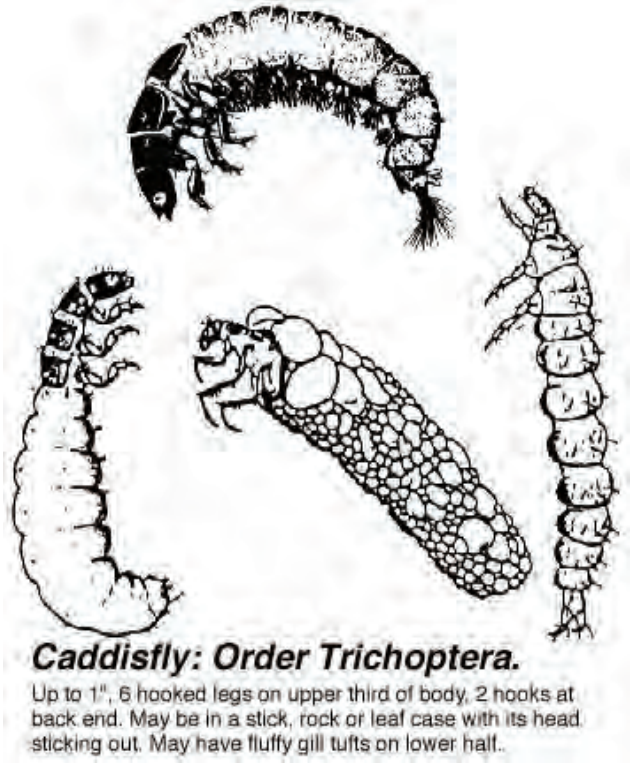
How Will This Program Affect Me?

The information collected through the sediment and benthic community monitoring program will provide continual information on the vitality of the County's waterways. Ultimately, this information will be used to help inform everyone in the County as to their influence on the health of our rivers, lakes and streams. Every one of us has an impact on our natural environment and contributes to pollution in our waterways. The purpose of the development of the monitoring program is to identify those pollutants and provide educational information to residents, workers, and business owners as to how they can reduce their impact to the environment. These educational programs will be coming soon, so keep an eye out!

We all play a role in the health of our community; through research, information and technological developments, the County wants to provide the most accurate information to its residents as to how we can all become better stewards of the environment and preserve the beauty of Richland County for



Caddisfly: Order Trichoptera.

Up to 1", 6 hooked legs on upper third of body, 2 hooks at back end. May be in a stick, rock or leaf case with its head sticking out. May have fluffy gill tufts on lower half.

The Dripster says "Stormwater...Let's Keep it Clean"

CONTACT US...

Richland County Department
of Public Works

Stormwater Hotline:
(803) 576-3599

Internet: http://www.richlandonline.com/departments/publicworks/NPDES_Construction.asp

South Carolina Department
of Health and Environmental Control
Phone: (803) 898-4300

Internet: http://www.scdhec.net/environment/water/swerfmain.htm

Sediment and Benthic Community Monitoring Program

Introduction

As part of the federal government's (EPA) National Pollutant Discharge Elimination System Permit (NPDES) program, administered in South Carolina by the Department of Health and Environmental Control (SCDHEC), Richland County is required to apply stormwater pollution control measures. In particular, Richland County must identify key pollutants that are prevalent in the existing waterways and develop programs to reduce these pollutants. A comprehensive program of identification, reduction and monitoring of these pollutants is currently underway in your neighborhood!

In this brochure you will learn what steps the County is taking to identify and monitor water quality conditions throughout the County through the sediment and benthic community monitoring program.

What is sediment and benthic community monitoring?

Sediment and benthic community monitoring are two key elements in determining the overall health and ecological diversity within the County's waters.

Sediment sampling involves the collection and testing of sediment in two ways:

- Quantity of sediment in the water which can be either suspended in the water column (resulting in the brown color often seen in the water) or deposited on the channel and lake bottoms
- Chemical sampling of the sediment itself to determine pollutants that have bound to the soil particles.
  Soil is the number one transport mechanism for pollutants in our waterways, as chemicals and harmful elements bond to the soil and are transported into our waterways. Soil particles vary in size from large sand particles that typically settle to the bottom of waterways in a relatively short period of time, to clay particles that can remain suspended in the water for very long periods of time.

Benthic community sampling involves collecting and analyzing the variety and quantity of macro-invertibrate organisms, in the waterway. Different types of bugs have different levels of tolerance to various pollutants. Benthic testing attempts to determine possible pollution problems based on the types and quantities of organisms in the water.

This program is divided into two distinct monitoring and sampling criteria to determine overall health. However, since sediment quantities often influence the abundance and diversity of the benthic community, the same testing locations are used for both criteria. This will allow the study to determine how sediment runoff and transport through the waterways are influencing the ecological community.

Where is monitoring taking place?

Richland County has identified approximately twelve (12) locations where sediment and benthic community testing is being performed. Since macro-organisms often take more than one life cycle to react to changes in the environment, this testing is being performed once annually to evaluate pollutant levels and their influence on the environment. These stations are located throughout the County's three major watersheds. These stations are also dispersed through different development areas of the County, including:

- Low Density Residential Areas
- Medium Density Residential Areas
- High Density Residential Areas
- Commercial Areas
- Industrial Areas

What can this data tell us?

With this program collecting data throughout different areas and watersheds in the County, the resulting information can be used to tailor specific pollution reduction programs for different sites and neighborhoods. Sediment can often be transported many miles downstream from its original source, and this testing will be used to determine the "hot spots" where water quality is impaired as well as tracking of sediment transport to determine the potential sources of any pollution in the County. As water treatment measures are implemented through the County's stormwater management program, this testing will be used to evaluate the effectiveness of the program.