

The Science and Practice of Landscape Stewardship

Improving the dynamic relationship between nature and human wellbeing is a pressing issue of our time. Landscapes embody this tight interconnectedness and serve as unique sustainability learning hubs, showcased by the global rise of place-based and holistic landscape stewardship initiatives. Incorporating these exciting developments, this book explores the principles of landscape stewardship and their function in fields such as agriculture, ecological restoration and urban green infrastructure. It provides insights into the challenges and the potential of landscape stewardship and identifies future paths for the science and practice of landscape-related sustainability efforts. Aligning analytical perspectives with practical applications, it brings together contributions from leading scholars and innovative models of landscape stewardship from all around the world, making it an essential resource for anyone interested in developing sustainable human-nature relationships.

Claudia Bieling is Professor for Societal Transition and Agriculture at the University of Hohenheim, Germany.

Tobias Plieninger is Associate Professor in the Department of Geosciences and Natural Resource Management, University of Copenhagen, Denmark.



The Science and Practice of Landscape Stewardship

Edited by CLAUDIA BIELING

Institute of Social Sciences in Agriculture, University of Hohenheim, Stuttgart, Germany

TOBIAS PLIENINGER

Department of Geosciences and Natural Resource Management, University of Copenhagen, Denmark







Shaftesbury Road, Cambridge CB2 8EA, United Kingdom

One Liberty Plaza, 20th Floor, New York, NY 10006, USA

477 Williamstown Road, Port Melbourne, VIC 3207, Australia

314-321, 3rd Floor, Plot 3, Splendor Forum, Jasola District Centre, New Delhi - 110025, India

103 Penang Road, #05-06/07, Visioncrest Commercial, Singapore 238467

Cambridge University Press is part of Cambridge University Press & Assessment, a department of the University of Cambridge.

We share the University's mission to contribute to society through the pursuit of education, learning and research at the highest international levels of excellence.

www.cambridge.org

Information on this title: www.cambridge.org/9781107142268

DOI: 10.1017/9781316499016

© Cambridge University Press & Assessment 2017

This publication 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 & Assessment.

First published 2017

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

Library of Congress Cataloging-in-Publication data
Names: Bieling, Claudia, editor. | Plieninger, Tobias, editor.
Title: The science and practice of landscape stewardship / edited
by Claudia Bieling, Tobias Plieninger.
Description: Cambridge, United Kingdom; New York, NY: Cambridge
University Press, 2017. | Includes bibliographical references and index.
Identifiers: LCCN 2017002753 | ISBN 9781107142268 (alk. paper)
Subjects: LCSH: Landscape protection. | Land use – Management.
Classification: LCC QH75.S335 2017 | DDC 333.73 – dc23

ISBN 978-1-107-14226-8 Hardback

LC record available at https://lccn.loc.gov/2017002753

Cambridge University Press & Assessment has no responsibility for the persistence or accuracy of URLs for external or third-party internet websites referred to in this publication and does not guarantee that any content on such websites is, or will remain, accurate or appropriate.



Contents

	List of Contributors Preface	page ix xiii
1	The Emergence of Landscape Stewardship in Practice, Policy and Research Tobias Plieninger and Claudia Bieling	1
Part I	Foundations of Landscape Stewardship	
2	Ecological Foundations of Landscape Stewardship F. Stuart Chapin III	21
	Case 1: The Blackwater SAMOK Project – A Catchment Management Approach Brian J. Shaw	35
3	Human and Social Dimensions of Landscape Stewardship Elisabeth Conrad	38
	Case 2: Landscape Observatory of Catalonia – A Holistic Documentation of the Landscape Brian J. Shaw	54
4	Building Partnerships for Landscape Stewardship Louise E. Buck, Sara J. Scherr, Christopher M. Planicka and Krista Heiner	57
	Case 3: Olive Farming on Lesbos – Out of Social Capital Emerges Social Enterprise Brian J. Shaw	78
5	Citizen Science Tools for Engaging Local Stakeholders and Promoting Local and Traditional Knowledge in Landscape Stewardship Finn Danielsen, Martin Enghoff, Eyðfinn Magnussen, Tero Mustonen, Anna Degteva, Kia K. Hansen, Nette Levermann, Svein D. Mathiesen and Øystein Slettemark	I 80



vi	Contents
VI	Contents

	Case 4: Citizen Science – Harnessing the Expertise of Farmers to Monitor Biodiversity in Austrian Meadows Brian J. Shaw	99
Part II	Landscape Stewardship on the Ground: Fields of Application	
6	Organising Adaptive and Collaborative Landscape Stewardship on Farmland Marianne Penker	103
	Case 5: Arbratatouille – A Participative Project Updating Agroforestry Techniques Brian J. Shaw	121
7	Forest Landscape Stewardship for Functional Green Infrastructures in Europe's West and East: Diagnosing and Treating Social-Ecological Systems Per Angelstam and Marine Elbakidze	124
	Case 6: Wild Birds in Traditional Orchards – Testing Strategies for Biodiversity Conservation Brian J. Shaw	145
8	The Future of the Past: Towards a Better Integration of Cultural Heritage in Landscape Management Theo Spek	148
	Case 7: The Whole Village Project – Saxon Village Restoration in Rural Romania Brian J. Shaw	164
9	Landscape Stewardship in Wind Energy Conflicts: Between Cultural Myths and Interests Bleta Arifi, Georg Winkel and Chantal Ruppert-Winkel	167
	Case 8: The Simmern Solidarity Pact – Reconciling Income Imbalances Between Villages Bleta Arifi, Brian J. Shaw, Georg Winkel and Chantal Ruppert-Winkel	182
10	Synergies Between Tourism, Outdoor Recreation and Landscape Stewardship Andreas Muhar and Dominik Siegrist	184
	Case 9: Bun Tschlin – Linking Identity, Community and Landscape Brian J. Shaw	200
11	Managed, Mended, Supported: How Habitat Conservation and Restoration Function as Elements of Landscape Stewardship Peter Bridgewater	202



	Contents	Vİİ
	Case 10: Landowners on Læsø – A Cooperative Approach to Landscape Management Brian J. Shaw	219
12	Stewardship in Urban Landscapes Erik Andersson, Johan Enqvist and Maria Tengö	222
	Case 11: Urban Green Infrastructure in Vienna – Nature-Based Solutions to Enhancing Quality of Life Brian J. Shaw	239
13	Landscape Stewardship and Hunting, Angling and Gathering Wild Products Nynke Schulp	242
	Case 12: ØsterGRO Rooftop Farm – Community Supported Agriculture in the Middle of Copenhagen Brian J. Shaw	262
14	Marine and Coastal Ecosystem Stewardship Karen Alexander, Ruth Brennan and Jasper Kenter	265
	Case 13: The Firth of Clyde Marine Spatial Plan – Synergies and Trade-Offs in a Diverse Coastal Environment Brian J. Shaw	281
15	Landscape Stewardship for Rangelands Lynn Huntsinger and Nathan F. Sayre	284
	Case 14: Herding Schools in France – Supporting Traditional Landscape Management Techniques in Modern Times Brian J. Shaw	306
Part III	l Visions Towards Landscape Stewardship	
16	Bridging New Sustainable Development Goals, Global Agendas and Landscape Stewardship: The Roles of Politics, Ethics and Sustainability Practice Karl S. Zimmerer	311
	Case 15: Terre de Liens – Facilitating Access to Land for Farmers Into the Long-Term Brian J. Shaw	328
17	How Landscape Stewardship Emerges Out of Landscape Planning Paul Opdam	331



Cambridge University Press & Assessment 978-1-107-14226-8 — The Science and Practice of Landscape Stewardship Claudia Bieling, Tobias Plieninger Frontmatter **More Information**

viii	Contents	
	Case 16: The Dartmoor Vision – A Long-Term, Participatory Management	2.45
	Process on the Landscape Scale Brian J. Shaw	347
18	Art and Responsible Landscape Development: A Plea for Landscape Art Lars Fischer and Kenneth Anders	350
	Case 17: One Hut Full – A Multi-Sensory Journey Turning Threatened Heritage Into Opportunity Brian J. Shaw	368
19	Leveraging Landscape Stewardship: Principles and Ways Forward Claudia Bieling and Tobias Plieninger	370
	Index	383



Contributors

Karen Alexander

Institute for Marine and Antarctic Studies, University of Tasmania, Hobart, Australia

Kenneth Anders

Büro für Landschaftskommunikation, Bad Freienwalde, Germany

Erik Andersson

Stockholm Resilience Centre, Stockholm University, Stockholm, Sweden

Per Angelstam

Faculty of Forest Sciences, Swedish University of Agricultural Sciences, Skinnskatteberg, Sweden

Bleta Arifi

Faculty of Environment and Natural Resources, University of Freiburg, Freiburg, Germany

Claudia Bieling

Institute of Social Sciences in Agriculture, University of Hohenheim, Stuttgart, Germany

Ruth Brennan

Dublin, Ireland

Peter Bridgewater

Institute of Applied Ecology, University of Canberra, Canberra, Australia

Louise E. Buck

Department of Natural Resources, Cornell University, Ithaca, NY, USA

F. Stuart Chapin III

Institute of Arctic Biology, University of Alaska Fairbanks, Fairbanks, AK, USA



List of Contributors

Elisabeth Conrad

Institute of Earth Systems, University of Malta, Msida, Malta

Finn Danielsen

NORDECO, Copenhagen, Denmark

Anna Degteva

International Centre for Reindeer Husbandry, Kautokeino, Norway

Marine Elbakidze

Faculty of Forest Sciences, Swedish University of Agricultural Sciences, Skinnskatteberg, Sweden

Martin Enghoff

NORDECO, Copenhagen, Denmark

Johan Engvist

Stockholm Resilience Centre, Stockholm University, Stockholm, Sweden

Lars Fischer

Büro für Landschaftskommunikation, Eberswalde, Germany

Kia K. Hansen

International Centre for Reindeer Husbandry, Kautokeino, Norway

Krista Heiner

EcoAgriculture Partners, Washington DC, USA

Lynn Huntsinger

Department of Environmental Science, Policy, and Management, University of California, Berkeley, CA, USA

Jasper Kenter

Laurence Mee Centre for Society and the Sea, Scottish Association for Marine Science, Oban, United Kingdom

Nette Levermann

Ministry of Fisheries and Hunting, Government of Greenland, Nuuk, Greenland

Eyőfinn Magnussen

Department of Science and Technology, University of the Faroe Islands, Torshavn, Faroe Islands



List of Contributors

χİ

Svein D. Mathiesen

International Centre for Reindeer Husbandry, Kautokeino, Norway

Andreas Muhar

Department of Landscape, Spatial and Infrastructure Sciences, BOKU University of Natural Resources and Life Sciences Vienna, Austria

Tero Mustonen

Snowchange Cooperative, Lehtoi, Finland

Paul Opdam

Land Use Planning Group, Wageningen University, Wageningen, The Netherlands

Marianne Penker

Department of Economics and Social Sciences, BOKU University of Natural Resources and Life Sciences, Vienna, Austria

Christopher M. Planicka

EcoAgriculture Partners, Washington DC, USA

Tobias Plieninger

Department of Geosciences and Natural Resource Management, University of Copenhagen, Frederiksberg, Denmark

Chantal Ruppert-Winkel

Faculty of Environment and Natural Resources, University of Freiburg, Freiburg, Germany

Nathan F. Sayre

Department of Geography, University of California, Berkeley, CA, USA

Sara J. Scherr

EcoAgriculture Partners, Washington DC, USA

Nynke Schulp

Environmental Geography Group, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands

Brian J. Shaw

Faculty of Environment and Natural Resources, University of Freiburg, Freiburg, Germany



xii List of Contributors

Dominik Siegrist

Institute for Landscape and Open Space, Hochschule für Technik Rapperswil, Rapperswil, Switzerland

Øystein Slettemark

Ministry of Fisheries and Hunting, Government of Greenland, Nuuk, Greenland

Theo Spek

Centre for Landscape Studies, University of Groningen, Groningen, The Netherlands

Maria Tengö

Stockholm Resilience Centre, Stockholm University, Stockholm, Sweden

Georg Winkel

European Forest Institute Headquarters, Joensuu, Finland

Karl S. Zimmerer

GeoSyntheSES Laboratory, Department of Geography, Pennsylvania State University, University Park, PA, USA



Preface

Landscapes and their manifold contributions to human wellbeing offer fertile ground for sustainability studies. In our previous work, we were interested in understanding the patterns, processes, driving forces and impacts of landscape change, proposing social-ecological analysis frameworks. With this volume, we want to contribute to developing a more proactive landscape science. Rather than only observing or responding to landscape change, such landscape science explores and supports innovative and passionate stewardship of ecosystems and landscapes, thus reinforcing feedback loops between humans and nature. Our primary intention is to investigate, both academically and practically, how and why people act as stewards in a diversity of landscapes in Europe and beyond.

This book is a central output of the European project 'Sustainable Futures for Europe's Heritage in Cultural Landscapes: Tools for understanding, managing, and protecting landscape functions and values' (HERCULES). Funding has been provided from the European Commission through Grant 603447 (7th Framework Programme). Much of our landscape stewardship thinking originated in discussions with HERCULES project partners, in particular with Chris Raymond, Brian J. Shaw, Marie-Alice Budniok, Matthias Bürgi, Nora Fagerholm, María García-Martín, Geneviève Girod, Thanasis Kizos and Julianna Nagy. First ideas on landscape stewardship were presented to attendees of a HERCULES workshop on 'Landscape Stewardship: Integrating a broad suite of landscape values into rural development policies' (European Economic and Social Committee, Brussels, 03.06.2015). Interaction with master students in our classes 'Rural Landscapes – Management and Planning' at the University of Copenhagen and 'Landscape Change, Nature Conservation and Ecosystem Services' (among others) at the University of Hohenheim further supported structuring our ideas around landscape stewardship.

We particularly thank our authors for submitting excellent manuscripts and sticking to tight deadlines, which made the editorial process a pleasure. We also express our gratitude to all authors who cross-read other contributor's manuscripts. Furthermore, we want to thank our external referees of the book outline and individual book chapters: Christian Albert, Tom Beery, Betsy A. Beymer-Farris, Aletta Bonn, Patrick Hurley, Berta Martín-López, Carsten Mann, Elisa Oteros-Rozas, Cinzia Piatti, Katrin Prager, Emily L. Rall, Kate Sherren, Marie Stenseke, Christian Suchomel, Paul Tabbush and



χiν

Preface

three anonymous reviewers. A huge thank you goes to Julia Rietze, Xin You and Wiebke Nowack at the University of Hohenheim who were of immense help in putting the book manuscript together. At Cambridge University Press, Dominic Lewis, Megan Waddington and Jade Scard accompanied our editing process with great support and patience.