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0521536871 - Large Herbivore Ecology, Ecosystem Dynamics and Conservation

Edited by Kjell Danell, Patrick Duncan, Roger Bergstrom and John Pastor

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Large Herbivore Ecology, Ecosystem Dynamics and Conservation

The major drivers forming the shape and function of terrestrial ecosystems are large herbivores. These animals modify primary production, nutrient cycles, soil properties and fire regimes, which all have an impact on the ecology of other organisms. Most large herbivores require some type of management within their habitats, as some species populations are at the brink of extinction, and others already occur in dense populations causing conflicts with other land uses. Due to the huge importance of herbivores in shaping a wide variety of ecosystems worldwide, it is important to understand how and why these communities function the way they do, and what implications this has not only for the conservation of the herbivores themselves but also for the conservation of the habitats as a whole. This book deals with the scientific basis for the management of these systems.

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Preface

Large herbivores are, and have for a long time been, among the major drivers for forming the shape and function of terrestrial ecosystems. These animals may modify primary production, nutrient cycles, soil properties, fire regimes as well as other biota. Some large herbivore species/populations are at the edge of extinction and great effort is being made to save them. Other species/populations are under discussion for reintroduction. Still other species occur in dense populations and cause conflicts with other land use interests. Overall, most large herbivores need some type of management and, according to our view, these operations should be scientifically based.

There is a great amount of scientific information on large herbivores in different regions of the world. We felt that there was an urgent need to bring this knowledge together and to make it available for a larger public outside the group of specialists. We also felt that synthesis of results from one region may be valuable for scientists working in other regions and with other species.

To initiate a first synthesis of the knowledge on large herbivores we held a workshop on 'The impact of large mammalian herbivores on biodiversity, ecosystem structure and function' 22–26 May 2002 at Kronlund outside Umeå in northern Sweden. The event brought together scientists from different disciplines and with experience of large herbivore research in different biomes. During the workshop the idea of a book was developed over time and some more specialists were invited to the synthesis.

We thank the financial support given by Swedish Environmental Protection Agency, The Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning, Swedish Association for Hunting and Wildlife Management and the Faculty of Forest Sciences of the Swedish University of Agricultural Sciences. Special thanks are due to the representatives for the forest companies, the hunting organizations, and the

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Saami people who gave valuable inputs and stimulated the discussions during the field trip of the workshop.

This book represents the culmination of the process initiated by the workshop. Edited volumes are by definition collaborative efforts. This book would not have been possible without the patience and strong commitment of all the contributors, including the numerous reviewers. We are deeply grateful for their efforts, collaboration and for allotting time and sharing insights and data. Special appreciation is due to Dr Tuulikki Rooke who provided excellent assistance during the last stage of the preparation of the book.

We are fully aware of the fact that this book gives only one perspective of large herbivores – the one seen by natural scientists. We hope that a similar effort will be made by scientists doing research on the human dimension of large herbivores. In concert, we hope these efforts will give valuable insights for managers and scientists, stimulate further studies and make further syntheses possible.