

## **Drivers of Environmental Change in Uplands**

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## Drivers of Environmental Change in Uplands

Edited by Aletta Bonn, Tim Allott, Klaus Hubacek, and Jon Stewart. Abingdon, United Kingdom: Routledge, 2009. 509 pp. £ 90.00. ISBN 978-0-415-44779-9.

While the British uplands were once understood as wastelands with no perceptible use, today they are increasingly being framed as vitally important spaces that provide society with a range of services, whether they are tangible resources such as food and fuel or processes such as climate and flood regulation. The concept of ecosystem services is beginning to play an important role in pulling the uplands out of the margins and placing them at the center of societal concerns, and it is this concept that provides the starting point for this volume. The editors begin by stating that the uplands are a crucial source of ecosystem services but note that they are also subject to significant pressures and potentially accelerating change. The purposes of the book are therefore to explore some of the drivers and directions of change in upland environments and to examine how ecosystem services might be affected by, and affect, that change. The hope is that, by better understanding the way that drivers of change in the uplands are affecting ecosystem services, we may be able to develop a more holistic approach to upland management.

Taking the "uplands" to be synonymous with Less Favoured Areas (a form of land classification developed by the European Commission to underpin a regime of support payments to land managers in areas where farming becomes marginal and less profitable because of natural handicaps), this volume brings together 26 papers from a wide range of disciplinary perspectives. The first part of the book examines the overarching external drivers of change to which land managers are subject and about which they can do little, such as longterm natural processes, the changing climate, and the changing nature of agricultural and environmental policy. The second section brings together papers that explore a range of upland ecosystem services and the potential drivers of change in the provision of those services. The third section considers the changing institutional, economic, and social systems and the ways in which these systems could influence the sorts of decisions we make about the management of the uplands and thus the future provision of upland ecosystem services. Brought together in this way, this collection of papers represents a useful addition to the literature on the management of uplands in the United Kingdom.

The volume's most striking and welcome feature is its multidisciplinary approach. Because the uplands are integrated landscape units and achieving any semblance of sustainable upland management has environmental, economic, and social dimensions, this multidisciplinarity is important. In large part, this approach relates to the fact that this book has its origins in the Moors for the Future Partnership, a partnership project to restore the moors of the Peak District involving natural and social scientists working alongside land managers and other upland stakeholders. Instead of approaching the uplands from a disciplinary perspective, this project has brought together a range of people with complementary expertise around a particular area and sought to explore the issues and find solutions. The outcome is (in addition to change on the ground) an interesting collection of papers that demonstrate the complexity of upland issues and the breadth of topics that must be considered in thinking about how best to safeguard ecosystem services and achieve sustainable upland management.

Where the book is particularly useful is in its emphasis on socioeconomic issues. Debates about the future of the uplands tend to concentrate on topics such as biodiver-

sity and environment; social issues often recede into the background or are only considered in the context of conflict between different interest groups. This book takes a more thoroughgoing approach in that it brings to the foreground the importance of the upland economy, the economic valuation of landscapes, the future of the provision of public goods, effective policy-making processes, and the importance of class to perceptions of the uplands. Achieving sustainable upland management while aiming to deliver environmental outcomes will actually be all about people agreeing on objectives, working together, and making decisions in a changing economic context. The recognition in this volume that upland futures will depend to a significant extent on the changing socioeconomic context is welcome.

This is not, however, a book that offers solutions. It is a contribution to a continuing debate about what constitutes, and how best to achieve, sustainable upland management. It highlights the importance of having good baseline data, of understanding the interactive effects of drivers of change, of transdisciplinary approaches in finding solutions, and of making decisions with incomplete knowledge—and in doing so sets out something of a future research agenda. But it represents just one step along the way toward more holistic and integrated upland management.

If there is any criticism, it is that the book could have been more ambitious. If, as the editors claim, it is important that we move toward more transdisciplinary approaches, this could have been more apparent in the volume itself. Although the book is multidisciplinary-which is positive-it is not inter- or transdisciplinary. This is a collection of complementary papers, not a real interdisciplinary endeavour. Nevertheless, as this volume abundantly demonstrates, one thing is certain in the uplands: change. The uplands are the product of a long history of changing climate and exploitation, and they will undoubtedly

continue to change in the future. Indeed, it could be argued that upland ecosystems and their ability to supply ecosystem services such as food, clean water, flood prevention, and climate regulation will be subject to accelerating change. The important question is therefore how to manage that change, and this collection of papers provides a useful overview of the interconnected ecological, economic, and social issues that will have to be considered in debates about the best way to manage the uplands in the future.

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