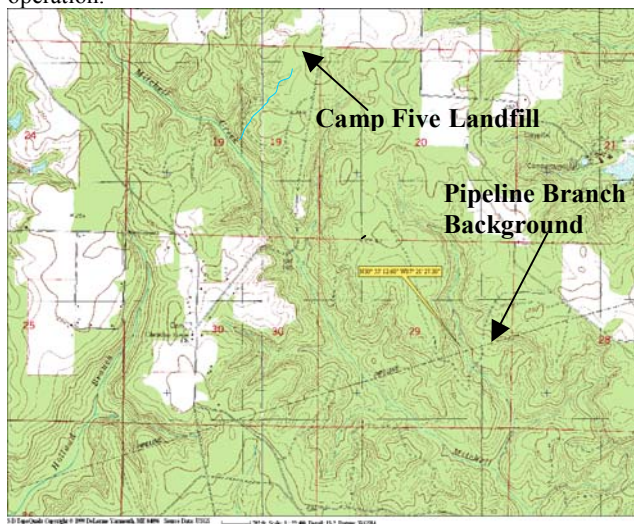
Results and Discussion

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

Biometrics	Value	Thresholds
Taxa Richness	43	≥24
Florida Index	27	≥22
EPT	20	≥17

Iron/sulfur bacteria were absent at this Pipeline Branch site in contrast to the bloom smothering the near by Camp Five Branch below the Camp Five Landfill. Aquatic habitats had 99% coverage of available substrate (leaf pack/mats, undercut banks/roots, woody debris, aquatic vegetation). This optimal coverage of productive habitat enhanced Pipeline Branch's wildlife diversity and productivity. The stream habitat assessment was excellent scoring 94%. Only riparian zone vegetation quality did not rate optimal, as the young cutover forest was dominated by a thick cover of shrubs and briars. Cut tree stumps were observed along the stream banks. Fish including shiners and madtoms were common in Pipeline Branch. Field water quality results were: dissolved oxygen 8.33 mg/l at 84% saturation, pH 4.46

standard units, temperature 17 degrees ° C, and specific conductance 33 umho/cm. The water was clear with a tannic color. The stream hydrology had a natural condition containing many riffles and pools in a sinuous channel. A shooting range for a local hunting club was observed downstream adjacent to Pipeline Branch at a dirt road crossing off Cox Road. The riparian wetland and stream channel at the petroleum pipeline crossing was disturbed by heavy equipment operation.



Conclusions

The Pipeline Branch 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. The excellent stream habitat and water quality contributed to this stream site meeting State designated use. The greater than 18 meter riparian forest buffer provided much leaf fall for wildlife habitat (50% coverage leaf pack/mat substrate) enhancing the stream's fish and wildlife nursery function. Headwater streams such as Pipeline Branch are the main nursery areas that provide the food and habitat to enhance fish and wildlife productivity downstream in Mitchell Creek, Escambia River, and Pensacola Bay. Protection of the stream's natural hydrology (i.e. flow, depth) and preserving riparian wetland forests buffer zones are essential for health of the watershed's fish and wildlife. Numerous petroleum, natural gas pipelines, communication cables, and electrical transmission lines cross hundreds of panhandle streams without best management practices (BMP's) for environmental protection. The USFWS office in Panama City (Chris Metcalf) could assist utilities in restoring these areas and prevent environmental damage during future activities at water crossings. Shooting ranges in Northwest Florida's acid soils can leach lead into local groundwater and/or be transported to wetlands and/or streams by stormwater runoff. It would be beneficial to educate hunting clubs or other sportsmen groups the proper operation of shooting ranges to prevent contamination of their local waters from spent lead ammunition. **For more information, contact Donald Ray, FDEP Northwest District, 160 Governmental Center, Pensacola, FL 32501 (850) 595-8300 x1126 or SC 695-8300**