

is serious and relatively even-handed when it comes to the potential pros and cons of actions. In addition, direct contact with conservation practitioners can often inspire beyond the mere statement of facts. Thus the appendix that annotates sources of information and conservation entities should be consulted actively, not dismissed as a mere supplement.

The questions for discussion at the end of each chapter are rather general and not particularly stimulating. This is the one area where I think the authors could attempt to engage the students in assessing hypothetical scenarios that would require creative critical thinking. Every student lives in a community, so assignments that have students explore conservation issues and meet actual practitioners can create commitment that does not come from memorizing terminology.

I teach Wildlife Management: Applied Conservation Biology in a block (four-week) format, which allows a blend of classroom and field experiences. Students get to visit wildlife refuges to witness first-hand the ecological contexts and challenging issues involved in management. They meet researchers, managers, and activists. For example, we visit Tucson to interact directly with employees of The Nature Conservancy, Center for Biological Diversity, Defenders of Wildlife, Sky Island Alliance, and Northern Jaguar Project.

I believe that every institution of higher learning is within easy reach of state or federal conservation agencies, NGOs, and other organizations practicing aspects of what this book is all about. I think that instead of generic discussion questions, the book could have assignments to compare and contrast organizations with different visions or practices, to explore the extent of knowledge and ignorance in one's home town, or to interview a conservation professional. In-class role-play models with realistic scenarios can help give students feelings of empowerment. When forced in limited time to work in teams to acquire data to back up their assigned

positions within a scenario, students can be astonishingly motivated, technologically capable, and articulate. When asked to demonstrate a personal commitment to conservation, students can take the information from a book like this and find a way to get involved locally.

An Introduction to conservation biology ends with a section on "Ongoing problems and possible solutions." It states a problem, then gives a solution from the authors' perspective. This is all well and good, with recommendations like "should work together," "must be carefully investigated," "should be trained and employed," and "must demonstrate." I cannot argue with those suggestions, but they do not give the reader a chance to participate, to take a challenging question and come up with a solution. The reader is passive here, burdened with long lists of expectations but without any personal sense of empowerment. That is why I think this otherwise excellent book could stand out from competitors by finding ways to incorporate experiential education. This goes beyond providing instructors with Power Point slides of tables and figures. The authors mention that conservation biologists should "use new approaches and social media." They advocate becoming "more effective educators, leaders, and motivators." Amen! Can we build this into the next edition by creating ways to engage the readers more experientially?

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Forest conservation in the Anthropocene

Sample, V. Alaric, R. Patrick Bixler, and Char Miller, editors. 2016. **Forest conservation in the Anthropocene: science, policy, and practice.** University Press of Colorado, Boulder, Colorado. x + 336 p. \$87.00 (cloth), ISBN: 978-1-60732-458-4; x + 336 p. \$34.94 (paper), ISBN: 978-1-60732-521-5; \$27.95 (e-book), ISBN: 978-1-60732-459-1.

Key words: Anthropocene; climate change; forest conservation; wildfire.

Forest conservation in the Anthropocene is notable for its expansive discussion of change expected of forests in the coming decades. These changes are forcing societal adjustments at scales from individuals to local communities to the nation. Objectives of the book are threefold. First, summarize findings from science concerning effects of climate change and natural and human disturbances on forest ecosystems. Second, outline strategies for adapting contemporary management actions for desired

ecological and social outcomes. Finally, identify opportunities and needs to adapt current policy frameworks to create the institutional flexibility to address evolving environmental and social contexts of forests and forestry on both public and private lands. The book takes a broad perspective on forest conservation, embracing biodiversity (wildlife), wildland water issues, and cascading effects of climate on wildfire and exotic pests and pathogens. However, the geographic focus is more narrow, limited to the US and some issues and approaches involving western Canada.

This breadth of topics is expressed in 17 chapters by the forty-two authors, many of whom are long-time, major leaders in their respective fields. The roster of three co-editors includes historian Char Miller, who doubtless checked the historical framing. Chapters are grouped in five sections: changing climatic regimes and forest ecosystems, assessing vulnerability and threats to current management regimes, adaptation strategies for biodiversity conservation and water protection, transdisciplinarity in the Anthropocene, and evolving institutional and policy frameworks.

The broad perspective of the book reflects the diverse affiliations of the authors, and this leads to an emphasis on forest conservation that involves cooperation among public and private land owners, while respecting a variety of conservation strategies. Author affiliations span academia, federal agencies (notably US Forest Service Research and Development), and NGOs, such as the Pinchot Institute for Conservation, The Nature Conservancy, and the Wilderness Society. Consistent with this authorship diversity, it is interesting to note the current strong belief in inter-jurisdictional collaboration on the common ground of large regions (e.g., the Yellowstone to Yukon Conservation Initiative and the Federal forest lands of the American West) and watersheds (e.g., Delaware River basin). There are no down-in-the-weeds case studies in this book nor does it embrace a single framing of approaches to dealing with societal initiatives or adaptations to anticipated change. For example, authors acknowledge the importance of protected areas in dealing with anticipated change, but also “beyond parks” thinking, acknowledging the

importance of matrix lands separating protected areas and exploring notions of assisted migration. This work must take multi-scale approaches in both biophysical and social terms over large conservation planning areas.

In general, contributors to this book sense that climate change and its impacts are already underway and that the future is highly uncertain in both biophysical and social terms. The authors outline ways in which society is taking many appropriate actions on the ground and in policy. But, there is much work to do, as emphasized by the nine policy recommendations in the closing chapter apparently addressed to Congress. Authors Sample, who has vast experience with forest policy matters, and Topik, a former US Forest Service ecologist, Congressional appropriations committee staffer, and now a leader in The Nature Conservancy, are excellently well suited for this task. They call for strengthened long-term, large-scale forest restoration and sustainable management; a shift in wildfire policy and funding emphasis from suppression to proactive approaches at all scales; enhanced collaborative authorities; strengthened engagement with other societal sectors, such as water, hydropower, and tourism; and increased research on all relevant impacts of forest investment. In general, they appeal for a comprehensive approach to forest conservation in the coming decades of dramatic change.

This is not a book many folks will read cover to cover, but it is a valuable resource reader. Its breadth and diversity of chapters would serve well as a source of selected readings in undergraduate and graduate classes and seminars on the topic. Students in these programs are the critical future leaders who will live in and help cope with the unimaginable world ahead. I wonder how we will look back at the state-of-the-art thinking in this book a few decades hence—will this thinking prove prescient or hopelessly naïve?

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Mammalian ecophysiology and adaptations to diverse environments

Withers, Philip C., Christine E. Cooper, Shane K. Maloney, Francisco Bozinovic, and Arioaldo P. Cruz-Neto. 2016. **Ecological and environmental physiology of mammals**. Oxford University Press, Oxford, United Kingdom. 560 p. \$125 (hardcover), ISBN: 978-0-199-64271-7.

Key words: adaptation; ecophysiology; evolution; extreme environments; mammals.

I was excited to see the new book, *ecological and environmental physiology of mammals* by Withers et al., which is part of an Oxford University Press series that provides