

**R.J. Livingston, editor, 1991, *Rivers of Florida*, Ecological Studies 83, Springer-Verlag, New York, 289 pp., 55 illustrations, ISBN 0-387-97363-X, ISBN 3-540-97363-X.**

**Reviewed by Joann Mossa, University of Florida**

*Rivers of Florida* is an edited book originating from a conference held in Tallahassee in 1987 concerning ecological relationships and current conditions of the major river systems in Florida. Indeed, these issues are highly relevant in that river systems in Florida are physically and biologically diversified and have been highly modified because of population pressures and rapid growth in development. The book is largely qualitative and is intended primarily for ecologists rather than geomorphologists or hydrologists, but could be useful for other scientists conducting interdisciplinary studies of rivers.

The book contains thirteen chapters which include an introduction and conclusion. In the first several chapters, the physical and biological setting are characterized. Topics including the physical environment, tidal rivers, the vegetational mosaic, and riverine fishes are addressed. In "Florida Rivers: The Physical Environment" by Clewell, basic landforms of river floodplains and channels and their relevance to Florida are discussed. In "Tidal Rivers of Florida" by McPherson and Hammett some aspects of tidal rivers are summarized including their unique processes and distinctive reaches, their distribution in Florida, and their geometric and hydraulic complexity. "Florida Rivers: The Vegetational Mosaic" by Clewell relates vegetation types to environmental conditions and characterizes the dominant species of ten major vegetation assemblages. "Riverine Fishes of Florida" by Bass overviews the statewide fisheries monitoring program in 12 rivers. Some results of the monitoring are tabulated with summary statistics of relationships to habitat type and species composition and diversity.

The next seven chapters are divided geographically, with some chapters emphasizing biological characteristics and dynamic changes and others accentuating physical attributes. "The Oklawaha River System" by Livingston discusses controversial human alterations, ecological relationships, and restoration of the system. The extensive modification

of this system for construction of the now de-authorized Cross Florida Barge Canal and Rodman Reservoir is characterized as a major and costly mistake. "The St. John's River System" by DeMort provides a broad overview of various physical and biological factors in this dominantly tidal river basin. Much of the chapter is supported extensively with summary statistics. "The Everglades" by Kushlan is also a largely descriptive account of the natural watershed characteristics of a complex wetland ecosystem and its biological functioning, anthropogenic impacts such as canalization and reclamation, and recommendations for resource management.

"The Lower Peace River and Horse Creek: Flow and Water Quality Characteristics, 1976-1986" by Fraser assesses changes in water quantity as well as water quality of 16 constituents at six stations in the Peace River basin. This chapter provides the most sophisticated statistical treatment of data in the book with many graphs and tables. "West-Coastal Rivers of Peninsular Florida" by Estevez, Dixon, and Flannery summarizes surface and groundwater quality, and biology of rivers in this region. "The Apalachicola Experience: Environmental Effects of Physical Modifications for Navigation Purposes" by Leitman, Ager, and Mesing documents the extensive structural modifications of the rivers and concludes that the environmental effects, especially fishery impacts and flow modifications have been significant. "Ecology of the Choctawhatchee River System" by Livingston and six others examines water quality and biological investigations over a 12-month period emphasizing the distribution of habitats and organisms in a largely natural system. Geographical coverage includes most major rivers in the state, although several sizeable rivers are missed. Chapters are topically inconsistent because of the varied experience and research of the authors. The book does little to amend lack of information on hydrology and geomorphology of rivers as surmised by Tanner in the Physical Environment chapter: "Most Florida rivers have not been studied in any detail and the data on channel characteristics, water flow, and sediment transport are very sparse." The scientific content of the book is also varied, as some chapters have extensive data and others none. The format is also inconsistent as many chapters lack abstracts or conclusions. Of note for

geographers, however, is that each chapter with a geographic focus has one or more maps.

While it is stressed in the introduction and final chapter that much scientific work on the rivers of Florida remains to be done, the editor and contributors should be acknowledged for their efforts toward this goal. Other than the *Water Resources Atlas of Florida* (1984) and the *Ecosystems of Florida* (1990) chapter on Rivers and Springs by Nordlie, not much summarized information on the unique and varied rivers in Florida exists. Because much of the literature cited in this book is obscure and unpublished, and the book is published in a format which most librarians would purchase, the text will likely be valuable to researchers wanting to know of existing studies. It should be viewed there before you decide if it is worth the cost for your personal library.

### *References*

- Fernald, E.A., and Patton, D.J., eds., 1984, *Water Resources Atlas of Florida*, Tallahassee: Florida State University, Tallahassee, 291 pp.
- Nordlie, F.G., 1990, Rivers and springs, pp. 392-425, in Myers, R.L., and Ewel, J.J., eds., *Ecosystems of Florida*, University of Central Florida Press, Orlando, 765 pp.