

# Protecting watersheds

Eighty percent of the pollution in our watersheds comes from hard-to-identify and control sources—sources at the heart of work underway by Ken Hall and Doug Baughman from the Atlanta office.

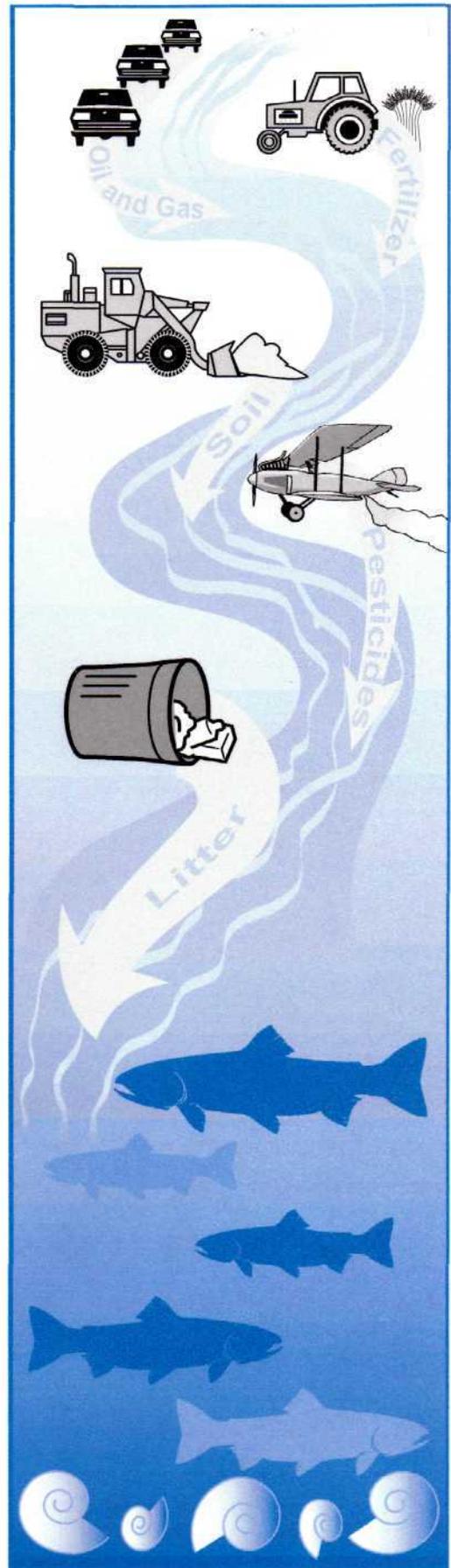
Since the U.S. Congress passed the Federal Water Pollution Control Act and the Clean Water Act in the 1970s, untreated discharge from facilities such as wastewater treatment plants and industrial sites has been all but eliminated. However, nonpoint source pollution—oil and gas from roadways, loose soil from construction sites, fertilizers, pesticides, litter—is carried by storm water to rivers, streams and lakes and is difficult to clean up.

The State of Georgia now requires local governments to assess and develop protection plans for watersheds. The Atlanta office has completed comprehensive watershed assessments in 11 northern counties, making CH2M HILL the state's dominant firm in watershed planning.

During the past two and a half years, the Atlanta office has earned \$10 million from watershed-related studies in the area.

Staff in the Southeast Region are using a variety of water quality modeling programs, including the Environmental Protection Agency's BASINS model

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**"The key to making good planning decisions for the future is having good information about the present."**

**—Doug Baughman, project manager**

# Watershed research a "WISE" course

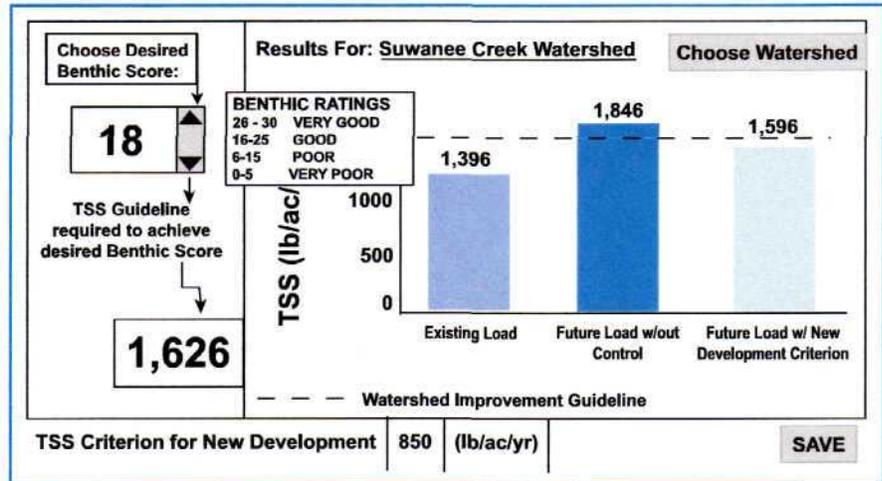
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and the PLOAD model developed by CH2M HILL, to evaluate existing and future pollutant runoff.

In addition, an automated spreadsheet analysis program, Watershed Improvements through Statistical Evaluation (WISE), developed by Farhan Shaikh, a web developer and design architect, and Hall, a senior water sources engineer, is used to determine levels of pollutant reduction needed to maintain or improve the aquatic integrity of streams and meet water quality standards. This unique program integrates the biological and water quality monitoring data to establish pollutant loading guidelines that are used to define appropriate watershed management strategies.

"The key to making good planning decisions for the future is having good information about the present," said Baughman, project manager of the Forsyth, Hall and Gainesville Community Watershed Assessment.

By analyzing pollutants found in the water and the health of the



The WISE program was developed by Atlanta employees Farhan Shaikh and Ken Hall. It shows the amount of existing and future potential total suspended solids in a watershed under existing conditions as well as future conditions with and without watershed management practices. The benthic rating represents the "health" of the aquatic invertebrates in the watershed.

aquatic life at the bottom of rivers, the severity and sources of the pollution can be determined. The modeling programs help predict, based on population growth and potential changes in land use, future pollutant loading and potential impacts on water quality and biotic integrity.

Counties and municipalities will then be able to use this information for planning future development and to educate residents and businesses to help curb the flow of pollutants to the

area's water resources.

To find out more about watershed assessment and planning as well as the modeling and analysis programs, contact Ken Hall or Doug Baughman. ♦

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In a Baltimore ceremony June 20, OMI won 1st Place for a special-purpose publication in Public Relations Society of America's "Best in Maryland" competition. OMI's 1998 annual report, *Splash! A Refreshing Look at Water Management*, took second in the competition's annual report category.