

Preface

This book is intended for use by field biologists and others, including future field biologists who might be in a university course, engaged in the day-to-day study and conservation of vertebrate animals. Our goal is that conservation biologists use this book as a (with apologies to our colleague Evan Cooch) “gentle introduction” to the field of quantitative ecology. We hope to convince readers that the methods and approaches within are *not* the domain of mathematicians, statisticians, and computer programmers, but in fact are essential tools to doing the job of conservation in the twenty-first century.

We intend this book to be used. Read it, mark it up, and take it into the field. Consult it *before* collecting field data, to motivate and design your monitoring and research programs (Part I), and afterwards to properly analyze and interpret the data that (hopefully) have now been properly gathered (Part II). Especially in Part II we hope that this introduction gives field biologists the basic tools and confidence to tackle the specialized books covering many of the field techniques that we cite in this book.

We draw particular attention to Part III of the book, which deals with structured decision making and adaptive management. We would actually encourage readers to skip ahead to this section and get to grips with the essential ideas of applying models to conservation decisions. Then return to Parts I and II for the details of how to build models and collect and analyze field data. This will help keep the focus where we want it – on the practical application of these methods to solving real conservation problems.

As noted on page ii, we have provided a website for the book and an accompanying CD. The website will be updated (and corrected) periodically as new developments occur and as (inevitably) mistakes are found. The CD contains all the material on the website but cannot, of course, be kept up to date as easily as the website. Both provide ready access to all the worked examples in the boxes in the book, with much more detail than allowed for in the printed book. To that end, we have provided links to software and other resources, most of it freely available on the internet. The website and CD are essential resources for the book, so we strongly encourage readers to use them to repeat for themselves the analyses performed in the book, and as a template for performing analyses of their own data.

Finally, this book is not intended as a substitute for other, more comprehensive books, notably Williams *et al.* (2002). To keep this book to a reasonable length, and in order to remain accessible to a less mathematically oriented audience, we chose not to cover all the methods available, and have not provided the sort of depth that more advanced references such as Williams *et al.* (2002) provide. So, for example, we have only briefly described such important approaches as the Pradel temporal symmetry model, Barker/Burnham joint recapture–recover models, and multi-state models (Chapter 12),

but have instead provided a context in which readers might assess whether these models could be useful in their applications, and have pointed the reader to the appropriate in-depth background and relevant software. Likewise, we have given only a “barebones” treatment of the Robust Design (Chapter 12), but we have provided an example that should give readers a good idea of just how powerful an approach this is. We have, rather, emphasized practical applications and examples – which is why we again exhort readers to use the CD and website to full advantage.