

The Introduction by Buckland and Anderson includes a brief statement of the history and merits of distance sampling. In their enthusiasm, they resort to a dubious characterization of mark–recapture estimates of abundance, which we are told (p. 2) ‘commonly require more than 20 parameters’! Chapter 2 (Borchers and Burnham) is a lucid overview of models to appear later. Chapter 3 (F. F. C. Marques and Buckland) summarizes methods for using covariates to improve models of detection probability, especially when stratum-specific estimates are needed (see Marques *et al.* 2007 for a more accessible treatment).

Explicit modelling of density is avoided in the general distance framework, which relies on rigorous sampling design to obtain an unbiased estimate of density in each stratum and overall. Chapter 4 on spatial distance sampling models (Hedley, Buckland and Borchers) diverges from the general framework to develop methods for fitting a density surface to line transect data. An illuminating example concerns decreasing density of minke whales with distance from the coast of Antarctica.

Perhaps the most useful chapter has little to do with distance sampling. In Chapter 5, Thomas, Burnham and Buckland provide an overview of temporal inference (population trend analysis) and associated power analyses. The data are any periodic estimates of abundance. Distance models could include time as a covariate of density, as with space (Chapter 4), but such models are missing. The contours of required sample size for detecting trend in Fig. 5.6 are inaccurate; readers should rely on the equations or their own simulations. Sensible advice is offered on the design and maintenance of long-term studies.

Chapter 6 (Laake and Borchers) has the innocuous title ‘Methods for incomplete detection at distance zero’. The authors dissect the problem energetically, leading to ‘a maze of possible methods’, most of which use multiple observers and ‘mark–recapture–distance–sampling’ (MRDS). At over 80 pages, this chapter dominates the book, but the topic is important and the coverage excellent. MRDS raises the secondary problem of correlated detection between observers, but the method of ‘point independence’ developed by these authors provides some relief.

In Chapter 7, Strindberg, Buckland and Thomas address the placement of sampling effort within the survey region. They stress the advantages of automated design algorithms using geographic information systems. Perhaps more importantly, they explain the issues (edge effects, overlapping plots, uneven coverage and probability sampling) that should be understood to use the algorithms effectively. Adaptive sampling (Chapter 8, Pollard and Buckland) provides modest gains in precision when objects are distributed very patchily. The development of adaptive methods for distance sampling is welcome, but uptake is likely to be limited.

Trapping webs and related passive distance sampling methods (Chapter 9, Lukacs, Franklin and Anderson) remain controversial, and the treatment here lacks the authority of other chapters. The ‘no movement’ assumption of distance sampling is mis-stated as ‘no directional movement’. Passive methods integrate over time, during which animals move; detection models that allow for movement would seem to be necessary for unbiased estimation.

Chapter 10 (Fewster and Buckland) revisits the logic of distance sampling and advocates a thoughtful and structured approach to simulation studies of estimator performance.

The ‘further topics’ in a final chapter (Burnham, Buckland, Laake, Borchers, Marques, Bishop and Thomas) span a wide range (sampling in three dimensions, full likelihood, random line length, search process models, combining mark–recapture and

removal methods with distance sampling, point transect sampling of cues, migration counts, measurement errors, animal sign and goodness-of-fit tests). Curiously, the main selling point of distance methods, robustness to heterogeneous detection given rather weak assumptions, is saved for the very end.

In general, this is a compilation of strong research that will be mined for its many technical insights. The chapters on trend and spatial sampling are of broad relevance to field ecologists. Errors are few. Themes are tossed back and forth between authors. The standard and robust approach to spatial variation in density (design-based estimation) seems to be under challenge from model-based approaches that can increase precision (Chapters 4, 7 and 10); it will be interesting to see which prevails.

## Reference

Marques, T.A., Thomas, L., Fancy, S.G., Buckland, S.T. (2007) Improving estimates of bird density using multiple-covariate distance sampling. *Auk* **124**: 1229–1243.

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## The Kyoto Protocol and Beyond. Legal and Policy Challenges of Climate Change

EDITED BY W. TH. DOUMA, L. MASSAI AND M. MONTINI

xviii + 246 pp., 24.5 × 16 × 2 cm, ISBN 978 90 6704 228 4  
 hardback, GB£ 45.00, The Hague, the Netherlands: Asser Press, 2007

This book aims to discuss the current and future design of the international climate regime especially from the legal and regulatory perspective. As a result of two conferences, the collection contains 16 chapters dividing the whole into three thematic parts. The first considers the implementation of the Kyoto protocol flexible mechanisms, the second focuses on case studies on individual states or regions, and the last discusses future prospects and the post-2012 phase in particular. Despite the promise of its title, the book is mainly about environmental law and much less about policy or governance.

In my judgement, the topic of the book is interesting, but for several obvious reasons the collection is heterogeneous, even to a critical extent. The writers are researchers, consultants and officials. The length of the individual articles varies between two and 24 pages and the internal architecture varies a lot between individual papers. The introduction given to climate change policy is short and rather general in nature. Further, and most critically, there is no concluding section.

With respect to technical affairs, a useful list of abbreviations is given. Indeed, the text is full of shortened forms of climate policy jargon, and thus a glossary briefly describing the terms included would have been useful.

Among the most profound pieces are those written by Joyeeta Gupta and Leonardo Massai. Based on the extensive expertise in climate change regimes, Gupta discusses the negotiating challenges facing developing countries and especially the role of China and

India when it comes to accepting quantitative targets of emissions reduction. The chapter by Massai is a comprehensive picture of European climate policy, with the emphasis given to the European Climate Change Programme and the EU Emissions Trading Scheme.

The back cover informs readers that this book should be of interest to policy makers, academics, practitioners and laypersons. However, I think that even if several individual articles are expressive, the collection is unattractive to readers other than specialized professionals. Due to the uneven and complicated nature of the whole, laypersons and even professional people interested in climate policy may find this book relatively difficult to deal with. *The Kyoto Protocol and Beyond* is thus most useful for readers who know the Kyoto protocol framework well and are interested in specialized legal issues of implementation.

Overall, this book makes an interesting case for the importance of legal and institutional questions on climate policy implementation. However, it would have been desirable that the editors had put more effort to pulling the strands of the book together more coherently.

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### **Sharing Power: A Global Guide to Collaborative Management of Natural Resources**

BY GRAZIA BORRINI-FEYERABEND, MICHEL PIMBERT, M. TAGHI FARVAR, ASHISH KOTHARI AND YVES RENARD

xxxvii + 472 pp., 28 × 21.5 × 3cm, ISBN 978 1 84407 497 6  
 paperback, GB£ 49.95, Sterling, VA, USA: Earthscan, 2007

It is clear that *Sharing Power* represents an impressive outcome from a long period of reflection on the topic of co-management by the authors. It has been designed to support people attempting to understand co-management regimes and those interested in supporting them in policy and developing them in practice. In pursuing this aim, as well as their own extensive experience as researchers and practitioners, the authors have drawn extensively on a variety of perspectives and wide range of experiences of the co-management of natural resources. As such, the book includes examples from managing agriculture, fisheries, water management, forestry and wildlife, and landscapes worldwide. *Sharing Power* is a wide-ranging guide to co-management that takes in issues from international institutions through negotiating agreements to issues of entitlement and human well-being. To help the reader, 39 definitions and considerations are included, and the book is written in a very engaging and accessible style, with the numerous references usefully footnoted.

The book begins by examining the background to the emergence of co-management. This historical and conceptual analysis presents management as a complex, dynamic social-ecological process that proceeds against the backdrop of historical human interactions with the natural world. This analysis draws attention to both the strong political dimensions of natural resource management and the potential advantages and characteristics of co-management.

Recognizing that context is crucial, the authors provide sound practical advice and highlight methodologies that have been tested

in field situations and that can help achieve the full potential of co-management. In doing so, the authors do not shy from identifying potential obstacles, difficulties and dangers that they clearly recognize are inherent in collaboratively managing natural resources. To assist the practitioner, the authors present some 31 checklists to assess situations, including 'ideas for managing conflict' and 'characteristics of effective indicators'. However, this advice is far from prescriptive and the authors draw attention to the diversity of co-management arrangements that can exist and the messy nature of co-management that often makes more adaptive management approaches as appropriate strategies. The book presents this through the use of a rich set of case studies that include 94 southern hemisphere and 27 northern examples.

Importantly, the authors have also sought to address the wider institutional and cultural setting within which co-management initiatives are pursued. In doing so they draw attention to the implications of international and national policy, rights and cultural identity and what they describe as 'the politics of policy'. Overall, the authors have been dedicated in making available a very useful resource for those interested in, or practising, co-management and natural resource management more broadly.

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### **Wildlife Conservation in Western China: Preserving the Habitat of China's Wild West**

BY RICHARD B. HARRIS

xxiv + 341 pp., 25 figs, 26 × 18 × 2.5 cm, ISBN 9780 0 7656 2057  
 6 hardback, GB£ 48.95, New York, USA: M.E. Sharpe Inc., 2008

With a farsighted Foreword by the renowned field biologist, George Schaller, Richard Harris presents a well-conceived and ably written examination of the challenges China faces in conserving wildlife in its vast western regions. Starting with a Preface that includes a short synopsis of the chapters that follow, Harris guides the reader through the vast amount of material that follows.

In Chapter 1, Harris makes a convincing argument for why wildlife and the conservation of its habitat are important and the extent of the challenge faced. The enormity of the task is sobering, yet the author, who admits he is 'an advocate of change', offers hope for the future.

Chapter 2 brings together an astounding amount of up-to-date information on the environmental situation, natural resource management problems and ethnic tensions in China's western regions. Understanding the biodiversity conservation issues in Western China requires knowledge of the unique geography and demographic trends facing the region, which Harris presents in a very informative and articulate manner in this chapter. Zoologists and wildlife biologists studying large ungulates often overlook or give scant attention to the rangelands, which is unfortunate as it is the grazing lands that provide habitat for wildlife and also provide forage for pastoralists' livestock. Many of the most pressing wildlife conservation issues in Western China are related to conflicts