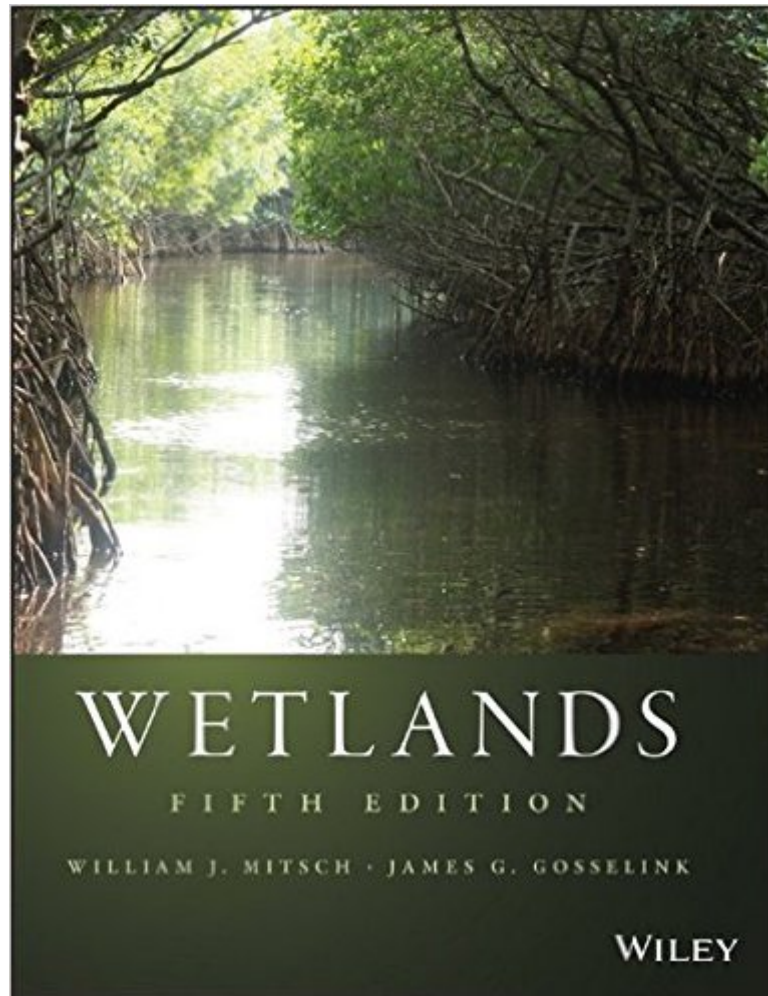


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# Wetlands



## Synopsis

The single most important book on wetlands, newly expanded and updated *Wetlands* is the definitive guide to this fragile ecosystem, providing the most comprehensive coverage and in-depth information available in print. Recently updated and expanded, this latest edition contains brand new information on Wetland Ecosystem Services and an updated discussion on Wetland, Carbon, and Climate Change and Wetland Creation and Restoration. Due to popular demand, the authors have brought back five streamlined chapters on wetland ecosystems that had been removed from previous editions, and provided more robust ancillary materials including an online color photo gallery, PowerPoint slides, and several video case studies. As nature's kidneys, wetland ecosystems help the environment process toxins and excess fertilizers and maintain the relative health of our aquatic ecosystems. As the understanding of their importance grows, their management and ecology have gained increased attention and have become an area of professional specialization over the past two decades. This book gives readers a solid understanding of wetlands, how they work, what they do, and why the Earth can't live without them. Understand wetlands' role in the ecosystem, from local to global scales Appreciate the fact that wetlands may be the most logical and economical way to sequester carbon from the atmosphere Discover the unique characteristics that make wetlands critically important for improving water quality, reducing storm and flood damage, and providing habitat to support biodiversity Learn how wetlands are being managed or destroyed around the globe but also how we can create and restore them Examine the ways in which climate change is affecting wetland ecosystems and wetland ecosystems affect climate change Wetlands are crucial to the health of the planet, and we've only begun to realize the magnitude of the damage that has already been done as we scramble to save them. A generation of ecologists, ecological engineers, land use planners, and water resource managers worldwide owe their knowledge of the wetlands to this book – for the next generation to follow in their footsteps, *Wetlands* 5th edition is the quintessential guide to these critical systems.

## Book Information

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## Customer Reviews

I first picked this book up to consider a career as a wetland scientist (among other things) and instantly dove into the heaps of information provided. It is well written and easy to read with nicely labelled sections. I found that it had all sorts of information on the subject. It is highly useful. To date, this is THE book to get in the field. If you get any book on the subject, this is it. I was only mildly surprised after reading through much of it to find that it's the only textbook in my graduate class on wetland ecology and management and there appears to be no competition as a textbook. In short, it's very readable and immensely useful: A combination you can't go wrong with.

There is no better book for learning about wetlands that I have found. Many students find hydrology difficult, but this book lays this critical process out clearly, with excellent illustrations and diagrams. This book helps the biotic oriented student understand the abiotic processes in clear and simple language. I will never part with my copy, and reference it often!

This book is a must have for all wetland researchers, managers, scientists, and anyone with a general interest in wetland ecosystems. If I had to choose 1 wetland book, this is it. It is one of THE most popular textbooks for university wetland courses and workshops. I have been a wetland scientist for almost 15 years, and this is one of the books I use on a regular basis, and recommend to all my assistants and students. Wetland researchers will also want to keep in mind that with the release of the 4th edition, this 3rd edition is still a must have in your wetland library. The 4th edition removed all the wetland ecosystem specific chapters that are in this edition, so this edition is far from outdated. Don't choose one over the other! Buy them both :).

I used this book for a wetlands biology class I took at the University of Connecticut, and had originally rented it, but loved it so much I decided to purchase it! It has so much information on all types of wetlands and is an incredible textbook, and I'm sure will also be a great book for me to

continue to reference as I continue on in a natural resources career. If you're interested in Wetlands, this is a great resource.

This text is an excellent source for all aspects of wetlands and will be used for wetland restoration. Chocked full of formulas for all types of hydrologic calculations pertaining to the wetland and riparian setting. This is one that I will keep as reference material forever. The book arrived on time and in perfect condition. Thanks.

Great price because it is not the newest edition, but I think it actually is better than the newer edition. For those who care about their students and their wallets this is the version to suggest! Nothing about it is out of date, and there is plenty of great things about the content and organization.

"Wetlands" by William J. Mitsch and James G. Gosselink seems to be the standard textbook in wetland science, bringing together all aspects of wetlands studies and applications in one text: definitions, components of the wetland environment, studies of different types of wetland ecosystems, wetland management, creation and restoration, ecosystem services provided by wetlands, and waste water treatment wetlands. This fifth edition re-incorporates "Wetlands" and "Wetland Ecosystems", which were separated into two texts in 2007, into one book. The descriptions of wetland ecosystems constitute Part 3 of this book, chapters 8-12. Most chapters have been updated, new chapters added to some sections, and the section on "Ecosystem Services" heavily revised. Co-author James Gosselink died in 2015 and was unable to work on this edition due to illness, but his name remains in recognition of his work on the first four editions that have been published since 1986. The authors explain that "because wetlands have properties that are not adequately covered by current terrestrial and aquatic ecology paradigms, a case can be made for wetland science as a unique discipline encompassing many fields, including terrestrial and aquatic ecology, chemistry, hydrology, and engineering." Hence the need for a textbook dedicated to all aspects of wetland science. Though this text is very technical in places, it is intended for a relatively broad audience: scientists, engineers, lawyers, and regulators who need wetland expertise to deal with the current regulatory environment and the increasing desire to preserve and reconstruct wetlands, as well as "for those who would like to know more about the structure and function of these unique ecosystems." I am sometimes involved in a volunteer capacity in planning and zoning, and, though there are no major wetlands in my area, I thought it would be helpful to understand the small ones. The book is organized into 5 parts with several chapters in each. A list of

recommended reading and references are included at the end of each chapter. New terms are italicized and defined in a glossary at the back of the book for easy reference, in addition to being explained in the text. There are black and white photographs, graphs, and tables throughout. The first part, the Introduction, provides a brief history of the human relationship with wetlands, including the policies in Western nations that drained wetlands prior to the 1970s. That is followed by the ways in which wetlands are defined, tables of wetland loss, and descriptions of major wetlands by region: the United States, Canada, Mexico, Central and South America, Europe, Africa, Asia, Middle East, Australia and New Zealand. Part 2, The Wetland Environment, explains wetland hydrology, its relationship with the physiochemical environment and the biota, how water budget, precipitation, surface flow, and groundwater interact, the effects of hydrology on wetland function. It addresses wetland soils and wetland biogeochemistry, which is the transport and transformation of chemicals in the ecosystem and intrasystem cycling with the surrounding environment. "Wetlands can be sources, sinks, and transformers of chemicals or nutrients." The authors take us through the cycles of sulfur, carbon, and phosphorous in the wetland ecosystem, then the water chemistry and nutrient budgets of wetlands. The unique properties of wetland vegetation and plant strategies are discussed, and the debate over allogenic (individualistic) and autogenic (community) theories of plant succession are explained. As there are many different types of wetlands, there is a lot of explaining to do in Part 2. Part 3 re-incorporates the information on Wetland Ecosystems. It discusses how various types of wetlands develop, locations and characteristics, soil and salinity, vegetation, consumers, hydrology, biogeochemistry, and ecosystem function, including nutrient budgets, for each type: Tidal Marshes (both salt and freshwater), Mangrove Swamps, Freshwater Marshes, Freshwater Swamps and Riparian Ecosystems, and Peatlands. Part 4 addresses Traditional Wetland Management, first by presenting the classification systems that may be used to identify wetlands, then the history of wetland management in the United States, the reasons behind the policies, and current wetland management by objective and method. It takes us through the laws, executive orders, and Supreme Court decisions that affect wetlands, the current "no net loss" policy, the conflicts between protecting private property and protecting wetlands, and international conservation efforts. Part 5 analyzes Ecosystem Services, the services and commodities that wetlands provide: products obtained from wetlands (plants and animals), regulatory benefits to the environment, and cultural benefits -and the "problems and paradoxes" in quantifying them. As 20-25% of global methane emissions come from wetlands, but wetlands have an excellent capacity to sequester carbon, there is a chapter on Wetlands and Climate Change. For anyone attempting to create or restore a wetland, chapter 18 lays out 7 restoration case studies and one of wetland

creation. It offers advice on how to define your goals, select a site, create and maintain proper hydrology, take soils into account, introduce vegetation. You'll need to consult earlier chapters for more detail, but this is a straightforward guide. The book concludes with a chapter on wastewater treatment wetlands, including advice on how to manage them. Some chapters are laden with formulae that I will probably never use, but overall I found "Wetlands" to be more readable than I expected.

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