* No map is available for this site.

EcoSummary

Carpenter Creek 120 meters Below 9th Avenue, Pensacola
November 17, 2003

FLORIDA AMBIENT

IMPAIRED

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

For samples collected before June 8, 2004
All field and laboratory methods followed FDEP Standard Operating Procedures and met FDEP quality assurance/quality control standards.
For samples collected on or after June 8, 2004
All field and laboratory methods followed FDEP Standard Operating Procedures (SOPs) and met DEP quality assurance/quality control standards.

Introduction



This site was sampled as a control for a Florida Department of Environmental Protection Bureau of Investigation case. On October 16, 2003 Investigators responded to a turbidity complaint of milky colors in Carpenter Creek above 12th Avenue in Pensacola. In response to that complaint they found that 250 gallons of Eraguard Target Acrylic Coating used to coat roofs on commercial buildings had been dumped into a storm drain. This roof coating, containing zinc oxide and ethylene glycol, washed into Carpenter Creek through a bypass pipe in the Target shopping center's stormwater treatment system. The Target Corporation was fined $75,000 after pleading guilty in U.S. District Court to a federal charge of illegally flushing pollutants in violation of the Clean Water Act. Target's nationwide roofing project supervisor was fined $80,000 and sentenced to five years probation with first six months under house arrest. The roofing foreman was sentenced to five month in prison followed by five months of house arrest.

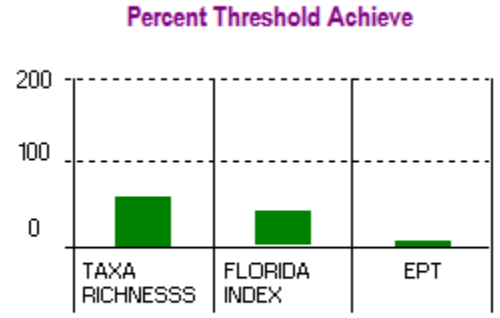
Carpenter Creek at this bioassessment location (latitude N30 degrees 28 minutes 14.6 seconds longitude W87 degrees 12 minutes 44.5 seconds) is a third order tributary flowing to Pensacola Bay via Bayou Texar. The creek is located in Gulf Coast

Flatwoods of subecoregion 75A. See website for bioassessment of the Target spill: http://water.dep.state.fl.us/eswizard/ecosummary.asp?id=623

Results and Discussion

This BioRecon indicated a severely impaired biological community. All three biological indicators failed the threshold established for healthy aquatic ecosystems:

Biometrics	Value	Threshold
TAXA RICHNESS	14	>= 24
FLORIDA INDEX	9	>= 22
EPT	1	>= 17



Values and Percent Threshold Attained for Panhandle West BioRecon Metrics

A Carpenter Creek BioRecon bioassessment on August 1, 1995 just below 9th Avenue found essentially the same community with the biometric values of 14 Taxa, 3 Florida Index, and 1 EPT. These numbers fell to 6 Taxa, 3 Florida Index, and 0 EPT on February 26, 1996 following a diesel spill upstream at Sacred Heart Hospital. Carpenter Creek has a stable pollution-tolerant biological community adapted to nonpoint source runoff contaminants in this urban watershed. For comparison, a rural site on Pond Creek at Arcadia Mill in Milton on March 1, 2002, had biometric scores of 74 Taxa, 49 Florida Index, and 37 EPT see website ftp://ftp.dep.state.fl.us/pub/water/eco/Pond Creek Arcadia Mill.pdf .

The site's habitat score (44%) rated marginal because of the highly disturbed riparian zone near 9th Avenue. Substrate availability, habitat smothering, artificial channelization, bank stability, and riparian zone vegetation quality all ranked poor. Water velocity was excellent at a typical transect's highest rate 0.9 meters/second. Foreign invasive shrubs, trees, and vines such as Chinese privet, Chinese tallow, Chinaberry, Japanese climbing fern, Japanese honeysuckle and mimosa dominated the riparian zone. Large volumes of nonpoint source runoff discharge into this watershed. Examples are shopping malls, Interstate I-10 and I-110 and other highway and road runoff, subdivision development, office plazas, airport, mining pits, and other aspect of urban development. Most of this runoff, like what discharges from the Ninth Avenue storm drain is untreated and negatively affects water quality. Because of the high stream velocity, the dissolved oxygen (DO) and % DO saturation were good (8.5mg/l and 94%). The large volume of untreated stormwater runoff created by the man-made impervious surfaces, seriously affects the hydrology of Carpenter Creek. Large amount of litter (i.e. plastic bags) were caught on limbs and other

substrates at this site.

Conclusions

These results confirm that this stream site does not meet Class III State Surface Water Quality Standards 62-302 for recreation and the propagation and maintenance of a healthy, well-balanced population of fish and wildlife. Nonpoint source runoff was the major source of impairment to Carpenter Creek's fish and wildlife community. Carpenter Creek has been stressed by urban nonpoint runoff and is unable to assimilate pollution loading from existing nonpoint runoff sources. Since Carpenter Creek is incapable of assimilating its watershed's nonpoint source waste load, the impacts are passed down to Bayou Texar and Pensacola Bay. Millions of dollars of public funds for water quality restoration have already been spent on the Bayou Texar watershed. This has included the City of Pensacola dredging at 12th Avenue and at the mouth of Bayou Texar, the recently completed "Carpenter Creek Stormwater Needs Assessment report", grant funded studies by the University of West Florida, State funded studies by the Northwest Florida Water Management District, and federally funded studies by the US Environmental Protection Agency.

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Published by the Florida Department of Environmental Protection
Tallahassee, Florida
For more information on the DEP Bioassessment programs, please visit our web site at http://www.dep.state.fl.us/water/bioassess