

### Key topics in landscape ecology

J. Wu and R. J. Hobbs. (eds). Cambridge University Press, Cambridge, UK, 2007. xv + 297 pp. Price \$AUD120 (paperback). ISBN 0 521 61644 1.

This book is part of the Cambridge Studies in Landscape Ecology series which is published in collaboration with the International Association for Landscape Ecology (IALE). Many of the chapters came out of a symposium on 'Key issues and Research Priorities in Landscape Ecology' at the 6th IALE World Congress in Darwin, Australia, in 2003. However, the history behind the book dates back to the 16th US-IALE symposium at Tempe, Arizona in 2001 where the 'top 10' research topics and challenges for landscape ecology in the 21st century were discussed. From this Wu and Hobbs (2002) published a synthesis paper on these topics and the 2003 symposium in Darwin expanded on this by fleshing out the discussion. The chapters in this book therefore aim to explore the key issues and research topics highlighted by Wu and Hobbs (2002) in more depth.

The book is divided into three parts. Part I outlines the history behind the discussion on key topics by introducing the major research topics that came out of Tempe in 2001 and the 'top 10' discussed in Wu and Hobbs (2002). Part II presents the key topics and perspectives in more detail as a series of eminent landscape ecologists discuss some of the most important issues facing landscape ecology now and in the future. Part III is a synthesis which looks more closely at what landscape ecology is, where it came from and where it is going, covering in particular the two main schools of thought – the European and the North American and if there can, or should be, a unified approach to landscape ecology.

As a landscape ecologist enthusiastic about its future, I read with interest Wu and Hobbs (2002) and therefore I was very keen to read this book to see how it explored the debate on key topics further. I was not disappointed. The book covers a range of topics in an interesting and stimulating way. To a more experienced landscape ecologist some of the content may appear to be covering ground that has been addressed elsewhere but to someone relatively new to the discipline it provides an excellent thought-provoking introduction. I could certainly see the value of using this book as a reference text with my post-graduate landscape ecology students.

Looking at the content in more detail – Chapters 3–6, and 8 and 9, look at the importance of landscape pattern, especially links between pattern and process. Key issues discussed within these chapters are landscape metrics (in particular relating them to understanding ecological processes), the relationship between ecosystem processes and spatial heterogene-

ity, meta-population theory, and the optimization of landscape pattern. The important issues of scale and scaling effects are discussed in Chapters 7 and 9.

From the dominance of the subject matter in the book, relationships between pattern and process emerge strongly as being the research area of main focus for landscape ecology now and into the future. The editors in fact define landscape ecology as 'the science and art of studying and influencing the relationship between spatial pattern and ecological processes across hierarchical levels of biological organization and different scales in space and time'. However, I was curious to observe that six of the contributed chapters came from research out of North America, with three contributions from Australia and three from Europe. It is interesting, but not surprising, to note that the chapters from North American authors concentrated on pattern and process methodologies, technologies and techniques, while the chapters from Australia (Chapters 9, 11 and 12) were more applied in nature, and the ones from Europe (in particular Chapters 13 and 14) looked at issues surrounding the interrelationships between land and humans, including holistic, integrated landscape ecology and landscape planning. This examination of the content in relation to region endorses that landscape ecology differs between regions. These findings are in line with the discussions the editors make themselves in the concluding chapter of the book about the different approaches to landscape ecology. So, given this observation and the fact that this book is meant to be an output from a world congress, the book might have benefited from a more balanced break down of contributions from around the world with more papers from Europe, and representation from Asia, Africa and South America. However, the lack of a truly international perspective does not detract from its value.

Landscape ecology is an exciting and young discipline with an evolving research agenda. This text makes a valuable contribution to the landscape ecological literature and is particularly useful for those wanting to explore landscape ecology in more detail, or wanting to find what direction their research project should take.

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### REFERENCE

Wu J. & Hobbs R. (2002) Key issues and research priorities in landscape ecology: an idiosyncratic synthesis. *Landscape Ecol.* 17, 355–65.