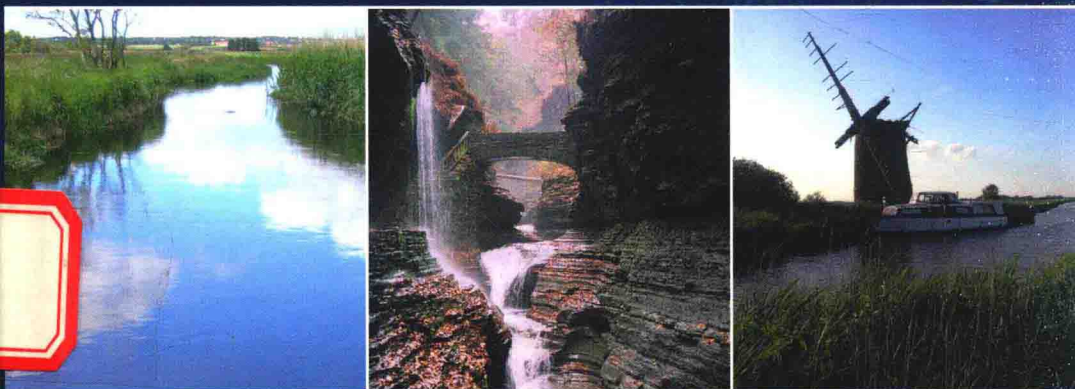


Edited by Laurence Smith, Keith Porter,  
Kevin Hiscock, Mary Jane Porter and David Benson

# Catchment and River Basin Management

Integrating Science and Governance



Earthscan Studies in  
Water Resource Management

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from Routledge

# **Catchment and River Basin Management**

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**Edited by Laurence Smith,  
Keith Porter, Kevin Hiscock,  
Mary Jane Porter and David Benson**

 **Routledge**  
Taylor & Francis Group  
LONDON AND NEW YORK

**earthscan**  
from Routledge

First published 2015  
by Routledge  
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN  
and by Routledge  
711 Third Avenue, New York, NY 10017

*Routledge is an imprint of the Taylor & Francis Group, an informa business*

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*British Library Cataloguing in Publication Data*

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

*Library of Congress Cataloging in Publication Data*

Catchment and river basin management : integrating science and  
governance / edited by Laurence Smith, Keith Porter, Kevin Hiscock,  
Mary Jane Porter and David Benson.

pages cm. -- (Earthscan studies in water resource management)

Includes bibliographical references and index.

ISBN 978-1-84971-304-7 (hardback) -- ISBN 978-0-203-12915-9 (ebk)

1. Watershed management. 2. Water-supply--Management. 3. Watershed  
management--Case studies. 4. Water-supply--Management--Case studies.  
I. Smith, Laurence (Laurence E. D.) editor of compilation.

TC413.C37 2015

333.73--dc23

2014042044

ISBN: 978-1-84971-304-7 (hbk)

ISBN: 978-0-203-12915-9 (ebk)

Typeset in Bembo  
by Saxon Graphics Ltd, Derby



Printed and bound in Great Britain by  
CPI Group (UK) Ltd, Croydon, CR0 4YY

# Catchment and River Basin Management

The central focus of this volume is a critical comparative analysis of the key drivers for water resource management and the provision of clean water – governance systems and institutional and legal arrangements. The authors present a systematic analysis of case study river systems drawn from Australia, Denmark, Germany, the Netherlands, the UK and the USA to provide an integrated global assessment of the scale and key features of catchment management.

A key premise explored is that despite the diversity of jurisdictions and catchments there are commonalities to a successful approach. The authors show that environmental and public health water quality criteria must be integrated with the economic and social goals of those affected, necessitating a 'twin-track' and holistic (cross-sector and discipline) approach of stakeholder engagement and sound scientific research.

A final synthesis presents a set of principles for adaptive catchment management. These principles demonstrate how to integrate the best scientific and technical knowledge with policy, governance and legal provisions. It is shown how decision-making and implementation at the appropriate geographic and government scales can resolve conflicts and share best sustainable practices.

**Laurence Smith** is Professor of Environmental Policy and Development in the Centre for Development, Environment and Policy, SOAS, University of London, UK.

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# Foreword

Water is one of the most basic human needs. Protection of water supplies and the governance this entails must concern us all, whether that is at a global or local level. The complexity of this kind of challenge requires a holistic approach, drawing in not only researchers from across different disciplines but from a wide range of organisations and individuals. The Rural Economy and Land Use Programme (RELU) was underpinned by just such a philosophy. When it was launched in 2003, as an unprecedented collaboration between three research councils, it aimed to investigate the multiple challenges facing rural areas. One of these was the management of land and water use for sustainable water catchments. Other topics encompassed restoring public trust in food chains, tackling animal and plant disease, enabling sustainable farming in a globalised market, promoting robust rural economies and developing land management techniques to deal with climate change. None of this could be achieved without secure, sustainable water supplies for the benefit of people and of our environment. In this book, researchers who contributed to the RELU Programme and colleagues from across the world examine these complex issues and put forward innovative approaches that could help to address them.

*Professor Philip Lowe,  
Director, Rural Economy and Land Use Programme*

# Acknowledgements

Research informing the conception and content of this book was undertaken with a Capacity Building Award and subsequent Research Project Award from the Rural Economy and Land Use Programme (RELU), a collaboration between the United Kingdom's Economic and Social Research Council (ESRC), the Biotechnology and Biological Sciences Research Council (BBSRC) and the Natural Environment Research Council (NERC). Additional funding of the RELU Programme was provided by the Scottish Government and the Department for Environment, Food and Rural Affairs. A second RELU Research Project Award supported establishment of the Loweswater Care Project (LCP) as described in Chapter 9.

The editors and authors very gratefully acknowledge the contributions made to the research and hence to this book by a host of catchment stakeholders and water sector professionals in the countries represented by the case study chapters and synthesis in this book. They are too numerous to mention by name, but particular thanks are owed to the farmers and other local residents who received our visits to their homes and businesses and fielded our many questions, and who participated in workshops and other discussion sessions.

Among professionals, in the USA particular thanks for their generous sharing of time, knowledge and experience are owed to Dean Frazier, Patricia Bishop, Steve Pacenka, Scott Cuppett, Katy Dunlap, Simon Gruber and Fran Dunwell. The time, support and information provided by co-authors in this book Jim Curatolo and Mike Lovegreen, and by their USC colleagues, were also immense. Valuable background research contributions were made by Sorell Negro, Julia Dobtsis and Michael Bowes. From Australia, Di Tarte and Eddie Hergerl provided invaluable information and advice, aided by colleagues from the Healthy Waterways Partnership. In Denmark, Gitte Ramhøj, Per Grønvald, Lise Kristensen, Lars Mortensen and Anne Jensen kindly shared their time and experience with us. In Germany, we were similarly aided and supported by Christina Aue, Onno Seitz and their colleagues; and in the Netherlands by Nico van der Moot, Auke Kooistra and colleagues. In Ireland, Mark Horton, Claire Cockerill, Ann Marie McStocker and colleagues facilitated study of the WWF RIPPLE project and work of the Ballinderry Rivers Trust. At Loweswater in England, the assistance provided by Ken Bell stands out among

the participation and many contributions by local residents. Elsewhere in England we have learnt in particular from the work of the Westcountry Rivers Trust in south-west England, aided by Dylan Bright, Laurence Couldrick, Ross Cherrington and their colleagues; also from the work of the Broads Authority and Upper Thurne Working Group in East Anglia, aided by Andrea Kelly, Simon Hooton and colleagues. Other leading contributors to the RELU-funded research who provided invaluable assistance and insights include Hadrian Cook, Alex Inman, Jon Hillman and Andrew Jordan.

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## Part I

# Overview