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Conservation Science and Practice Series

Recreational Hunting, Conservation and Rural Livelihoods: Science and Practice

Edited by

Barney Dickson, Jon Hutton and William M. Adams

WILEY-BLACKWELL
A John Wiley & Sons, Ltd., Publication

This edition first published 2009, © 2009 by Blackwell Publishing Ltd

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Registered office
John Wiley & Sons Ltd, The Atrium, Southern Gate, Chichester, West Sussex, PO19 8SQ, UK

Editorial offices
9600 Garsington Road, Oxford, OX4 2DQ, UK
The Atrium, Southern Gate, Chichester, West Sussex, PO19 8SQ, UK
111 River Street, Hoboken, NJ 07030-5774, USA

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Library of Congress Cataloging-in-Publication Data
Recreational hunting, conservation, and rural livelihoods / edited by Barney Dickson, Jonathan Hutton, and Bill Adams.
p. cm. – (Conservation science and practice series)
Includes bibliographical references.
ISBN: 978-1-4051-6785-7 (pbk: alk. paper)
ISBN: 978-1-4051-9142-5 (hardback: alk. paper)
1. Hunting. 2. Wildlife conservation. 3. Rural development. I. Dickson, Barney. II. Hutton, Jonathan. III. Adams, W. M. (William Mark), 1955-

SK35.R3955 2009
179'.3–dc22

2008029047

A catalogue record for this book is available from the British Library.

Set in Minion 10.5/12.5 by Newgen Imaging Systems (P) Ltd, Chennai, India
Printed in Malaysia by Vivar Printing Sdn Bhd

1 2009

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Preface and Acknowledgements

The contents represent the authors' own views and do not necessarily reflect the views and policies of UNEP or associated organizations.

This book includes a number of chapters derived from presentations made at a conference on 'Recreational Hunting, Conservation and Rural Livelihoods: Science and Practice' held in London in October 2006. This meeting was a Zoological Society of London (ZSL) Symposium in Conservation Biology, and was organised by the IUCN Species Survival Commission Sustainable Use Specialist Group (IUCN/SSC SUSG). The editors of the present volume worked with Kai-Uwe Wollscheid and Robin Sharp in preparing the conference. The book also reflects discussion at the two-day IUCN/SSC SUSG workshop discussing policy options for the regulation of hunting (and particularly the possible role of standards and certification) that followed that conference. This workshop was attended by conservation scientists and administrators, social scientists and a range of non-governmental organisations. It was organised by Jon Hutton, Kai-Uwe Wollscheid, Robin Sharp and Barney Dickson.

While the present book contains a number of chapters based on presentations to the 2006 conference, it has been conceived of and created as an independent volume. None of the organisations who supported the meetings have had a role in determining the book's content, or have sought to do so. As editors, we have been free to select authors and work with them to develop a book that addresses what we see as the key issues relating to recreational hunting, conservation and livelihoods. All editorial decisions have been made by the editors alone and any deficiencies or biases in the book are our responsibility. Doubtless others would have made different choices, but we hope that the balance of view that we have struck here, together with the critical and detailed consideration of hunting in this volume, will contribute to debate on this important issue, and move it forwards.

We would like to thank the ZSL for hosting the conference which led to this book, and to the IUCN/SSC SUSG for organising the event with ZSL. Joy Miller and Linda DaVolls, of ZSL, worked with skill and good grace.

ZSL is also thanked for hosting the IUCN/SSC SUSG workshop on policy options that followed the conference. We are grateful to the following additional organisations for supporting the conference and workshop: CIC (International Council for Game and Wildlife Conservation), Conservation Force, Dallas Safari Club, Safari Club International Foundation, Sand County Foundation. We thank Zsuzsanna Holtsuk, Robin Sharp and Kai Wollscheid for their tireless work in planning the two meetings. The following individuals provided invaluable advice and/or practical support: Bob Byrne, Rosie Cooney, Holly Dublin, Lee Foote, Milton Freeman, Brent Haglund, John J. Jackson III, Mike Jones, Georgina Mace, John Robinson, Chris Weaver and Mark Wright. We thank all those who made presentations at the conference and/or participated in the IUCN/SSC SUSG workshop.

We are grateful to Ward Cooper, Delia Sandford and Rosie Hayden at Wiley-Blackwell for their patience and attention to detail in the preparation of this book; to Ian Agnew (Department of Geography, University of Cambridge) for drawing the final maps and figures; and to ZSL for their continued support in this regard. Finally, we thank our own institutions for their support throughout this process: the Department of Geography at the University of Cambridge; Fauna & Flora International; Resource Africa; and the UNEP-World Conservation Monitoring Centre.

Barney Dickson, Jon Hutton and William M. Adams
August 2008

Contributors

William M. (Bill) Adams is Moran Professor of Conservation and Development at the University of Cambridge. He is based in the Department of Geography at the University, where he has taught since 1984. His research focuses on the social dimensions of conservation in Africa and the UK. He is a Trustee of Fauna & Flora International. Department of Geography, University of Cambridge CB2 3EN, UK. wa12@cam.ac.uk

Nicholas J. Aebischer is the Deputy Director of Research at the Game and Wildlife Conservation Trust. His research interests lie in understanding the processes driving declining farmland bird populations and in applying that understanding to their conservation. Game and Wildlife Conservation Trust, Fordingbridge, Hampshire SP6 1EF, UK. naebischer@gct.org.uk

Robert Arlinghaus is Junior Professor for Inland Fisheries Management at Humboldt University of Berlin and Leader of the Recreational Fisheries Research Laboratory at the Leibniz Institute of Freshwater Ecology and Inland Fisheries in Berlin. He studies the social, economic and ecological dimensions of recreational fisheries. Department of Biology and Ecology of Fishes, Müggelseedamm 310, 12587 Berlin, Germany. arlinghaus@igb-berlin.de

Rolf D. Baldus is an economist and German civil servant who worked in Tanzania as Director of the Selous Conservation Programme between 1987 and 1993 and as Government Advisor to the Wildlife Department from 1998 to 2005. He serves as President of the Tropical Game Commission in the International Council for Game and Wildlife Management (CIC). His publications are available from: www.wildlife-Baldus.com. Rolf.Baldus@bmz.bund.de

Vernon R. Booth is a Freelance Wildlife Management Consultant, Harare, Zimbabwe with 25 years experience in southern and eastern Africa. His expertise includes the economic and financial implications of wildlife conservation, management and utilisation (both consumptive and non-consumptive), and

the management and administration of tourism and hunting concession areas, from both landowner and concessionaire perspectives, on private, communal and state land. verlyn5253@yahoo.co.uk

Nils Bunnefeld was a member of the Conservation Science Research Group in the Division of Biology, Silwood Park, Imperial College London where he did his PhD on red grouse. He is now a postdoctoral scientist working on moose at the Swedish University of Agricultural Sciences. Department of Wildlife, Fish and Environmental Studies, Swedish University of Agricultural Sciences, 901 83 Umeå, Sweden. nils.bunnefeld@vfm.slu.se

Brian Child is an Associate Professor in Geography at the University of Florida specialising in park management and community conservation. He has worked extensively in southern Africa, including supporting the CAMPFIRE program and game ranching in Zimbabwe, and community conservation and park management in Zambia. Center for African Studies & Department of Geography, University of Florida, PO Box 117315, Gainesville, FL 32611-7315, USA. BChild@africa.ufl.edu

Steven J. Cooke is Assistant Professor and Director of the Fish Ecology and Conservation Physiology Laboratory in the Department of Biology at Carleton University in Ottawa, Canada. His research focuses on understanding the effects of recreational fishing on fish, fisheries, and the environment. Institute of Environmental Science and Department of Biology, Carleton University, 1125 Colonel By Drive, Ottawa, Canada ON K1S 5B6. scooke@connect.carleton.ca

David H.M. Cumming was previously Chief Ecologist and Deputy Director of Zimbabwe's Department of National Parks and Wild Life Management and later Conservation Director for WWF in Southern Africa. He is presently an Honorary Professor at the Percy FitzPatrick Institute, University of Cape Town, a Research Associate at the University of Zimbabwe, and an independent consultant in conservation and development. cummingdhm@gmail.com

Richard Davies is a self-employed wildlife business consultant. He started his conservation career in Zululand where he gained valuable field experience. He soon realised however that the challenges facing conservation were mostly socioeconomic. He has since focused on adding value to wildlife, improving management efficiency and the responsible, sustainable use of wildlife resources. PO Box 5693, Helderberg 7135, South Africa. rdavies@iafrica.com

Barney Dickson is Head of Climate Change and Biodiversity at UNEP World Conservation Monitoring Centre. In the past fifteen years he has worked

on a range of conservation issues including conservation and poverty reduction and sustainable use. UNEP-WCMC, 219 Huntingdon Road, Cambridge CB3 0DL, UK. barney.dickson@unep-wcmc.org

Holly T. Dublin was until recently Chair of the IUCN Species Survival Commission. For over 20 years, she served as a Senior Conservation Adviser to WWF International. Her work focused on community-based natural resource management, sustainable use, protected area planning and biodiversity conservation across sub-Saharan Africa. C/o South African National Biodiversity Institute, Centre for Biodiversity Conservation, Private Bag X7, Claremont 7735, Cape Town, South Africa. holly.dublin@gmail.com

Adam Dutton is an environmental economist specialising in issues pertaining to the extractive use and trade of species. He is currently a D.Phil. candidate at the Wildlife Conservation Research Unit, Department of Zoology, University of Oxford, Tubney House, Tubney OX13 5QL, UK. adam.dutton@zoo.ox.ac.uk

Marco Festa-Bianchet is a Professor of Ecology and Conservation Biology at the University of Sherbrooke in Canada. He has been working on the population dynamics, evolutionary ecology and conservation of large herbivores, mainly mountain ungulates, for 27 years. Marco served for four years as Chair of the Committee on the Status of Endangered Wildlife in Canada and chairs the IUCN Caprinae Specialist Group. Département de biologie, Université de Sherbrooke, Sherbrooke, Québec, Canada J1K 2R1. m.festa@USherbrooke.ca

Michael R. Frisina is an Executive Director, August L. Hormay Wildlands Institute, Inc. and also an Adjunct Professor of Range Science at Montana State University and has held various positions with Montana Fish, Wildlife and Parks since 1969 where he is currently Range/Habitat Coordinator. He has M.S. and B.S. degrees in wildlife management and in 2004 was awarded an honorary doctorate in agriculture from Montana State University, Bozeman. Affiliation: Montana State University, Department of Animal and Range Sciences, Bozeman, MT, USA. Address: PO Box 4712, Butte, MT 59701, USA. habitat@bresnan.net

Kas Hamman has 36 years' experience in practical management and theoretical knowledge dissemination on wide-ranging aspects of biodiversity conservation. He has published a number of scientific and popular articles and has, over an extended period, focused his contribution on providing a scientific basis for sustainable biodiversity management to conservation managers in the Western Cape and South Africa. khamman@capenature.co.za

Jon Hutton is Director of the UNEP World Conservation Monitoring Centre based in Cambridge, UK. He is on the Steering Committee of IUCN's Species Survival Commission, Chair of its Sustainable Use Specialist Group and Honorary Professor of Sustainable Resource Use with the Durrell Institute of Conservation and Ecology. UNEP-WCMC, 219 Huntingdon Road, Cambridge CB3 0DL, UK. jon.hutton@unep-wcmc.org

Brian T.B. Jones is an environment and development consultant, working mainly in community-based conservation in Namibia and the SADC region. He worked for the Namibian Ministry of Environment and Tourism for ten years where he coordinated the Ministry's community-based conservation programme. Brian has an M.Phil. in Applied Social Sciences. PO Box 9455, Eros, Windhoek, Namibia. bjones@mweb.com.na

Robert E. Kenward is a Fellow of NERC Centre for Ecology and Hydrology. He served the International Association for Falconry and Conservation of Birds of Prey committee for 30 years, Raptor Research Foundation as a Director for 12 and now chairs Anatrack Ltd and IUCN-SSC European Sustainable Use Specialist Group, Wareham, UK. reke@ceh.ac.uk

Richard H. Lamprey is an ecologist, and has worked extensively in Kenya, Tanzania, Uganda, Ethiopia and Eritrea. His particular focus is in ecological monitoring and protected area planning. From 1995 to 2005 he worked with the Uganda Wildlife Authority in preparing a country-wide protected area system plan. He is now Fauna & Flora International's East Africa Technical Specialist. PO Box 20110-00200, Nairobi, Kenya. lamprey@infocom.co.ug

Nigel Leader-Williams has worked on issues related to hunting in both Africa and in UK. During the 1990s, he was Chief Technical Advisor to the Government of Tanzania, and made recommendations to reform the country's tourist hunting industry. He is currently Director of the Durrell Institute of Conservation and Ecology at the University of Kent, Canterbury, UK. N. Leader-Williams@kent.ac.uk

Raymond (Ray) Lee is the President of the Foundation for North American Wild Sheep. Prior to coming to the Foundation in 2000, Ray worked as the Big Game Management Supervisor for the Arizona Game and Fish Department. While in that position, he was instrumental in transplanting over 1000 bighorn sheep.The Foundation's International Headquarters are located at 720 Allen Avenue, Cody, Wyoming, USA. rlee@fnaws.org

Andrew J. Loveridge is a Postdoctoral Research Fellow at the Wildlife Conservation Research Unit, Department of Zoology, University of Oxford with research interests including the behavioural ecology and

conservation of African carnivores and the value of sustainable utilisation of African wildlife to conservation. Wildlife Conservation Research Unit, Department of Zoology, University of Oxford, Tubney House, Tubney OX13 5QL, UK. andrew.loveridge@zoo.ox.ac.uk

Hector Magome has over 20 years experience in biodiversity conservation. He gained his PhD – which was awarded the Fiona Alexander Prize – from the Durrell Institute of Conservation and Ecology at the University of Kent. He is currently Executive Director of Conservation of South African National Parks. SANParks, PO Box 787, Pretoria 0001, South Africa. HectorM@sanparks.org

Shane Patrick Mahoney is Executive Director of the Sustainable Development and Strategic Science Branch of the Department of Environment and Conservation, and founder and Executive Director of the Institute for Biodiversity, Ecosystem Science and Sustainability (IBES), Government of Newfoundland and Labrador, Canada. Conservation Visions, PO Box 37014, 720 Water Street West, St. John's, Newfoundland, Canada A1E 5Y2. conservationvisions@nf.sympatico.ca

E.J. Milner-Gulland is Professor of Conservation Science Research Group in Division of Biology at Imperial College London, based at the Silwood Park Campus. Her interests are in the conservation and sustainable use of wildlife, particularly the saiga antelope, and in optimising monitoring for community participation, detecting ecological trends and compliance. e.j.milner-gulland@imperial.ac.uk, www.iccs.org.uk

Arthur Mugisha has a PhD in protected areas management. He has worked in National Parks' Services East Africa for over 17 years and served as the chief executive of the Uganda Wildlife Authority. Currently, he is a technical specialist for Fauna & Flora International, affiliated to the International Gorilla Conservation Program. Ruth Towers, Ground Floor, 5A Clement Hill Road, PO Box 28217, Kampala, Uganda. Mugisha.arthur@gmail.com

Craig Packer is from the Department of Ecology, Evolution and Behavior, University of Minnesota, 1987 Upper Buford Circle, St. Paul, MN 55108, USA. packer@umn.edu

Dr Gil Proaktor is a member of the Conservation Science Research Group in the Division of Biology, Silwood Park, Imperial College London. Silwood Park, Buckhurst Road, Ascot, Berks SL5 7PY, UK. gil.proaktor03@imperial.ac.uk

Alison M. Rosser has more than 15 years experience of sustainable use and wildlife trade issues working with both IUCN and TRAFFIC East – Southern

Africa. She currently lectures on CITES and sustainable use issues at the Durrell Institute for Conservation and Ecology at the University of Kent, Canterbury, Kent CT2 7NR, UK. a.m.rosser@kent.ac.uk

Robin Sharp CB is Chair Emeritus of the IUCN/Species Survival Commission's European Sustainable Use Specialist Group, having been Chair from 1997 to 2007, and edits *Sustainable*, the global Group's newsletter. Before retiring in 1995 he was a senior civil servant in the UK Department of Environment. 30 Windermere Avenue, London NW6 6LN, UK. robisharp@googlemail.com.

R.J. (Bob) Smith has worked on conservation issues since 1996, based mainly in southern Africa and the UK. Most of his research has used the systematic conservation planning approach to develop conservation landscapes, but for the last 5 years he has also been interested in the impacts of corruption on conservation outcomes. He is currently a Research Fellow at the Durrell Institute of Conservation and Ecology at the University of Kent, Canterbury, UK. R.J.Smith@kent.ac.uk

Sardar Naseer A. Tareen is Chairman of the IUCN Central Asian Sustainable Use Group, serves as a member of WWF-Pakistan's governing body and is a member of the Balochistan Wildlife Board. He is a filmmaker and graduate in cinema graphics from the California Institute of Arts in Los Angeles. In 2002 he was honoured for his conservation achievements as one of Pakistan's 'Green Pioneers'. SUSG-CAsia, BRSP House, 5-A, Sariyab Road, PO Box 276, Quetta, Balochistan, Pakistan. naseertareen_susg@yahoo.com

William (Bill) Wall has extensive field experience in wildlife management including the development of conservation hunting programmes in Mexico, Russia and Central Asia, as well as private lands wildlife management strategies on corporate timberlands in the US. He is currently establishing an integrated sustainable approach to management of private native-corporation lands in Alaska. 198 Montana Dr., PO Box 988, Seeley Lake, MT 59868, USA. williamwall11@gmail.com

Kai-Uwe Wollscheid is Director General of the International Council for Game and Wildlife Conservation (CIC). He is Committee Member of the IUCN European Sustainable Use Specialist Group. He has an MSc in forestry and has worked on land use management, wildlife conservation and policy development in Asia, Africa and Europe. CIC Administrative Office, PO Box 82, H-2092 Budakeszi, Hungary. k.wollscheid@cic-wildlife.org

Introduction

Jon Hutton[1]*, William M. Adams*[2] *and Barney Dickson*[1]

[1]UNEP-World Conservation Monitoring Centre, Cambridge, UK
[2]Department of Geography, University of Cambridge, UK

Hunting has long been a controversial issue in conservation. Human hunters have been responsible for the extinction of many species, from the depredations of the first human occupiers of new lands in the Pleistocene to the more recent actions of sailors, farmers and settlers involved in European imperial expansion. From the 16th century, sailors whose global reach exceeded their ability to store food stripped tropical islands not only of forests for timber, but of easily caught and stored meat such as tortoises, the dodo *Raphus cucullatus*, and later the great auk *Pinguinus impennis*. From the 18th century, the insatiable hunger for pelts and oil drove the extinction of many populations of whales, fur seals, sea otters, almost incidentally wiping out Steller's seacow *Hydrodamalis gigas*.

Historically, recreational hunting has played an important role in local extinctions, particularly of species already made rare (and hence perversely attractive) by other forces. Classic examples would be the hunting of game in the South African Cape and the near-extinction of the American bison. Fear of such pressures was a major factor in the establishment of conservation organisations at the start of the 20th century. The theme of hunter-turned-conservationist persisted through the 20th century, and with it debates about the extent to which conservation and hunting are compatible.

These debates have often focused on the biology of hunted populations and the sustainability of hunting: how many animals can be removed from a population without decline? The discussions have extended to the institutional questions of how hunting can be kept within scientifically defined limits, but have tended to be independent of the growing concerns about animal welfare

Recreational Hunting, Conservation and Rural Livelihoods: Science and Practice, 1st edition.
Edited by B. Dickson, J. Hutton and W.M. Adams.
ISBN 978-1-4051-6785-7 (pb) and 978-1-4051-9142-5 (hb).

and rights, and questions of the ethics and appropriateness of recreational hunting.

In recent decades, however, as conservation has begun to address its social context, with concerns about the welfare of people in and around protected areas, and the needs of poor people in biodiversity-rich countries of the developing world, the questions asked about conservation and hunting have expanded:

- Can recreational hunting be done in such a way that it contributes to conservation rather than threatening animal populations?
- Can recreational hunting contribute to the reduction of poverty, especially the livelihoods of rural people?
- Can recreational hunting be justified ethically?

These three issues are far more complex than this bald formulation suggests; moreover, they are intricately linked together.

In the 21st century, therefore, it is not surprising that hunting for recreational purposes continues to be controversial. Hunters insist that their activity is an important conservation tool and, increasingly, it is suggested that recreational hunting can provide significant livelihood benefits in remote rural areas where opportunities are few and far between. However, these conservation and livelihood benefits are disputed. Meanwhile strong ethical concerns are raised about the morality of hunting for 'pleasure'.

For the conservationist, recreational hunting poses special challenges. From a biological perspective there are the effects of removing individual animals on population dynamics, population genetics, reproductive rates, life histories and the ecology of threatened species and ecosystems. In theory, the intensity of hunting can be adjusted so that it is made sustainable, and it is possible to conceive of arrangements (especially the sharing of income from professional hunting tourism businesses) such that recreational hunting could provide income for poor rural communities, and for cash-strapped conservation organisations. In practice, however, it can be difficult to control hunting, and even more difficult to establish the arrangements necessary to make sure that financial benefits go where they are most needed. The role of biology in the search for sustainability is more limited than generally appreciated, and the institutional, economic and political issues are complex and challenging.

This book explores these debates about recreational hunting, conservation and rural development. It discusses recreational hunting in both developing

and developed world contexts, and addresses issues of science, ethics and livelihoods, as well as governance, policy and regulation. The different authors manifest a range of views on these issues; some are sympathetic to the value of recreational hunting while others are more neutral or sceptical.

In the first section of the book, Leader-Williams sets out some of the central themes of the book and discusses how the many forms of recreational hunting are to be defined. He outlines important controversies in debates about hunting in developed and developing countries, and considers the contribution of recreational hunting to rural livelihoods and to conservation. He suggests that those who wish to defend of recreational hunting should explain the benefits of the practice more clearly. Sharp and Wollscheid examine recreational hunting in North America, Europe and Australia. They outline the different forms it takes and note its significant economic scale. They also comment on the difficulty of finding systematic data about hunting and the need to address this information gap. Arlinghaus and Cooke extend the discussion of terrestrial hunting to recreational fishing. They argue that although recreational fishing was once assumed to be a benign phenomenon, this is not necessarily the case and they identify a variety of challenges that need to be addressed by new forms of adaptive management that integrate the findings of both biological and social sciences. Dickson surveys some of the main ethical arguments for and against recreational hunting. He notes that these arguments differ in their fundamental ethical starting points, but also suggests that each of them, considered on its own, is too simplistic. What is needed in order to make a proper assessment of the ethics of recreational hunting is a richer and more differentiated account of what we value in the natural world and why.

In the second section of the book – on the science of recreational hunting – Milner-Gulland *et al.* review some of the key scientific aspects of hunting that have implications for understanding its sustainability. These include the selective nature of much recreational hunting, the risk of over-exploitation and the uncertainty often associated with both monitoring and the socioeconomic context in which hunting takes place. Festa-Bianchet and Lee analyse the selective pressure of trophy hunting of bighorn sheep *Ovis canadensis*. They identify one case where such hunting has clearly had negative conservation impacts and analyse what is necessary to avoid such an outcome. They cite evidence that the appropriate management of recreational hunting can deliver benefits for conservation. Loveridge *et al.* examine the trophy hunting of the African lion *Panthera leo*. They describe situations where such hunting is not advisable but also argue that well regulated and well monitored hunting has

only small impacts on lion populations and has the potential to contribute to the area of land available for the species. They discuss how to address some of the challenges of effective monitoring.

The third section of the book considers the question of the contribution of hunting to the livelihoods of rural people. Adams reviews the history of the relations between recreational hunting and local people. He notes that in contemporary Africa, while hunting can provide a valuable source of revenue for private landowners and for state-owned safari areas, the creation of such opportunities has often involved the dispossession of rural Africans. The challenge is to find ways of reversing this model. Frisina and Tareen describe a case study from Pakistan where the recreational hunting of dwindling populations of Suleiman markhor *Capra falconeri jerdoni* and Afghan urial *Ovis orientalis cycloceros* has recently played a central role in reversing the decline and has made a significant contribution to rural development. Jones analyses how community-based natural resource management in southern Africa has relied on recreational hunting as a source of both material and non-material benefits. He notes that the level of benefit can vary considerably and can be difficult to assess. There are, however, questions about how benefits are distributed within communities and national policy and legislation also has a big impact on the scale and nature of benefits.

The fourth section of the book comprises case studies of policy and practice in different contexts. Kenward discusses falconry. He outlines the history of the practice and considers its contribution to conservation and the challenges it faces. Aebischer's concern is with gamebird shooting in lowland UK. He argues that agricultural policies after 1945 were the main cause of the decline of key species, but contends that more recent policies offer a promising opportunity to reverse the decline and restore biodiversity. Lamprey and Mugisha describe the reintroduction of recreational hunting in Uganda. Their view is that it may be a successful tool for conservation, but only in open ecosystems and where the practice provides substantial benefits to local landowners and communities. Davies *et al.* analyse the attempt to combine both recreational hunting and photo-tourism in two South African protected areas. Contrary to accepted wisdom, the authors found that it has been possible to pursue both activities successfully in one of the areas.

The book then turns to an exploration of the way hunting is organised and governed. There is a particular emphasis on the different roles that the market and the State does and could play in shaping the nature and consequences of recreational hunting. Wall and Child discuss the institutional conditions

for successful 'conservation hunting'. They argue that in many developing countries these conditions include the appropriate sharing of benefits, power and responsibility between landholders and simple monitoring systems that track a few key indicators of success such as data on trophy quality. Mahoney identifies what the key principles of what he sees as the successful North American model of recreational hunting. These include the maintenance of wildlife as a public trust resource and prohibiting commerce in dead wildlife and its products. Booth and Cumming examine the contrasting case of recreational hunting in southern Africa. There the key element has been the devolution of rights over wildlife resources to landholders, whether those are private landowners or local communities. Leader-Williams *et al.* consider how corruption may influence recreational hunting and assess what avenues are open to reform the governance of recreational hunting. The final section of the book considers two different policy approaches to recreational hunting. Rosser reviews the familiar regulatory approach at both national and international levels. Child and Wall consider the potential of harnessing consumer choice, as exercised by hunters, to ensure the sustainability of hunting. Such choices would be informed by a system of certification. The authors argue that a simple and robust form of certification will best serve this goal. In the concluding chapter Adams *et al.* summarise the key challenges facing recreational hunting and consider how the debates about hunting, conservation and livelihoods may evolve in the future.

Conservation and Hunting

1

Conservation and Hunting: Friends or Foes?

Nigel Leader-Williams

Durrell Institute of Conservation and Ecology,
University of Kent, Canterbury, UK

Introduction

This chapter provides a brief introduction to the topic of recreational hunting. First, the chapter seeks a general understanding of the term 'recreational hunting'. Second, it raises some of the controversial debates that surround recreational hunting. Third, it outlines some of the scientific approaches that can underpin the biological sustainability of recreational hunting. Fourth, it discusses some of the debates over the contributions that recreational hunting can make to rural livelihoods. Fifth, it considers some contributions that recreational hunting makes to conservation. Finally, the chapter discusses some challenges that face those who wish to continue hunting for their recreation, and some of the opportunities now presented.

What is recreational hunting?

Hunting as sport or recreational pursuit has been described from the earliest histories and literatures (Adams, this volume, Chapter 8). However,

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Edited by B. Dickson, J. Hutton and W.M. Adams.
ISBN 978-1-4051-6785-7 (pb) and 978-1-4051-9142-5 (hb).

hunting has developed very differently across different periods of history and in different cultures. The aboriginal hunter, the ancient Assyrian king, the medieval poacher, the Victorian trophy hunter, and the modern sports hunter have all killed animals. However, they have not performed the same act. The weapons used, the game pursued, the reasons and justifications offered, the symbolic functions that their hunting has fulfilled, the legal restrictions that have applied to hunting, and the impacts on the ecological systems in which hunting has taken place, have all been different (King, 1991).

Much hunting that is practised for sport or recreation today targets large mammals and uses guns. Many terms are currently used to describe contemporary forms of hunting, including 'sport hunting', 'trophy hunting', 'tourist hunting', 'hunting tourism', 'field sports', and others. Equally, the over-arching term of 'recreational hunting' has entered the lexicon more recently, so I now seek some understanding of the term.

The *Oxford English Dictionary* defines the verb to hunt as 'to go in pursuit of wild animals or game' or 'to engage in the chase', and hunting as the action of the verb to hunt. Furthermore, the noun recreation is defined as 'the action of recreating oneself or another … by some pleasant occupation, pastime or amusement'. Taken in combination, recreational hunting might be construed as the 'pleasant occupation of going in pursuit of wild animals or game, or of engaging in the chase'.

This dictionary definition of hunting does not include killing the quarry. Indeed, anthropologists stress the importance of the 'sporting chance' to the true recreational hunter (Marvin, 2006). The quarry should present a challenge to the hunter, such that any killing occurs only at the end of a contest that is far from certain. The hope and intention of the true recreational hunter is to kill the quarry, but the skills used to find the quarry, and how the quarry is killed, are far more important than the fact the quarry is killed. Put another way 'one does not hunt in order to kill, but rather the reverse, one kills in order to have hunted' (Ortega & Gassett, 1968, in Marvin, 2006).

Anthropologists also stress how important are the specific cultural contexts in which different forms of recreational hunting are practised (Marvin, 2006). These include both premeditated actions performed before the hunt takes place, such as obtaining permission to hunt, travelling to the hunting area and seeking suitable quarry to kill legally, and the cultural norms associated with the hunt. After any kill, culturally determined actions may include collecting trophies from the hunted quarry, as well as gutting, tagging, butchering, freezing, and eating it. Put another way, the cultural context can shape decisions

on when to hunt, what to hunt, how to hunt, what technology to use and how to dress (Moriarty & Woods, 1997). The latter is probably best epitomised by the traditional hunting pink of those who hunt foxes *Vulpes vulpes* on horseback with dogs. The khaki of the classic African hunting safari, and the tweed and waxed jackets of a European gamebird shoot, are somewhat less regimented, but nevertheless culturally distinctive, as well as practically suited to prevailing landscapes and weather conditions.

On this basis, I suggest that 'recreational hunting' refers to hunting where the hunter or hunters pursue their quarry for recreation or pleasure. The enjoyment of recreational hunters arises from the social and cultural norms associated with the hunt and from the sporting contest that occurs between hunter and quarry, which need not necessarily include killing the quarry.

Recreational hunters may seek a range of quarry species, from large mammals to small birds, and use a range of technologies in pursuit of their quarry, from more traditional bows and arrows, traps, dogs, falcons and ferrets, to more modern guns and rifles, and most recently to tranquillising dart guns. Besides enjoying the hunt, recreational hunters may also be seeking a trophy, and/or meat for consumption, and/or to make a direct or indirect contribution to population management and habitat conservation goals. Thus, recreational hunting is a multi-faceted activity that is variously motivated and takes place in many ecological and sociopolitical landscapes (see also Loveridge *et al.*, 2006).

Controversial debates?

Recreational hunting is the subject of considerable debate. Proponents and practitioners cite the conservation and socioeconomic benefits of recreational hunting. In contrast, opponents are concerned with issues of sustainability, and of ethics, animal welfare and animal rights.

Proponents claim that much recreational hunting has minimal biological impact, as it is generally selective of appropriate sex and age classes that do not significantly impact on the hunted population (Jackson, 1996). Thus, scientists have noted that yields from recreational hunting mostly tend to be very conservative and well below maximum sustained yields; that is, they involve off takes that should allow ongoing harvests in perpetuity (Caughley & Gunn, 1995). Indeed, practitioners have noted the recovery of game species such as white-tailed deer *Odocoileus virginianus*, pronghorn antelope

Antilocapra americana, wild turkey *Meleagris gallopavo*, Canada goose *Branta canadensis* and wood duck *Aix sponsa* in North America, through judiciously managed recreational hunting (Jackson, 1996).

Furthermore, proponents assert that recreational hunting allows the use of areas that game-viewing tourists would not visit. In turn, these areas remain under conservation management because of the economic incentives that hunting provides. Such areas include 'low' categories of protected areas (PAs) that allow forms of sustainable use. These are areas generally classified internationally by IUCN in their Categories IV to VI (IUCN, 1994), while commonly used national designations include game reserves and controlled hunting areas. Recreational hunting may also be an important use of private and communal lands that again remain under conservation management. In southern African countries like Zimbabwe and Namibia, the use of private and communal land areas for recreational hunting has doubled the areas under conservation management without the burden of the costs of this extra management falling on to already stretched State conservation agencies (Child, 1995). In turn, the use of such lands for recreational hunting can provide community benefits in remote rural areas (Jones, this volume).

Proponents also claim that the high financial returns derived from recreational hunting can provide important benefits to national exchequers and to local communities (Leader-Williams, 2000). The daily rates charged to recreational hunters who travel as tourists to developing countries are much higher per capita than are those generally charged for game-viewing tourism. Furthermore, hunting and trophy fees are set at hundreds and thousands of dollars per trophy, depending on the species killed, while park entrance fees are set in fives, tens and twenties of dollars. Therefore, game-viewing tourists need to be accommodated in much larger numbers than do hunters to achieve the same returns (Leader-Williams, 2000; Loveridge *et al.,* 2006). In turn, recreational hunters have much lower infrastructural requirements than game-viewing tourists, who may have considerable direct environmental impacts, for example through their need for lodges and roads, and for water extraction and waste disposal (Roe *et al.,* 1997).

Opponents of recreational hunting claim that much hunting has been biologically unsustainable (Loveridge *et al.,* 2006). Concerns have long been raised about its demographic impacts (Milner-Gulland *et al.*, this volume, Chapter 5) and more recently about its genetic impacts (Festa-Bianchet & Lee, this volume, Chapter 6). Indeed, some traditional forms of hunting practised for recreation are worryingly unsustainable, for example the millions of migratory

birds shot and trapped annually by Mediterranean hunters (McCulloch *et al.,* 1992; www.birdlife.org/action/change/sustainable_hunting/index.html).

The indiscriminate slaughter of these migratory birds also flouts many of the ethical values associated with the notion of the sporting chance in recreational hunting. Likewise, forms of 'canned' hunting, where the quarry animal is also not afforded a sporting chance, are particularly open to attack by opponents. Other grounds for opposition arise from concerns over animal welfare and animal rights (Dickson, this volume, Chapter 4). Hunting by long chases may prove stressful to the hunted animal, as was suggested for red deer *Cervus elaphus* hunted by dogs in Exmoor (Bateson & Bradshaw, 1997), a finding that was subsequently contested (Harris *et al.*, 1999).

Taken overall, the position of the opponents of recreational hunting remains fixed, and they consider it to be anachronistic, unnecessary and morally unacceptable, often irrespective of scientific facts or evidence of conservation benefits. They may pursue their opposition at different political levels, ranging from the local to the national and international. Local opposition may result in protests and attempts to disrupt hunting activities. National opposition may result in attempts to achieve national bans of particular types of hunting through lobbying national parliaments, as recently occurred for hunting with dogs in Britain. Opposition at the international level may play out at biennial Conferences of the Parties to the Convention in International Trade in Endangered Species of Wild Fauna and Flora (CITES), during acrimonious debates over proposals to promote the conservation benefits of trophy hunting of species listed in Appendix I. At whatever level this opposition is played out, the debate can become highly politicised. For example, the government department that managed the parliamentary debates over hunting with dogs in England and Wales recently noted that an 'inordinate' amount of parliamentary time had been spent on this issue over last few years, over 240 hours since 1997 (www.defra.gov.uk/rural/hunting, posted on 28 September 2004).

Such controversy raises the question of what issues should be paramount in discussions of recreational hunting. For many in developed countries, remote from direct experience of living with wild animals, animal welfare and animal rights issues are of greatest importance (Dickson, this volume). Their positions remain firmly fixed, unswayed by any possible conservation gains or social benefits that recreational hunting may offer. Equally, some national policies in developing countries do not allow hunting either. India is opposed to hunting and sustainable use of animals based on its religious practices that

revere the sanctity of animal life (Misra, 2002). Kenya has banned hunting and many forms of sustainable use, both for ethical reasons and because of the difficulty of effectively controlling the management of its once thriving safari-hunting industry (Price Waterhouse, 1996). Such nationally agreed policies clearly require respect from the proponents of recreational hunting. However, the different perspectives that proponents and opponents bring to debates on recreational hunting also present considerable challenges to constructive discussions of its future.

Which are the appropriate scientific approaches?

Over-hunting is one of the original evil quartet of factors that have been responsible for most documented recent extinctions (Caughley & Gunn 1995), and is a factor that continues to threaten species globally (IUCN, 2007). However, it not clear whether any species has been driven to extinction by what is now understood as recreational hunting. The passenger pigeon *Ectopistes migratorius*, once numbered in the millions in North America, became seriously depleted by a combination of habitat loss and unselective commercial shooting. The extent to which those hunting for recreation were responsible for its final demise in the wild is open to question (Schorger, 1955).

Nevertheless, because of concerns about over-hunting, much recent theory has been brought to bear on how to achieve biological sustainability (Loveridge *et al.,* 2006), including source–sink models, sustainable yields and quota setting, and reducing genetic losses while harvesting trophy males (Reynolds *et al.,* 2001; Loveridge *et al.,* 2006). Therefore, the science is now available on which to set conservative yield quotas for well-regulated recreational hunting, even for threatened species. For example, the southern white rhino *Ceratotherium simum simum* has been restored by strategies that included generally well-regulated, recreational hunting in South Africa (Adcock & Emslie, 1994; Leader-Williams, 2002). After their reduction to very low numbers in the early 1900s, white rhinos initially recovered within PAs. Soon after CITES came into force, white rhinos were listed in Appendix I in 1977. Because PAs were exceeding their carrying capacities for rhinos, white rhinos were then increasingly moved to private land. To provide incentives for landowners to keep rhinos, it was made possible for limited numbers of surplus white rhinos to be hunted on private land. Despite some initial regulatory problems