

depth is a community-level issue and depends entirely on the two-layer concept of a mixing (continuously well-mixed) layer at the surface. It is the mixed-layer depth at which the overlying and constantly mixing phytoplankton community just breaks even—explicitly including all loss terms, including grazing. The mean depth of a phytoplankton cell being mixed and just breaking even in either Denny's or Sverdrup's contexts would be half the critical depth. Mixing is discussed earlier by Denny in relation to the effects of local mixing around the compensation depth, but critical depth and why it is often so much deeper than compensation depth cannot be understood without explicit reference to mixing depth.

A few other issues could be clarified. Bacterivory and the microbial loop are covered explicitly, but ciliates rather than smaller flagellates are inexplicably credited with the bulk of bacterivory despite their clear size disadvantage and typical aquatic dominance in this endeavor by flagellates. The basic size structure of the many-step, inefficient path to copepods from bacteria (bacteria to flagellates to ciliates to copepods) fails to appear. Besides the basic factor-of-10 length relationships of predator and prey in the microbial network, also missing is the dominant role of bacterivory in setting bacterial abundance limits near the observed billion per liter.

Definitions for the most part are carefully given and similar to those in textbooks, with a few exceptions that arise from assigning large taxa with many feeding methods and foods to single functional groups or dietary preference. First-time students will come away thinking that ciliates are not also herbivores and carnivores. The opening sentence regarding herbivores reinforces that impression by unintentionally suggesting that only multicellular organisms are herbivorous. Copepods and krill are listed as herbivores, but only tunicates under herbivores are described as filter feeders. Also unintended is the implication (p. 118) that filter feeders are primarily carnivorous. That potential confusion is amplified by first discussing ambush-predator jellyfish that do not entrain their prey in flows (i.e., do not filter feed in the normal sense) and next treating comb jellies that do. The hierarchical arrangement of such large taxa under these mixed functional groups of food type and collection method does not work.

In summary, the book is a welcome, unique, and highly readable roadmap toward understanding how the oceans work. Most students of the planet will want a copy. Users with experience in the field will find valuable additions and twists to their perspectives that enable them to reach different kinds of learners. Many of the latter will be users with

little oceanographic background who will be enticed down the attractive, new road toward understanding and would not venture into a conventional textbook. They will hit a few unexpected bumps, but that road will be smoothly paved in the anticipated second edition.

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### CONSERVATION BIOLOGY

THE MIDDLE PATH: AVOIDING ENVIRONMENTAL CATASTROPHE.

By Eric Lambin; translated by M. B. DeBevoise. *Chicago (Illinois): University of Chicago Press.* \$25.00. x + 182 p.; ill.; no index. ISBN: 978-0-226-46853-2. [Originally published as *La terre sur un fil*, by Le Pommier, Paris, France, 2004.] 2007.

In this book, the author uses refreshingly nontechnical prose to summarize key aspects of the debate about confronting the crisis of global environmental change. The volume reviews theories of human-environment interactions ranging from classic Malthusian arguments to contemporary ideas about resilience in linked social-ecological systems. Importantly, Lambin provides the context for how predominant concepts, terms, and ideas often get adopted because they fit within ideological frameworks of modernity and rationalist thought, rather than because of their efficacy in confronting environmental challenges. The author creatively dichotomizes debates into the perspectives of the optimists (those who believe solutions to environmental problems lie in human creativity and technological innovation) and the pessimists (those who believe there are limits to population and economic growth and the capacity of technology to solve environmental crises). By highlighting the heterogeneity of viewpoints and reviewing the philosophical and disciplinary roots of each, Lambin challenges us to understand a bit more about our own biases and acknowledge the validity of some positions that may lie outside our comfort zone.

The book provides vivid examples of how environmental change can cause societies to collapse, as in the case of the ancient Maya, or be used as a window of opportunity to change societal trajectories, as in the case of the reforestation of Europe. Lambin ties together 13 key factors that can influence a society's ability to transition to sustainability. Although insightful, this section missed an opportunity to incorporate important ideas expressed earlier in the volume about how ecosys-

tems may shift into alternate stable states and the potential nonlinearities of recovery (i.e., simply reducing the original stressors may not be enough to return systems to their original state).

This clearly written book is targeted at nonspecialists and will be well received by those readers. It would also be appropriate for undergraduate environmental studies courses and even has something to offer those of us actively working in the human dimensions of environmental change.

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**HUMANITY'S FOOTPRINT: MOMENTUM, IMPACT, AND OUR GLOBAL ENVIRONMENT.**

*By Walter K. Dodds. New York: Columbia University Press. \$79.50 (hardcover); \$29.50 (flexbound). xv + 270 p.; ill.; index. ISBN: 978-0-231-13966-3 (hc); 978-0-231-13967-0 (fb). 2008.*

The basic argument presented in this book is that humanity is creating a global environmental crisis of epic proportions, and a failure to recognize and address this verity will lead to an impoverished world for present and future generations of humans (not to mention the other creatures with whom we share the planet). The first part of the volume reviews several of the major environmental problems we face, and stresses the roles population growth and high levels of consumption in affluent nations have played in generating these problems.

Following this, in an attempt to further our understanding of why humans behave in environmentally destructive ways, Dodds focuses on the fundamental tension that exists between collective and individual interests. It is clearly in humanity's collective interest to maintain the ecological integrity of the planet, while it is often in the interest of individuals to exploit the environment in unsustainable ways. How to transcend this tension and achieve a sustainable interaction between humans and the natural environment is the central concern of the book. Dodds relies on insights from game theory, the "selfish gene" logic of Richard Dawkins, and the sociobiology of E. O. Wilson to shed light on how cultural evolution can overcome what he sees as our hardwired tendency to behave selfishly, so that we act in our collective interest.

The author proposes various ways to bring about "socioenvironmental restoration," key among which is improving environmental education so that people can recognize their collective interest in protecting the environment. He notes the challenges of solving environmental problems in the face of global capitalism and argues that we cannot complacently assume that science and technology will solve our

environmental problems. He touts ecological economics, including Herman Daly's steady-state economics and the need to properly value ecosystem services. Although no singularly original insights or strikingly new information or arguments are presented, Dodds has produced an informative and well-written book directed at a general audience that lucidly covers many aspects of the environmental crisis.

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**HABITAT MANAGEMENT FOR CONSERVATION: A HANDBOOK OF TECHNIQUES. *Techniques in Ecology and Conservation Series.***

*By Malcolm Ausden. Oxford and New York: Oxford University Press. \$130.00 (hardcover); \$60.00 (paper). vii + 411 p.; ill.; index. ISBN: 978-0-19-856872-8 (hc); 978-0-19-856873-5 (pb). 2007.*

This book contains a series of chapters that focus on ways to manage habitats for wildlife and conservation. The first part of the volume sets out a broad conceptual framework for how this might be done, including the philosophy underlying habitat management (Chapter 2), setting objectives and undertaking monitoring (Chapter 3), and general techniques and considerations for habitat management (Chapter 4). Seven chapters comprise the second part of the book and these span habitat management in different kinds of environments ranging from grasslands (Chapter 5), forests, woodlands, and scrub (Chapter 7) to aquatic and coastal zones (Chapters 8 and 9 respectively), agricultural areas (Chapter 10), and even gardens, backyards, and urban areas (Chapter 11).

This is an interesting volume and reading it introduced me to many areas of work of which I had limited awareness. It has a distinct bias toward European environments and especially those where there has been substantial human modification. This is readily admitted by the author in the introductory chapter, but it nevertheless does make the title misleading with respect to the book's content. The bias also means that several chapters are somewhat deficient, particularly the one on forests and woodlands where many authors have previously written about various approaches to many kinds of habitat management in natural temperate forests (e.g., M. L. Hunter. 1990. *Wildlife, Forests, and Forestry: Principles of Managing Forests for Biological Diversity*. Englewood Cliffs (NJ): Prentice Hall; D. B. Lindenmayer and J. F. Franklin. 2002. *Conserving Forest Biodiversity: A Comprehensive Multiscaled Approach*. Washington (DC): Island Press). There is also an increasing body of work about habitat management in tropical forests (e.g.,