



BOOK REVIEWS

Wetlands, 2nd Edition, William J. Mitsch and James G. Gosselink, 1993. Van Nostrand Reinhold, New York, 722 p. ISBN 0-442-00805-8.

The subject of this book is *Wetlands*—those areas once regarded as mosquito invested “wastelands” to be drained and developed. Today, rather than being thought of as wastelands, wetlands are beginning to be treasured as “biological supermarkets” because of their high biological productivity and as “nature’s kidneys” because of their ability to partially cleanse nonpoint pollution. *Wetlands* is written by two experienced wetland ecologists—Mitsch, a professor in the School of Natural Resources at Ohio State University, and Gosselink, a professor emeritus at the Center for Coastal, Energy, and Environmental Resources at the Coastal Ecology Institute at Louisiana State University, Baton Rouge. As with the first edition, the purpose of this latest edition is (1) to serve as a university textbook for courses in wetland ecology, as well as (2) to serve as a comprehensive reference for scientists, engineers, and planners that are involved with the research and management of wetlands.

This newest edition is divided into Five Parts: *Part I, Introduction*, opens with a look at the history, science, and management of wetlands (Chapter 1), followed by a discussion of the distinguishing features and definitions of wetlands (Chapter 2), then concluding with an elaboration on the terms, types, status, and distribution of wetlands in North America (Chapter 3). In addition to being an excellent overall introduction to the subject matter, Part I includes several interesting and unusual points about wetlands, such as that many of North America’s major cities (*e.g.*, Mexico City, Chicago, Washington DC) stand on sites that were in part wetlands; that some wetlands, such as rice paddies, feed an estimated half of the world’s population; that the English language is filled with negative images of wetlands (*e.g.*, *bogged down* in detail; *swamped* with work); and that even Hollywood movies often portray

landscape (*e.g.*, *Creature from the Black Lagoon* [1954]).

Once Mitsch and Gosselink have us hooked on these and other interesting tidbits about wetlands, they launch us into the hard core science of the subject matter. *Part 2, The Wetland Environment*, opens with a discussion of the hydrology of wetlands (Chapter 4), followed by a detailed look at wetland biogeochemistry (Chapter 5) and biological adaptations within wetland environments (Chapter 6), and finally concludes with an overview of wetland ecosystem development (Chapter 7). Part 2 is written for the hydrologist, ecologist, chemist, and geologist that want to see the subject matter of wetlands covered in quantifiable terms. For example, there is enough discussion about hydroperiods, water budgets, surface flow equations, rating curves for streamflows, river hydrographs, tidal charts, and gross primary productivity to keep the best of scientists happy.

The authors then divide wetlands into two types: coastal wetland ecosystems and inland wetland ecosystems. *Part 3, Coastal Wetland Ecosystems*, explores tidal salt marshes (Chapter 8), tidal freshwater marshes (Chapter 9), and mangrove wetlands (Chapter 10). *Part 4, Inland Wetland Ecosystems*, begins with a look at freshwater marshes (Chapter 11), followed by discussions of northern peatlands (Chapter 12) and southern deepwater swamps (Chapter 13), and concludes with an interesting discussion of riparian wetlands (Chapter 14). For chapters 8–14, there is a standard outline—geographical extent, geomorphology and hydrology, chemistry, ecosystem structure, ecosystem function, and ecosystem models. Ecologists and physical geographers that delight in seeing “the whole picture” will find these two parts of the book of particular interest.

By contrast, resource managers, environmental planners, and environmentalists are likely to find *Part 5, Management of Wetlands*, their preferred section of the book. For it is in this final part of the book that Mitsch and Gosselink delve into the

policy and management strategies related to wetlands. The authors discuss the values and valuation of wetlands (Chapter 15), national and international legal protection and management of wetlands (Chapter 16), wetland creation and restoration (Chapter 17), and the difficult task of wetland classification and inventories (Chapter 18). In all cases, the information is up-to-date and right on target.

Almost everything about this book is wonderful, from its beautiful color cover photograph of a Great Egret standing majestically in a marshland to its approximate 1500 citations in the References section at the end of the book. This book contains a wealth of information, and it is well-organized in a highly readable outline style of writing with a maximum use of photographs, diagrams, charts, and tables. Of course, there are the normal share of typographical/printing errors (*e.g.*, pp. 516, 542, 556, 588) and portions of illustrations that did not duplicate well (Figs. 11-1, 12-7, 12-15, 15-6, 16-1). But overall, the number, content, and quality of the illustrations are excellent. The book lacks a glossary, which I know

even the best of science students would have appreciated at the end of the book.

Readers familiar with the first edition will note much new coverage, such as on wetlands restoration—one of the “hottest” topics and career opportunities in environmental science. There is also much new coverage related to the sciences (*e.g.*, biogeochemistry, wetland hydrology, biological adaptation) as well as the social sciences (*e.g.*, changing wetland values, policies, and management strategies). If you are looking for a wetlands book that is multidisciplinary and interdisciplinary in perspective, this is it. One word sums up this book: *Comprehensive*. Whether you are a wetlands ecologist, wetlands resource manager, coastal resource manager, environmentalist, or university professor that teaches a course on wetlands or coastal resource management, you will want to have this book close to your side.

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