

Animal Behavior and Wildlife Conservation edited by Marco Festa-Bianchet & Marco Apollonio (2003), ix + 380 pp., Island Press, Washington, DC, USA. ISBN 1 55963 958 X (hbk), \$70.00, 1 55963 959 8 (pbk), \$35.00.

Behavioural ecology is generally seen as 'interesting' and conservation as 'useful': students of the former feel increasing pressure to justify a sometimes arcane research agenda in terms of society's priorities, including the latter. This book sets out to explore and demonstrate how knowledge of animal behaviour can contribute to conservation and wildlife management, through a series of interesting and highly readable chapters by a diverse array of academic biologists. It builds on a small but growing literature illustrating the relevance of behaviour to conservation, and stems directly from a workshop organised by the editors in Erice, Sicily, in November 2000.

Its strengths are its provision of both empirical examples and conceptual arguments illustrating clearly and convincingly the difference that knowledge of behaviour, including dispersal, migration, foraging, mate choice and reproduction, can make to conservation and management, including reserve design, habitat conservation, trophy hunting, captive breeding, translocation, and reintroduction. On the empirical level, Rosie Woodroffe draws on carnivore examples to illustrate the importance of understanding patterns of dispersal behaviour in reserve design, particularly in patchy habitats. Isabelle Coté describes how knowledge of the reproductive strategies of freshwater fish can dramatically change predictions of the impacts of river dredging or fishing. John Swenson examines how sexually-selected infanticide of cubs by 'new' males may magnify the population impacts of trophy hunting of adult male bears. Some of these behaviour-conservation linkages no doubt should be obvious, such as the importance of considering sea turtle migration behaviour and routes in conservation efforts, as detailed in Paolo Luschi's chapter, but are overlooked in planning and management. Other linkages may only be perceptible with detailed research, such as the genetic structuring of populations, and reduction of effective population size, due to behavioural characteristics such as mating system, reproductive skew and inbreeding avoidance.

At the conceptual level, a key theme throughout the book is that animal behaviourists bring to conservation an analytical emphasis on individual differences in behaviour, construed hierarchically to include differences between similar species, populations, sexes, ages and individuals under differing environmental or social conditions. All individuals are not equal, and the traditional focus in conservation on population-level parameters, such as population counts and range, may miss information of crucial conservation significance. Variation in mating strategies, foraging strategies, mate choice, reproductive success, individual 'quality', even prey choice of individual predators, can all affect effectiveness of conservation interventions. An important general point is that it will often be necessary to understand the individual-level behavioural mechanisms underlying population dynamics, in order to influence those dynamics or predict them under novel ecological conditions. For instance, Morris Gosling points out that the management implications of the Allee effect in any population cannot generally be determined until behavioural mechanisms are well understood. Understanding individual-level behavioural responses improves understanding not just of the current conservation situation, but provides a much more solid basis for extrapolation into an uncertain future of habitat fragmentation, climate change and human disturbance.

This book will be of primary relevance to very well-resourced conservation interventions focussed on single species, particularly small or captive populations, implemented with a high level of technical expertise. There are many specific lessons here: Claus Wedekind's chapter examines the implications of 'good genes' models of mate choice, suggesting that precluding free choice of mates may have major consequences of conservation interest, such as decreased parental investment in offspring or pathogen resistance of offspring. Likewise, Norman Owen-Smith's chapter makes a convincing case that expensive translocation exercises are unlikely to produce reliably good results without detailed consideration of foraging behaviour.

The limitations of the book are related more to scope than to substance, and are recognized by many of the contributors. This kind of intensive, species-focused conservation and management makes up a comparatively minor component of conservation efforts, particularly

within the developing countries that harbour the vast bulk of the world's biodiversity. Most contributors, and most case studies, are drawn from Europe and North America, giving the book a first world flavour that may need some ground-truthing against conservation realities. One chapter starts, for instance, with the unqualified sentence 'Most populations of large vertebrates are now the target of intensive management or conservation programs', which I imagine would come as a surprise to most practitioners in the field. This book is primarily about the relevance of animal behaviour to conservation biology, rather than to conservation. Conservation biology remains only a small, and not always influential, component in the practice of conservation, which must take place in a complex web of competing political, social and economic forces. For instance, several chapters explore the potential impacts of trophy hunting on exploited populations, including disruption of mating systems and decreased female fertility. While this discussion demonstrates the significance of behaviour in the biology of conservation, the conservation significance of trophy hunting is a much broader issue including questions about the contribution of hunting to incentives, political support and revenue for conservation.

Alien invasive species were recently recognised by IUCN as the second most important global threat to biodiversity. The spread and establishment of animal invasive species and their impacts on native wildlife will be fundamentally shaped by the behaviour of both. Attention to this topic would have been welcome, complementing attention paid to the other major threats of habitat fragmentation/disruption and hunting. This omission illustrates, perhaps, why the study of animal behaviour remains tangential to conservation: the research agenda of the former does not reflect the priorities of the latter. While this volume provides well-chosen, interesting and convincing evidence that understanding behaviour is a crucial element of the biology of conservation, it is unlikely to convince sceptics of the relevance of behavioural ecology to saving the world's biodiversity.

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An Impossible Dream edited by Ian Parker & Stan Bleazard (2001), x + 350 pp., Librario, UK, ISBN 1 904440 20 7 (pbk), £15.00.

The sub-title of this book, 'Some of Kenya's last colonial wardens recall the Game Department in the closing years of the British Empire' belies the valuable contribution it makes to our record of the development of conservation

thinking and action in Africa in the mid 20th century. The collection of chapters, essays, anecdotes, recollections and discussions by a varied assortment of characters from that period provides a fascinating insight into a critical time (the 1940s to 1960s) when the colonial era was drawing to a close over much of Africa.

If we are to improve our effectiveness in conserving our natural resources, it is vital to know what has been tried previously and why it did, or didn't, succeed. Learning from past successes and mistakes is an important process that requires access to detailed records or accounts of previous projects, programmes and the thinking that lay behind them. This is precisely what this book has to offer, and why it is essential reading for anyone wanting to understand how the current situation in Kenya (and much of the rest of sub-Saharan Africa) has come about.

The book consists of 38 chapters written by a motley collection of people from varying backgrounds, but with one thing in common – they were all involved in wildlife conservation in Kenya during the period in question. Their rather diverse backgrounds are reflected in the varying styles and content of each chapter. The editors (each of whom has also contributed substantially to the text) have retained this rather inharmonious presentation, and the result is a successful portrayal of the differing attitudes shown by the individuals involved in their role as Game Wardens.

The book presents a wide range of descriptions of how 'conservation' was conducted by the authorities (there was more than one government conservation agency at that time), with plenty of detail about day-to-day operations, as well as discussion of how policy was decided and how it was put into practice.

As a consequence of the diversity of contributions, the standard of content and writing are very variable. Some chapters are little more than an apparently random collection of personal memories, with rather insignificant anecdotes about personalities and single, minor incidents, and these may not hold the attention of a reader unacquainted with Kenya. Nonetheless, the majority of the text has much to offer by way of description of how and why wildlife conservation in Kenya has followed a particular path.

In view of the book's overall value as a historical record, it is unfortunate that the maps accompanying the text are very poor. Some are more or less incomprehensible to those who do not know Kenyan geography. Much of the text would be a great deal easier to understand if accompanied by well-produced and detailed maps, and it is a pity that considerations of cost seem to have precluded this.

It is good for those of us engaged in conservation now to learn, or be reminded, what it was like in past periods.

If nothing else, it serves to underline how much reinventing of the wheel we are all involved in, as well as stimulating a certain amount of envy at the life that 'conservationists' used to lead! This book certainly achieves both of these and I can thoroughly recommend it to anyone interested in the evolution of conservation or the history of its practice in Kenya and Africa.

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The CBD for Botanists: an Introduction to the Convention on Biological Diversity for People Working with Botanical Collections by China Williams, Kate Davis & Phyllida Cheyne (2003), ix + 95 pp., Royal Botanic Gardens, Kew, UK. ISBN 1 84246 065 X (pbk), £50/\$82.50.

The Convention on Biodiversity (CBD) is of central importance to all those working towards the conservation and sustainable utilization of species, ecosystems and landscapes. *The CBD for Botanists* is an introductory manual to the CBD, comprising a CD-ROM based PowerPoint presentation with accompanying hard copy notes (all in Adobe Acrobat format), including sheets suitable for photocopying for use with an overhead projector. The pack is available in English, Spanish and French language versions. The manual embraces the whole of the CBD but emphasises those parts concerned with the practical implications of providing access to genetic resources and benefit sharing.

Future Nature: A Vision for Conservation (revised edition) by W.M. Adams (2003), xvii + 276 pp., Earthscan, London, UK. ISBN 2 85383 998 1 (pbk), £14.95/\$24.95.

A revised edition of the original 1995 book of the same name, with a new Introduction and a lengthy Postscript. *Future Nature* was originally written for the British Association of Nature Conservationists, to provide a

critique of ideas and policy for conservation in the UK. The lengthy Postscript (33 pages) looks at developments and events since 1995, analyzing the problems that conservation faces, and the links between nature and culture, and economics and the countryside.

The following publications have been received at the Editorial Office and may be of interest to readers:

Vital Signs 2003–2004: the Trends that are Shaping our Future by the Worldwatch Institute in cooperation with the United Nations Environment Programme (2003), 153 pp., Earthscan Publications Ltd, London, UK. ISBN 1 84407 021 2 (pbk), £14.95.

Wildlife Population Growth Rates by R.M. Sibley, J. Hone, T. H. Clutton-Brock (2003), viii + 362 pp., Cambridge University Press, Cambridge, UK. ISBN 0 521 53347 3 (pbk), £29.95 (\$45.00), 0 521 82608 X (hbk), £70.00 (\$100.00).

Capturing Carbon & Conserving Biodiversity: The Market Approach edited by Ian R. Swingland (2003), xxiv + 368 pp., Earthscan, London, UK. ISBN 1 85283 950 7 (hbk), £55.00, 1 85383 951 5 (pbk), £19.95.

The 2030 Spike: Countdown to Global Catastrophe by Colin Mason (2003), iv + 250 pp., Earthscan Publications Ltd, London, UK. ISBN 1 84407 018 2 (hbk), £17.95/\$29.95.

Important Bird Areas in Tanzania: A First Inventory by Neil & Elizabeth Baker, ii + 303 pp., The Wildlife Conservation Society of Tanzania, Dar es Salaam, Tanzania. ISBN 9987 558 04 6 (pbk), US\$ 30.00.

This publication was unpriced in *Oryx* 37(3), p.384; it can be obtained from The Wildlife Conservation Society of Tanzania, P.O. Box 70919, Dar es Salaam, Tanzania, E-mail wcst@africaonline.co.tz