

The editors have succeeded in drawing together case studies examining a diverse array of taxa ranging from aquatic invertebrates to terrestrial mammals. The contaminants and risk scenarios considered among the case studies are similarly broad. The diversity of life history strategies and questions upholds the goal of broad illustration of the general approach of population-level ecological risk assessment. In addition, the individual chapters are generally well written and the problem in each clearly described, as are the approaches the authors took.

However, the book's usefulness as an overview and as a teaching tool might have been greatly improved had more work gone into editing the chapters to ensure more consistency, particularly regarding discussions of what assumptions were made during the process of defining a model and why, what if any decisions were limited by software capabilities or available data, and a better explanation of the files each chapter has contributed to the CD ROM that accompanies the book. Some chapters spend considerable time on these topics, but others do not; although this is due in part to the inherently greater suitability of the software for some questions and models than others, more explicit discussion of this would have assisted the reader. In addition, more focus on discussions of modelling decisions may have helped the text's usefulness by drawing more attention to the process of population-level ecological risk assessment rather than simply on how the software was used in that particular case.

Second, the inclusion of the CD ROM does allow the reader an inside look into the models themselves and the parameters as they are translated into the software package. If someone is learning to use RAMAS GIS or wants to see a specific model illustrated, this may be valuable. From the standpoint of understanding the ramifications of how modelling and parameterization choices affect outcome, however, the inability to change any of the settings sharply limits the CD ROM's usefulness as a learning tool. As it is increasingly common to see software diskettes included in books, it would be of great benefit to the readers if these could be designed so that some amount of flexibility could be included for the users to explore the models to a limited extent, while still protecting the software company's licensing agreements. Unless a reader is particularly interested in learning to use RAMAS GIS, the current lack of flexibility renders the CD of limited value.

Despite the limitations, the book manages to avoid coming across as a 17-chapter promotion of RAMAS GIS software, and there is considerable scientific merit in the papers presented. The range of modelling approaches and problems addressed does much to illustrate the potential power and usefulness of population-level ecological risk assessment.

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Tropical Conservation Biology

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'Owing to massive land conversion and invasive species, future tropical biodiversity will probably be characterized by fragmented, homogenized and depauperate ecosystems that lack key functional elements' (p. 50). This book contains 10 chapters, all focused on the tropics, covering the following topics: loss of habitat, loss of ecosystem services, landscape fragmentation, forest fires, invasive species, uses and abuses of tropical biodiversity, threats to aquatic ecosystems, climate change, species extinctions and conservation challenges. In addition, each chapter features a prominent scientist with a short biography and a question/answer section related to the topic of the chapter. The book is intended for biologists, natural resource managers, politicians, policy makers, advanced undergraduate and postgraduate students, scientists and anyone with an interest in tropical conservation biology. The subjects presented in the book are well documented and illustrated with tables, figures, examples and many references to original work. The authors do a great job of finding tropical examples for subjects that normally are not treated from a tropical perspective, such as fisheries management, and marine, wetland and aquatic systems. However, tropical dry forests are neglected even though they represent more than half of the tropical forests. The writing in this book is clear and straightforward with few typographical errors or unexplained figure symbols. In short, this is a well-written book on a very important conservation topic.

As I read the book, I became aware that this is the most up-to-date and informative reference on the wrongs of conservation of biodiversity in the tropics. The picture that emerges would depress the most optimistic reader. The book lacks balance and scientific curiosity in the presentation of information. You should not read this book if you are interested in seeking solutions to the conservation crisis in the tropics. Read this book only to learn about the worst case scenario of the issue. The underlying assumption throughout the book is that environmental change is always irreversible and bad for biodiversity (see the initial quote and fig. 3.1 in the book).

The sections on prominent scientists are informative and entertaining. Apparently they were given instructions to be assertive with the presentations of their credentials, which some do with excessive hyperbole. According to William F. Lawrence, '... the world has plenty of generalists and exotic species; we don't need to conserve them' (p. 58). Gretchen C. Daily, makes a strong case for the conservation value of secondary tropical forests and human dominated systems, a focus that is critical for any conservation programme in the tropics. Yet, such a point is lost and remains unmentioned or unconsidered in the rest of the book.

The analysis of information is not sophisticated. For example, (1) in one part of the book forestry is presented as a problem (deforestation) and in another as a positive (jobs), but these different aspects of the forestry activity are not consolidated with a realistic appraisal of the situation. (2) Edge effects are largely considered negative (p. 66) without regard to situations where they are not, as in riparian zones. (3) Many long-term predictions of gloom and doom are based on short-term observations. (4) Seasonal, moist and rain forests are used interchangeably as if they all respond in the same way to ecological conditions. (5) Eradication of alien species is the proposed solution to species management; authors do not recognize a single positive contribution of alien species to the biota. (6) The section on climate change confuses CO₂ effects with temperature effects. (7) For many issues of climate change and species extinction rates, authors will point out that this or another issue is controversial, but they go on to present the gloom and doom scenario

without indicating why it is controversial or balancing the selected scenario with the alternate position. Moreover, known and predicted scenarios are often mixed without proper caution. (8) If a weakness is identified, as for example in the species/area curve for estimating species extinctions, it is the one that underestimates extinctions while those weaknesses that exaggerate extinctions with this method are ignored.

These lapses of analysis diminish the value of this book for students, scientists or critical readers. Since the book lacks suggested solutions, it might not be of use to managers or policy makers. The book also raises questions about this kind of conservation biology. Does the tropical biota lack capacity to adapt and adjust to environmental change? What solutions or alternatives are available to society beyond an awareness of the problems?

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Large-Scale Ecosystem Restoration: Five Case Studies from the United States

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This edited book, one in a series of books supported by the Society for Ecological Restoration International (SER), describes, in 15 chapters, five large ecosystem restoration projects in the USA. Each of the five case studies, namely the Florida Everglades, the Platte River Basin and the Upper Mississippi River Basin in Midwestern USA, the California Bay/San Joaquin Bay in northern California and Chesapeake Bay in eastern USA, are described in sections divided into 3 chapters. The first chapters in each section give overviews of the restoration being undertaken and are written by a number of authors, including the book editors. The second chapters describe the ecology of the systems being restored and progress to date; all five of these chapters are written by the same author, wetland ecologist Tom Chrisman of Florida International University, giving the book good continuity in ecological descriptions. The third chapters in each case are provided by invited social scientists to address the economic issues of these restoration projects.

A final conclusion chapter by one of the editors, Mary Doyle, summarizes the case studies in the book as 'photographs,' recognizing that the projects and sometimes the ecosystems are constantly changing. Perhaps a better metaphor might be that these are non-ending movies, not photographs, something that cannot be captured in a book alone. She describes the projects in terms of timing and level of funding; their costs are collectively in the US\$ tens of billions. Setting and meeting goals are described as essential yet difficult to do in practice. Other issues described in this chapter include federal-state partnerships (important in the USA for such projects), the quality of the science, adaptive management (ecosystem-based management) conflict management (human-based management), and building and maintaining public awareness and support.

The book is intended for scientists, policy makers and possibly even the general public, anyone who is interested in ecological restoration. It is also meant to focus on large projects, both in terms of area being restored and in term of fiscal budgets.

The projects are indeed enormous, both in complexity and in size. The unintended message in the book may be that managing restoration at this scale may indeed be impossible, given the political complexities. For example, there is a decidedly mixed review currently of whether the Everglades restoration project, perhaps the biggest project described here, has had much of a measurable (ecological) effect, even though it is being carried out in only one state and enormous sums of money have been spent. The restoration has brought a lot of attention to the Everglades nationally and has bolstered many wetland researchers' careers with grants and publications. But will the Everglades be a healthier ecosystem in the end? The Upper Mississippi River restoration, only part of the much larger Mississippi-Ohio-Missouri (MOM) River Basin, is less clear on its goals, given that there are 26 locks and dams currently on this river system with no discussion of a true river restoration even remotely on the table.

There are almost no illustrations in the book until Chapter 13 (the general description of the Upper Mississippi River), where 10 figures (four are actually tables) appear. I found this lack of data and graphics illustrating principles and history, especially ecological, to be a weakness of the book, as change in ecological characteristics over time is the essence of restoration. Maps are provided at the beginning of each restoration project description, but are not illustrated in a consistent style. The maps lack the most important part of any map, a scale. Indeed this book is about large scale, but to people not familiar with the USA, some of the maps could be showing a few square kilometres.

I am surprised that this book (and perhaps others in this series) does not use SI units. I am writing this review for an international journal and I am sure non-USA readers would be frustrated with the miles, acres and square miles throughout the book. This book is supported by Society for Ecological Restoration International (underscore is mine). However, in order to restore USA ecosystems, engineers and landscape architects are required as well as scientists, hence perhaps the use of units still employed in ecological engineering and restoration in the USA. Nevertheless, metric units should have been supplied in parentheses.

A useful feature of the book is a nine-page list of abbreviations and acronyms. A sign of bureaucratic times is that there are so many acronyms, so this list will be quite useful to the reader. It would have been useful if the editors had provided definitions or functions of these terms/organizations, as well as their names.

Another criticism is that the positions and affiliations of the authors of this book do not appear anywhere; these would help determine the expertise or at least background of the authors. Conversely, the names and addresses of the Island Press Board of Directors and their affiliations are given in the back of the book.

The editors and authors are to be congratulated for their wisdom in bringing large-scale ecological restoration projects into one volume. These are indeed large scale and any attempt to find general principles in these types of mega restoration projects is appreciated. I am disappointed in the lack of evenness from section to section and the issues I discuss above. Perhaps the restorations need to be given with science-based ecological engineering (or restoration) principles (see Mitsch & Day 2004,