## Ecoregions of South Carolina



Ecoregions denote areas of general similarity in ecosystems and in the type, quality, and quantity of environmental resources. They are designed to serve as a spatial framework for the research, assessment, management, and monitoring of ecosystems and ecosystem components. Ecoregions are directly applicable to many state agency activities, including the selection of regional stream reference sites, the development of biological criteria and water quality standards, and the establishment of management goals for nonpoint-source pollution. They are also relevant to integrated ecosystem management, an ultimate goal of many federal and state resource management agencies.

The approach used to compile this map of South Carolina is based on the premise that ecological regions can be identified through the analysis of the patterns of biotic and abiotic phenomena that reflect differences in ecosystem quality and integrity (Wiken 1986; Omernik 1987, 1995). These phenomena include geology, physiography, vegetation, climate, soils, land use, wildlife, and hydrology. The relative importance of each characteristic varies from one ecological region to another regardless of the hierarchical level. A Roman numeral hierarchical scheme has been adopted for different levels of ecological regions. Level I and Level II divide the North American continent into 15 and 52 regions, respectively (Commission for Environmental Cooperation Working Group 1997). At Level III, the continental United States contains 104 regions (United States Environmental Protection Agency [U.S. EPA] 2000). Level IV is a further subdivision of the Level III ecoregions. Explanations of the methods used to define the U.S. EPA's ecoregions are given in Omernik (1995), Griffith and others

The Level III and IV Ecoregions of South Carolina map was compiled at a scale of 1:250,000; it depicts revisions and subdivisions of earlier Level III ecoregions that were originally compiled at a smaller scale (U.S. EPA 1999; Omernik 1987). Compilation of this map is part of a collaborative project primarily between the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS), the U.S. EPA National Health and Environmental Effects Research Laboratory (NHEERL), U.S. EPA Region IV, and the South Carolina Department of Health and Environmental Control (DHEC). This project is also associated with an interagency effort to develop a common framework of ecological regions (McMahon and others 2001, Griffith and others 2002b). Regional collaborative projects, such as this one in South Carolina where some agreement can be reached among multiple resource management agencies, are a step in the direction of attaining commonality and consistency in ecoregion frameworks for the

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- Commission for Environmental Cooperation Working Group, 1997, Ecological regions of North America - toward a common perspective:
- Gallant, A.L., Whittier, T.R., Larsen, D.P., Omernik, J.M., and Hughes, R.M., 1989, Regionalization as a tool for managing environmental resources: Corvallis, Oregon, U.S. Environmental Protection Agency