# OVERVIEW OF THE APALACHICOLA-CHATTAHOOCHEE-FLINT RIVER BASIN

by David J. Wangsness

## ABSTRACT

In 1991, the U.S. Geological Survey (USGS) began implementation of a National Water-Quality Assessment (NAWQA) program. The major objectives of the NAWQA program are to provide a description of current water-quality conditions for a large part of the Nation's water resources; define long-term trends (or lack of trends) in water quality; and identify, describe, and explain the major factors that affect water-quality conditions and trends (Hirsch and others, 1988). These objectives will be met by conducting retrospective analyses of existing data; by establishing a nationwide, long-term monitoring network designed to assess existing water-quality conditions and provide a data base for trend analyses; and by conducting process-oriented studies designed to provide a better understanding of the relation between land- and water-use activities and water-quality conditions. The NAWQA program will provide an improved scientific basis for evaluating the effectiveness of water-quality-management programs, and for predicting the likely effects of changes in land- and water-management practices. Communication and coordination between USGS personnel and other interested scientists and water-management organizations are important components of the NAWQA program.

The NAWQA program, when fully implemented, will include investigations of hydrologic systems in 60 study units that include parts of most major river basins and aquifer systems in the United States. These investigations will be conducted at the State and local levels, and will comprise the foundation upon which national and regional assessments will be based. The 60 study units range in size from about 1,200 to 65,000 square miles, and collectively incorporate 60 to 70 percent of the Nation's water use and population served by public water supply systems (Leahy and others, 1990).

The Apalachicola-Chattahoochee-Flint (ACF) River basin was among the first 20 NAWQA study units selected for study under the full-scale implementation plan. Water-quality assessment studies of this and other study units will include compilation of available water-quality information, 3 to 4 years of intensive data collection and analysis, and several years of less intensive assessment (chiefly intermittent monitoring of water quality). Major components of these assessment studies include sampling and analysis of surface and ground water for physical properties and chemical constituents, and ecological surveys of aquatic organisms and habitats. A wide array of physical, chemical, and biological characteristics will be used in interpreting and reporting water- quality results (Leahy and others, 1990).

The ACF NAWQA Study Unit staff has been compiling and analyzing existing water-quality data from water-resource agencies at all governmental levels. In addition, as part of an occurrence survey for trace metals and organic contaminants, approximately 30 sediment and tissue samples were collected from major tributaries, the 3 major rivers, and from the Apalachicola flood plain in August and November of 1992. The results of the analysis of existing data and the initial data-collection effort will contribute to the design of the ACF River basin study. The purpose of the following presentations is to describe the environmental setting of the ACF River basin and to present the results of retrospective analyses of existing pesticide and nutrient data.

LITERATURE CITED

Hirsch, R.M., Alley, W.M., and Wilbur, W.G., 1988, Concepts for a National Water-Quality Assessment Program: U.S. Geological Survey Circular 1021, 42 p.

Leahy, P.P., Rosenshein, J.S, and Knopman, D.S., 1990, Implementation Plan for the National Water-Quality Assessment Program: U.S. Geological Survey Open-File Report 90-174, 10 p.