

Book Review

MARINE CONSERVATION BIOLOGY: THE SCIENCE OF MAINTAINING THE SEA'S BIODIVERSITY. Editors: E. A. Norse and L. B. Crowder. Island Press, Washington, DC, 2005. ISBN 1559636629, 470 pp.

Conservation biology was originally conceptualized as a crisis-oriented discipline, with the goal of providing principles and tools for preserving biodiversity (Soule, 1985). There is a definitive need for more focus on marine conservation biology, with funding and publications still biased toward terrestrial ecosystems (e.g., Levin & Kochin, 2004). Drs. Norse and Crowder have assembled leading scientists in various fields to create a much-needed compilation of information relating to marine conservation. The book is organized into five sections. These sections are prefaced by two chapters that set the framework for the remainder of the book by comparing terrestrial and marine conservation and discussing why there is a need for marine conservation biology. There is also a thought-provoking discussion of how our lack of historical perspective on ocean health has led to misperceptions and caused us to further ravage already depleted resources. It is indeed alarming that there is no clear historical baseline by which to measure healthy ecosystems; this is a major concern.

The four chapters of the first section, "Marine Populations: The Basics," provide essential background life-history characteristics and population dynamics as they relate to marine conservation. The second section, "Threats to Marine Biological Diversity," reminds us that the human footprint on the environment is large. As the editors note, this is not intended to be an exhaustive list of threats, but I was disappointed that the book overlooked discussions of global warming and climate change, pollution that is not due to nutrient overload, and habitat destruction that is not a result of fisheries. The four chapters that are provided discuss nutrient over-enrichment, bio-invasions, diseases, and the cumulative impact of multiple stressors.

The third section, "The Greatest Threat: Fisheries," is composed of five chapters. This section is the strong suit of the book, discussing impacts from fisheries and even suggesting solutions in terms of fishery management practices. I found two chapters of particular interest; one discussed the effects of fishing on long-lived marine

organisms (including marine mammals and sea turtles), while the other was about the impacts that trawls and dredges (for scallops) have on the environment.

The four chapters of the fourth section, "Place-Based Management of Marine Ecosystems," consider the role of marine reserves in management and their progress to date. The take-home message here is that problems with management of marine resources are more due to governance—specifically, spatial and temporal mismatches of management to science. A quibble in this section of the book, however, is that it is assumed the reader is familiar with the concept of marine protected areas. A more user-friendly approach would have been a chapter that would establish a basic understanding of various types of marine protected areas and associated regulations and legislation. The remaining six chapters of the book compose the section entitled "Human Dimensions," which refers to people-oriented management considerations. These are particularly enlightening chapters. As noted by Jacobson and McDuff (1998), the need for integration of human dimensions in conservation biology training is not just for developing countries; it is also for industrialized, "developed" countries.

I also have some general comments regarding the book as a whole. I found that there was no real consistency across the chapters. Some were very technical, while others seemed to interject much personal opinion, almost like an editorial on the topic, creating no real smooth transition between chapters. I very much liked the eloquent introductions to each section of the book, which provided insight into the logic and direction of the book's organization. Missing are a glossary of terms used in the book, more consistency in the index (e.g., both the Endangered Species Act [ESA] and Marine Mammal Protection Act [MMPA] are mentioned in the book; however, only the ESA shows up in the index), and a list of sources for further reading.

This book should serve as an integral reference volume for scientists, managers, policymakers, industry representatives, and the academic realm. This will make an insightful textbook for undergraduate and graduate classes, particularly when paired with Norse (1993). While the cost of the hardback copy is high, the reasonable cost of the softbound version (which has a quality binding

job) will make it accessible to many readers, including the general public, who, I feel strongly, need to read it. To parrot the Marine Conservation Biology Institute, the biggest problem in marine conservation that we face is ignorance. And to quote Senegalese forest scientist Baba Dioum, "In the end we will conserve only what we love; we will love only what we understand; and we will understand only what we are taught."

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