

## BOOK REVIEW

**Large Herbivore Ecology, Ecosystem Dynamics and Conservation, Conservation Biology Series 11, K. Danell, R. Bergström, P. Duncan, J. Pastor (Eds.). Cambridge University Press, Cambridge (2006). 506 pp., £ 38, ISBN: 978-0-521-53687-5**

The impact of large herbivores on ecosystem dynamics is so obvious that ecologists have long been fascinated by it. Accordingly, the amount of available literature is overwhelming. So what new ideas can Kjell Danell and his co-editors offer us?

When I first saw the book I was confused by the title. It was not clear to me how the three topics “large herbivore ecology”, “ecosystem dynamics” and “conservation” mentioned in the title could be related to each other. The title could mean “the ecology and conservation of large herbivores”, but “ecosystem dynamics of larger herbivores” does not make much sense. While the book achieves a lot by exploring the feedback mechanisms between large herbivores, ecosystem dynamics and functioning, it does not deal with the question of how to protect large herbivore populations. Thus, a title such as “Large herbivore ecology as a basis for the conservation of ecosystem dynamics” might have been more appropriate. This discrepancy between title and content may be explained by the book’s history: it is the final product of a workshop on “The impact of large mammalian herbivores on biodiversity, ecosystem structure and function” in May 2002. Possibly, the keyword “conservation” is a tribute to its being published in collaboration with the Zoological Society of London in the series Conservation Biology. The volume meets the expectations raised by the series title only insofar as in-depth knowledge of ecosystem dynamics is a prerequisite for sound conservation management. Additionally, most contributions end by summarizing their results with a special focus on applied conservation practice. However, special chapters dealing with conservation failures and successes are missing.

The mixture of authors is well balanced and ranges from young to established scientists. The collection of texts covers all important topics regarding large herbivore ecology from the point of natural sciences. As the editors mention themselves, it would be great if the texts were accompanied by a viewpoint that incorporates the human dimension (but this is clearly a task for someone else).

The book begins with an introductory chapter that gives a global overview of the diversity, biogeography, behaviour and life-history traits of large wild herbivores. In the following thirteen chapters, case studies and reviews cover the whole range of ecosystems in which grazing by large herbivores is an important driver for ecosystem processes. This includes examples from tundra, boreal forests, savannah, semi-arid grasslands, tropical forests, but also the potential impact of large herbivores in temperate deciduous forests is discussed. With respect to the influence of large herbivores on ecosystem dynamics, the papers focus on nutrient cycling, plant community structure and diversity, recruitment, and other fauna. They contain all relevant drivers (grazing, frugivory, disturbance) including a chapter on modelling herbivore-vegetation interactions. Finally, two synthesis chapters cover the

restoration of grazed ecosystems and “Themes and future directions in herbivore-ecosystem interactions and conservation”.

Although wild herbivores are the focus of the book, their dynamics and ecosystem effects cannot be adequately described without also considering their domestic counterparts in managed ecosystems. Thus, the authors address the issue of domestic livestock where necessary, but do not lose the focus on wild herbivores.

The book is well-edited (few spelling mistakes, good graphic quality). However, even after considerable effort from the editors, a multi-author-book cannot be as consistent as one by a single / few author(s). Thus, some content overlaps between chapters (e.g. plant defences against grazing or disturbance by trampling / grazing), and not all texts are similarly strong. While some deliver really valuable reviews - I especially liked the chapter on the role of large herbivores on ecosystem nutrient cycles - others focus a bit too much on their own narrow research topic.

Although this book does not fulfil the back cover claim to “deal with the scientific basis for the management of herbivore populations”, *Large herbivore ecology, ecosystem dynamics and conservation* is a very readable book for beginners and specialists alike who wish to broaden their knowledge of the effects of large herbivores on ecosystem dynamics.

Vroni Retzer  
Bayreuth, Germany  
E-mail address: [vroni.retzer@uni-bayreuth.de](mailto:vroni.retzer@uni-bayreuth.de)