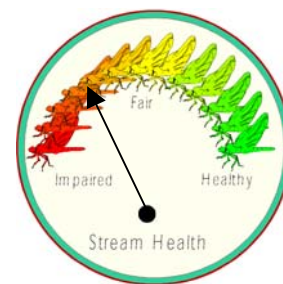




# EcoSummary

BioRecon Report



## Sandy Hollow Creek below Sandy Hollow Creek Road, Escambia County July 20, 1995, February 13, 1996, January 25, 2001, and February 12, 2002

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

### Purpose

A bioassessment was performed at this site on Sandy Hollow Creek to assess the impacts to its biota and wildlife habitat of paving the dirt surfaced Sandy Hollow Creek Road stream approaches. This bioassessment was in technical support of an EPA 319(h) nonpoint source grant through the FDEP to Escambia County.

### Background

Sandy Hollow Creek at the bioassessment site is a third order stream, located about 2 miles southeast of Davisville (Lat. 30° 56' 29.5" Long. 87° 27' 55.5"). Sandy Hollow Creek flows into Pensacola Bay via the Pine Barren Creek, Escambia River and Bay. This site (STORET station 33020082) drains the Southern Pine Plains and Hills of subcoregion 65f.



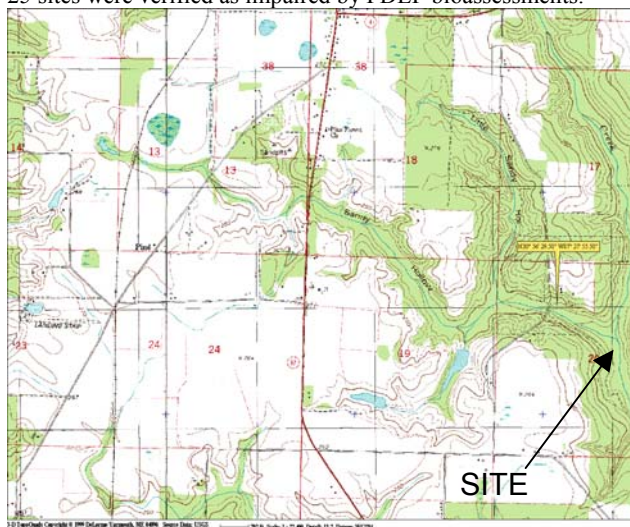
### Results and Discussion

The BioRecon indicated an impaired biological community. Biometrics results from the pre-paving (7/20/95, 2/13/96), ~ 2-3 months after paving (1/25/01), and approximately 15 months after paving (2/12/02) indicated stream community improvement over the past 3 years. See biometric results given below. Prior to paving, all 3 biometrics failed to meet thresholds. After paving, 1 of 3 biological indicators (Taxa) passed thresholds established for a healthy aquatic wildlife community. EPT improved significantly, almost meeting the threshold. The stream macroinvertebrate community showed improvement over the past 6 years.

Biometrics	7/20/95	2/13/96	1/25/01	2/12/02	Thresholds
Taxa Richness	19	13	36	42	≥24
Florida Index	12	13	16	16	≥22
EPT	5	2	8	16	≥17

Originally this site was sampled as an example of biological impairment caused by dairy and hog lot NPS runoff. No improvement in Sandy Hollow Creek's habitat assessment had occurred to date after the road paving (1995-63%, 1996-54%, 2001-53%, 2002-57%). Multiple impairments caused by stream channel dredging just above the sample site and dairy/ hog lot runoff still limited Sandy Hollow Creek benthic invertebrate population. Also, a 4-year drought in the region has significantly reduced the nonpoint source livestock runoff, improving water quality conditions. Sediments continue to fill the stream channel

sample reach to a depth of 0.7 meters. This sediment load will be eventually transported to Pensacola Bay via Pine Barren Creek, Escambia River and Bay when normal rainfall cycles return. The site's recovery to a healthy status will be limited by agricultural runoff during normal to wet meteorological conditions. This dirt road stream crossing was not on the Natural Resources Conservation Service's (NRCS) paving priority list for Escambia County. The NRCS had listed the 25 most impacted sites where dirt road runoff filled stream channels. These 25 sites were verified as impaired by FDEP bioassessments.



### Significance

With reduction of the road sediment over-load, this Sandy Hollow Creek site improved, although still not meeting 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 stream's natural hydrology (i.e. depth/width ratio) would improve naturally during normal rainfall cycles if upstream erosion from agricultural runoff were prevented. Note the amount of cleared land (white areas) and the lack of riparian vegetation (green) along the streams on the map above. This site improvement was likely due to better water quality from the drought, which decreased runoff. Other Panhandle streams in areas without so much agricultural runoff should see a much greater benefit from paving dirt road approaches and crossings. Dirt road sediment runoff that exceeds an amount a stream is able to assimilate (i.e. Total Maximum Daily Load or "TMDL") is a common problem across Northwest Florida. The Panhandle is unique to Florida in having topography with highly erodible soils on sloping land, intense thunderstorms and tropic storms. This combination is very susceptible to excessive erosion, which leads to sediments filling Northwest Florida's wetlands and waterways. It is recommended that Escambia County prioritize paving using the NRCS list and that the other 15 Northwest District Counties develop a similar list. For more information, contact Donald Ray, FDEP Northwest District, 160 Governmental Center, Pensacola, FL 32501 (850) 595-8300 x1126 or SC 695-8300