

Snow. A Natural History; an uncertain Future

Edited by Kenneth Green, 1998
 Australian Alps Liaison Committee, Canberra,
 Australia
 252 pp. ISBN 0 949324 80 9
 RRP \$35.00

SUZANNE CUMMING¹

ALPINE and subalpine environments are extremely restricted in Australia, with the highest peaks of the Australian Alps occurring well below the theoretical altitudinal range necessary for a permanent snow cover. The alpine environment also suffers from a lack of continuity, emphasized by the break between the mainland and Tasmanian alpine communities. There is a major concern for the snow country of Australia and the organisms which inhabit, and are totally dependent on, the snow. These environments are under threat from predicted global warming from the enhanced greenhouse effect, leading to a

loss of snow cover. Australia is facing the loss, not just of snow, but of the alpine ecosystem itself.

This book is an account of the present knowledge of snow and the snow country in Australia. It provides a benchmark against which to measure future change.

The text is comprised of three parts (plus introduction, contents and index) with a total of 13 chapters. Among the topics addressed are: Meteorological aspects of snow; Effects of snow on the landscape; Plant activity beneath the snow; Snow as a selecting force on the alpine fauna; and, The implications of ozone depletion for the Australia Alps.

Although the book is easy to read, some background knowledge on weather and how climatic conditions operate in Australia is useful. Although most unusual words are defined in the text, a glossary would have been helpful.

¹School of Natural Sciences, Edith Cowan University, Joondalup, Western Australia, Australia 6027.

Behavioural Approaches to Conservation in the Wild

Edited by J. R. Clemmons and R. Burchholz, 1997
 Cambridge University Press, Cambridge
 pp. xvii and 382 ISBN 0 521 58960 6
 RRP AUD\$49.95 (ppr.)

B. VAN ELVEN¹

BEHAVIOURAL *Approaches to Conservation in the Wild* is based on a series of papers from a symposium entitled "Conservation and Behaviour in the Wild" held during the Animal Behaviour Society annual meetings in Lincoln, Nebraska in 1995. The book was compiled because the editors (and others) felt that both behavioural researchers and conservation biologists did not adequately recognize the important role that behavioural studies could play in conservation efforts. Traditionally, behavioural researchers have limited the conservation applications of their research to captive breeding and reintroduction programmes of endangered species, while conservation biologists have focussed on landscape design and ecosystem restoration without necessarily considering animal behaviour. The objectives of the book are twofold: to stimulate behavioural researchers to think about how their work can contribute to conservation of biological diversity, and to show conservation biologists the relevance of behavioural research in solving conservation problems. As expected given the location of the symposium and the high proportion of northern

hemisphere contributors, most examples presented are from that region.

Behavioural research encompasses four types of study, (1) Survival Value, the selective advantage of a behaviour; (2) Phylogeny, the evolutionary history of behaviour in a population; (3) Control, the causal mechanisms of a behaviour (i.e., muscle contractions); and (4) Ontogeny, the developmental history of individual's behaviour due to genetic and environmental factors. An important and recurring theme throughout the book is the need to preserve behavioural diversity in addition to species, genetic and ecosystem diversity. Behaviour is the most common type of interaction between organisms and their biotic and abiotic environment, and plays a major role in the processes underlying survival and evolution. As habitats become more fragmented and populations decrease, the survival of a population will become directly dependant on their ability to find food, mates and to protect their young. Hence it is important to conserve not only representatives of a particular species, but also behavioural variations within species to provide the maximum potential for species survival within a rapidly changing environment.

The book promotes the use of behavioural biologists in the area of conservation, and as such could be seen as an attempt to develop new opportunities in an area currently gaining prominence and with additional potential funding

¹School of Natural Sciences, Edith Cowan University, Joondalup, Western Australia, Australia 6027.