

Cambridge University Press

0521813654 - Biodiversity, Sustainability and Human Communities: Protecting beyond the Protected

Edited by Tim O'Riordan and Susanne Stoll-Kleemann

Frontmatter

[More information](#)

Biodiversity, Sustainability and Human Communities

Biodiversity is the key indicator of a healthy planet and healthy society. Losses of biodiversity have now become widespread and current rates are potentially catastrophic for species and habitat integrity. *Biodiversity, Sustainability and Human Communities* advocates both the preservation of the best remaining habitats and the enhancement of new biodiverse habitats to ensure that they cope with human impact, climate change and alien species invasion. The authors argue that these aims can be achieved by a mix of strict protection, by inclusive involvement of people inside and adjacent to reserves, and by combining livelihoods and social well-being in all future biodiversity management. Case studies from regions around the world, including Europe, the United States, Latin America, Asia and Africa, are examined and discussed, and the contributors include political scientists, economists and ecologists.

TIM O'RIORDAN is Professor of Environmental Sciences at the University of East Anglia, and member of the UK Sustainable Development Commission.

SUSANNE STOLL-KLEEMANN is a senior researcher into the human dimensions of biodiversity and global environmental change affiliated to the Free University of Berlin.

Cambridge University Press

0521813654 - Biodiversity, Sustainability and Human Communities: Protecting beyond the Protected

Edited by Tim O’Riordan and Susanne Stoll-Kleemann

Frontmatter

[More information](#)

Biodiversity, Sustainability and Human Communities

Protecting beyond the Protected

Edited by

Tim O’Riordan

CSERGE, University of East Anglia

and

Susanne Stoll-Kleemann

Free University of Berlin, Germany



CAMBRIDGE
UNIVERSITY PRESS

Cambridge University Press

0521813654 - Biodiversity, Sustainability and Human Communities: Protecting beyond the Protected

Edited by Tim O’Riordan and Susanne Stoll-Kleemann

Frontmatter

[More information](#)

PUBLISHED BY THE PRESS SYNDICATE OF THE UNIVERSITY OF CAMBRIDGE
The Pitt Building, Trumpington Street, Cambridge, United Kingdom

CAMBRIDGE UNIVERSITY PRESS
The Edinburgh Building, Cambridge CB2 2RU, UK
40 West 20th Street, New York, NY 10011-4211, USA
477 Williamstown Road, Port Melbourne, VIC 3207, Australia
Ruiz de Alarcón 13, 28014 Madrid, Spain
Dock House, The Waterfront, Cape Town 8001, South Africa
<http://www.cambridge.org>

© Cambridge University Press 2002

This book is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press.

First published 2002

Printed in the United Kingdom at the University Press, Cambridge

Typeface Plantin 10/12 pt *System* L^AT_EX 2_ε [TB]

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

Library of Congress Cataloguing in Publication data

Biodiversity, sustainability and human communities: Protecting beyond the protected / edited by Tim O’Riordan.

p. cm.

Includes bibliographical references (p.).

ISBN 0 521 81365 4 – ISBN 0 521 89052 7 (pbk)

1. Biological diversity conservation. 2. Sustainable development. I. O’Riordan, Timothy.

QH75.P798 2002
333.95’16’0973–dc21 2002023866

ISBN 0 521 81365 4 hardback
ISBN 0 521 89052 7 paperback

Cambridge University Press

0521813654 - Biodiversity, Sustainability and Human Communities: Protecting beyond
the Protected

Edited by Tim O’Riordan and Susanne Stoll-Kleemann

Frontmatter

[More information](#)

To Fay, who has made me love the future

Tim O’Riordan

Contents

<i>List of figures</i>	<i>page</i> ix
<i>List of tables</i>	x
<i>List of contributors</i>	xii
<i>Preface</i>	xv
Part I Setting the scene	
1 Protecting beyond the protected TIM O’RIORDAN	3
Part II Policy and management	
2 Biodiversity: threats and challenges THOMAS E. LOVEJOY	33
3 Biodiversity and biodepletion: the need for a paradigm shift NORMAN MYERS	46
4 People, livelihoods and collective action in biodiversity management JULES PRETTY	61
5 Deliberative democracy and participatory biodiversity TIM O’RIORDAN AND SUSANNE STOLL-KLEEMANN	87
Part III Case studies	
6 The politics of biodiversity in Europe TIM O’RIORDAN, JENNY FAIRBRASS, MARTIN WELP AND SUSANNE STOLL-KLEEMANN	115
7 Community-based involvement in biodiversity protection in the United States TODDI A. STEELMAN	142
	vii

Cambridge University Press
0521813654 - Biodiversity, Sustainability and Human Communities: Protecting beyond
the Protected
Edited by Tim O’Riordan and Susanne Stoll-Kleemann
Frontmatter
[More information](#)

viii	Contents	
8	An ecoregional approach to biodiversity conservation in the Cape Floral Kingdom, South Africa	168
	AMANDA YOUNGE	
9	Wildlife management in Namibia: the conservancy approach	189
	MARKUS A. NUDING	
10	Brazil: selling biodiversity with local livelihoods	210
	IONE EGLER	
11	The mixed experience of private sector involvement in biodiversity management in Costa Rica	243
	MICHAEL STURM	
12	The uncertain role of biodiversity management in emerging democracies	260
	MARTIN WELP, DANIELA HAMIDOVIĆ, DAMAYATI BUCHORI AND DAVID ARDHIAN	
Part IV Perspective		
13	Enhancing biodiversity and humanity	295
	SUSANNE STOLL-KLEEMANN AND TIM O’RIORDAN	
	Epilogue	311
	WALTER V. REID	
	<i>Index</i>	315

Figures

2.1 The Tree of Life	<i>page</i> 34
9.1 Communal conservancies and location of #Khoadi//Hoas Conservancy	205
9.2 #Khoadi//Hoas Conservancy structure	206
10.1 Original vegetation of Brazil	212
10.2 Land conversion in Brazil	213
10.3 Ecological Corridors proposed in 1998 under the Pilot Programme for the Protection of Brazilian Tropical Forests (PPF7)	214
10.4 Major proposed development for the integration and development axes in the Amazonian region (PPA 2000)	215
10.5 Percentage of resources implemented by different institutions supported by the National Environment Fund (FNMA) between November 1990 and September 1997	232
10.6 Percentage of projects (totalling 498) in different areas supported by the National Environment Fund (FNMA) between November 1990 and September 1997	233
11.1 Protected areas in Costa Rica	244
11.2 Protected areas in and around Monteverde	253
11.3 Visit to a finca with ecological cultivation (coffee) on Reforestation Day (Día de la Reforestación)	256

Tables

3.1	‘Perverse’ subsidies	<i>page</i> 52
4.1	Number of protected area sites and designated areas in strictly protected regimes (end of the 1990s)	62
4.2	Biodiversity outcomes of collective action and group-forming programmes according to a hierarchy of target systems	76
4.3	Summary of programmes and initiatives with favourable biodiversity outcomes	78
9.1	Species and endemism richness of some indigenous Namibian taxa	193
9.2	Numbers of trophy animals hunted in Namibia per year	195
9.3	Economic significance of hunting in southern Africa	199
9.4	Wildlife and livestock utilisation enterprises on communal land in Caprivi, 1993	201
9.5	Wildlife utilisation quota for #Khoadi//Hoas Conservancy 2000	207
10.1	Areas of Brazilian territory designated as federal protected sites in different periods	219
10.2	Federal, state and private protected reserves in Brazil	219
10.3	Most frequent issues raised by environmental organisations in different regions of Brazil, regarding biodiversity conservation priorities, 1995–6	223
10.4	Main sources of vulnerability of protected sites	226
10.5	Some international grants and loans directed to Brazilian integral protected sites in the 1990s	227
10.6	Main sources of vulnerability of protected sites	228
10.7	Targets of non-governmental environmental organisations in Brazil, 1995–96	230
10.8	Preferential themes in the agenda of non-governmental organisations in Brazil	231
10.9	Investments in biodiversity projects during 1985–96	234
10.10	Private investments in biodiversity projects in Brazil	236

Cambridge University Press
0521813654 - Biodiversity, Sustainability and Human Communities: Protecting beyond
the Protected
Edited by Tim O’Riordan and Susanne Stoll-Kleemann
Frontmatter
[More information](#)

List of tables	xi
11.1 INBio: partners and terms of contracts, 1991–2003	248
11.2 Growth of the Reserva and the Children’s Eternal Rainforest	253
11.3 Visitors to the Nature Reserves of Monteverde, 1974–96	254
12.1 Indonesia’s endemic species	276
12.2 Marine facts and figures	279
12.3 FFS achievements: total number of farmers and farmer trainers trained from Fiscal Year (FY) 1993/4 to FY 1999/2000	285

Cambridge University Press

0521813654 - Biodiversity, Sustainability and Human Communities: Protecting beyond the Protected

Edited by Tim O'Riordan and Susanne Stoll-Kleemann

Frontmatter

[More information](#)

Contributors

DAVID ARDHIAN is affiliated to Yayasan Nastari Bogor, a Bogor-based NGO whose main concern is sustainable agriculture and rural democratisation.

DAMAYATI BUCHORI is Head of the Center for Integrated Pest Management in Bogor, Indonesia. She is affiliated to the Center for Environmental Research and Conservation at Columbia University and Wildlife Preservation Trust International – a non-profit organisation based in New York.

IONE EGLER is a Senior Administrator in the Ministry of Science and Technology, Government of Brazil.

JENNY FAIRBRASS is Senior Research Associate at the Centre for Social and Economic Research on the Global Environment at the University of East Anglia, Norwich, UK.

DANIELA HAMIDOVIĆ is an independent researcher in Zagreb, Croatia.

THOMAS E. LOVEJOY is Senior Advisor to the President of the United Nations Foundation and Chief Biodiversity Advisor at the World Bank. A biologist, he is also Research Associate at the Smithsonian Tropical Research Institute. He has worked in the Amazon on science and conservation since 1965.

NORMAN MYERS is an honorary visiting fellow of Green College, Oxford University. He has been recognised for his work on biodiversity through the Volvo Environment Prize, the United Nations Environment Prize and the Blue Planet Prize.

MARKUS A. NUDING has worked as a scientist for the German Technical Co-operation (GTZ) on wildlife management in the development context in eastern and southern Africa. He is based in Harare as an adviser for three German-funded projects on social forestry, indigenous

Cambridge University Press

0521813654 - Biodiversity, Sustainability and Human Communities: Protecting beyond the Protected

Edited by Tim O'Riordan and Susanne Stoll-Kleemann

Frontmatter

[More information](#)

List of contributors

xiii

resource management and social science perspectives in natural resource management.

TIM O'RIORDAN is Professor of Environmental Sciences at the University of East Anglia, Norwich, UK and linked to interdisciplinary and interactive research on sustainability issues.

JULES PRETTY is Professor of Environmental and Society at the University of Essex, UK, and Deputy-Chair on the UK government's Advisory Committee on Releases to the Environment. He was appointed A D White Professor-at-Large by Cornell University from 2001.

WALTER V. REID is an ecologist and Director of the Millennium Ecosystem Assessment. He is currently based at the Consultative Group on International Agricultural Research in Penang, Malaysia. Until 1998, he was Vice President for Program at the World Resources Institute.

MICHAEL STURM has worked as a National Park Manager for the German Development Service in the Machalilla National Park, Ecuador (January 1995–September 1997). Since 1998 he has worked as a Project Manager of EXPO 2000 (a world exhibition project in north Germany on Implementing Low Energy Concepts).

TODDI A. STEELMAN is Assistant Professor of Environmental and Natural Resource Policy at North Carolina State University's Department of Forestry. Her work focuses on the role of public and community involvement in environmental and natural resource governance.

SUSANNE STOLL-KLEEMANN is a Senior Researcher at the Free University of Berlin in Germany. Her expertise is in the field of the human dimensions of global environmental change, with an emphasis on evaluating biodiversity and nature conservation strategies. A second research focus is on regional governance and climate change, including vulnerability analysis, public participation and social capital formations.

MARTIN WELP is a Senior Researcher at the Potsdam Institute for Climate Impact Research (PIK). His expertise and research interest are in the field of public participation in environmental management (including management of protected areas, coastal zones and river basins).

AMANDA YOUNGE was Director of Planning in the City of Cape Town 1994–7, and co-ordinated the GEF-funded strategy to conserve biodiversity in the Cape Floral Kingdom, on behalf of WWF-South Africa.

Cambridge University Press

0521813654 - Biodiversity, Sustainability and Human Communities: Protecting beyond the Protected

Edited by Tim O'Riordan and Susanne Stoll-Kleemann

Frontmatter

[More information](#)

Preface

The common theme for this text is that a resilient biodiversity is an indicator of a healthy planet and a sensitive human family that cares for its neighbours and its offspring. For this human family to be at peace with itself, it must also be at peace with biodiversity. Species mix is less important for future biodiversity than the connections between species, habitats and social, economic and political outlooks that care, anticipate and adapt. The diversity of species will be maintained only by a diversity of management styles and cultural outlooks that both protect the protected, and recreate biodiversity for a changing society and economy. To monitor, assess and evaluate the great variety of biodiversity management 'styles' will enable local action to become global trusteeship. In this spirit of enquiry and hope, the editors and authors will address four objectives.

- 1 To assess the current and future threat to biodiversity in terms of recorded losses, current dangers, and possible prognoses based on foreseeable developments in landuse change, alterations in climate futures, alien invasions of plants, animals and pathogens, pollution and toxification, all connected to global and regional agreements, and likely shifts in property rights and management regimes.
- 2 To develop the scope for combining ecological and social resilience by coupling the established management approaches of placing 'ecology' and 'people' first in the design and operation of safeguarding protected areas and recreating new biodiversity corridors and patches linked to such protected areas.
- 3 To examine, by means of illustrative case studies from across the globe, why it is proving so difficult to achieve this synthesis. In so doing, the authors will explore why the 'inclusionary' approach is so often avoided, or ignored, or introduced with too little attention to the feelings and outlooks of those whose co-operation is being sought.
- 4 To extend current theories within the social and ecological sciences to explain how it may become possible to combine ecological and social

Cambridge University Press

0521813654 - Biodiversity, Sustainability and Human Communities: Protecting beyond the Protected

Edited by Tim O’Riordan and Susanne Stoll-Kleemann

Frontmatter

[More information](#)

xvi Preface

adaptation in the cause of safeguarding and extending biodiversity. This task will be undertaken through lessons learnt from the case studies. The emphasis will lie on practical measures for widening the scope for effective and inclusive management rather than shaping theory for its own sake.