

white photographs. In addition there are four sections with a total of 56 colour plates containing 279 images. I found the line-drawing figures, particularly those 100+ by Belinda Cale, to be of great value. There is a strong historical dimension to much of the material that, in my opinion, contributes greatly to understanding environmental problems and what needs to be done in the future to try and mitigate anthropogenic effects on our ecosystems. The 34-page Glossary is excellent. The Index is adequate, but could have been more inclusive.

This book is the work of many people with a broad spectrum of professional specialties and interests. Twenty-nine contributed to the text and two provided the bulk of the illustrations. Although considered an introductory text, it could well be considered a

reference text for more advanced courses. I found the text of this book well organized and thorough, presenting the material and examples with an environmental focus. The book does not avoid sensitive cultural and political issues, presenting, for example, human population growth as a major concern, and placing the blame for the current high rate of extinctions and global warming on anthropogenic factors. Chapter 1, in the section "Chapter aims," opens with the statement: "This chapter describes how the success of the world's dominant animal species, humans, has severely altered biodiversity and natural ecosystems." This book would provide a firm foundation in biology for any student with environmental interests and a wake-up call to any not interested in environmental issues. I highly recommend this book.

Problem-Solving in Conservation Biology and Wildlife Management, 2nd edition

James P. Gibbs, Malcolm J Hunter Jr., and Eleanor J. Sterling (Eds), 2008
Blackwell Publishing, Malden, USA
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JARRAD A COUSIN¹

EFFECTIVE dialogue between scientists and policy makers has been identified time and time again as one of the most important factors limiting objective conservation outcomes (e.g., Sutherland *et al.*, 2006). Education is an important step in facilitating this dialogue, as all too often there appears to be a divide between the proponents of conservation biology (scientists, academics and students) and practitioners driving wildlife management (policy makers and politicians). *Problem-solving in Conservation Biology and Wildlife Management* represents a manual for the practical application of theoretical ideas and the means of communicating them, thus bridging the divide between theory and practice.

Problem-solving in Conservation Biology and Wildlife Management is divided into 32 chapters, themselves divided into 6 Parts. There is a nice logical progression through the Parts from Introduction, Genes, Populations, Species, Ecosystems and Landscapes, to Policy and Organizations. This book differs from most other publications in being designed specifically as a laboratory textbook; merging theory with practice through a problem-based learning approach.

The first three chapters outline and define biodiversity and the importance of conservation

biology; demonstrating these overarching themes through simple exercises. The four chapters in the Genes part of the book cover population genetics, genetic drift, pedigree management and landscape genetics; also all provided with practical examples. Parts 3 and 4 (Populations and Species respectively) cover diverse concepts from habitat loss and fragmentation, estimating population size (using DISTANCE, PRESENCE and MARK computer programmes) through to considerations in designing a zoo. All these chapters are accompanied with specific examples, such as an examination of the effect of El Niño frequency on penguin population persistence used to illustrate population viability analysis. Part 5 (Ecosystems and Landscapes) examines conservation biology challenges at greater spatial scales from an examination of the impact of forest harvesting on parrot species conservation, to the use of GIS mapping to guide recommendations for conservation reserve selection, to predictions of species geographical ranges through climate envelope modelling. The need for a synergistic interaction between the often disparate fields of conservation biology and wildlife management is demonstrated most strongly within Part 6 (Policy and Organizations). In these final seven chapters, cultural and sociological considerations are incorporated through practical exercises designed to examine how aspects of human society not only affect biodiversity, but people's attitudes toward biodiversity. The final chapter, entitled "Conservation Policy: Shaping your government", outlines the numerous ways that conservation biologists and wildlife managers can apply their knowledge in policy debates. It outlines effective ways to communicate from writing "letters to the editor" for newspapers, writing to elected

¹Environmental Futures Centre, School of Environment, Griffith University, Nathan, QLD 4111, Australia; email: j.cousin@griffith.edu.au

officials, and communicating with government agencies. In effect, this final chapter is all about “making it happen”.

This publication is the second edition of an already popular text that was first published in 1998. Approximately two-thirds of the material in this second edition is either new or dramatically revised from the first edition. It is also accompanied by a student website and an instructor's manual. Unfortunately, following the merging of Blackwell Publishing with John Wiley & Sons in February 2007 and subsequent amalgamation of their web content in July 2008, the book's website no longer exists at the www.blackwellpublishing.com/gibbs address given. Instead, the book's website is now located at <http://wiley.com/WileyCDA/WileyTitle/productCd-1405152877.html>. This website not only provides the opportunity to download every figure used throughout the text, but links to James Gibbs' staff website at the State University of New York College of Environmental Science (<http://www.esf.edu/efb/gibbs/solving/>), where there are electronic links to figures and datasets used in the text exercises, and website links to downloading various programmes used for data analysis in the various chapters' exercises. The instructor's manual (available from the authors for download to course instructors) is a 103 page electronic document that assists instructors not only with answers to the practical exercises, but provides detailed working calculations for those answers. Even for those exercises requiring broad discussion with the potential for varied and region-specific interpretation, the authors have provided instructors with a means of stimulating and guiding discussion towards the unifying concepts underlying the exercises and chapters' themes.

The exercises in each of the chapters range from group-based role-playing scenarios, to field-based experiments, through to detailed data analyses and interpretations using provided data and links to free downloadable programmes (e.g., DISTANCE, PRESENCE, MARK, EstimateS, GIS). While many of the exercises could be perfectly adapted into a typical three-hour laboratory, a number of the exercises are required to run over a number of weeks, such as the nest predation experiment outlined in Chapter 18. Although all the downloadable programmes appeared to work fine, I suggest that if these exercises are used as the basis of the practical laboratory component of any unit, it may be advisable to download and install these programmes beforehand, in order to maximise the amount of time dedicated to the actual exercises and discussion. The instructions provided regarding the use of the various programmes are thorough, including step-by-step instructions and sample programme outputs, as well as an outline of specific idiosyncratic glitches potentially affecting analyses and saving of data files.

The “Expected Products” section in each chapter outlines the exercises based on the included material, with the “Discussion” section designed as a means of summarizing the outcomes and exercises through discussion. Finally, the “Making It Happen” section further broadens the chapter's theme by asking the reader to apply the themes to his/her own experience

and/or geographical context. Given that time and time again, I hear students commenting on their inability to apply and perceive some theoretical lessons learnt in the lab to their own personal/geographical context, I believe that this practical application of each chapter's content is where this book excels, and provides an opportunity for laboratory demonstrators to extend the number of classes over which the exercises associated with some of the chapters can run.

As of late 2008, the book had already received wide readership (pers. comm. J. Gibbs), with requests for the accompanying instructor's manual spanning 13 countries (including Australia, USA, Brazil, Japan, Sweden, Hungary and Bahrain). The book is targeted at “upper-level college undergraduates, early-stage graduate students, and possibly some practising professionals”. However, the practical application of ecological theory, as well as sociological exercises, lends itself to a potential broader audience including community conservation groups, local and city council environmental and policy officers, and environmental consultancies. Given that all royalties from this book are dedicated to two fellowship funds for students of natural resource management and biology in developing countries, this textbook will continue to extend its influence beyond that of any university laboratory classroom, by helping to educate future generations of conservation biologists and wildlife managers throughout the world.

REFERENCES

- Sutherland, W. J., Armstrong-Brown, S., Armstrong, P. R., *et al.* (2006). The identification of 100 ecological questions of high policy relevance in the UK. *Journal of Applied Ecology* **43**: 617–627.