BOOK REVIEWS


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Carnivores have captured the imagination, fascination, and fear of people for millennia. This moderately speciose, yet ecologically diverse, order of mammals is one of the most difficult taxa to study in the field. The comparative low densities, often nocturnal habits, and secretive behaviors of carnivores can make obtaining adequate sample sizes exceedingly difficult. Since the early monographs of carnivores (Murie 1940; Errington 1943; and Mech 1966), the array of techniques used to study carnivores has increased almost exponentially. This, along with the recent accelerated extinction risks and conservation challenges associated with carnivores and other mammal species (e.g., Hoffmann et al. 2011), makes a book that compiles the most important carnivore techniques to further our understanding of their ecology and enhance conservation a welcome addition.

Providing a comprehensive synthesis of the peer-reviewed literature in a single volume, irrespective of topical area, is a daunting task. Whenever a new book on techniques for a taxon is published, I am always cognizant of the potential for duplication with previous techniques books on other taxa or volumes specific to a suite of techniques (e.g., resource selection). However, I was pleasantly surprised to find this had not occurred in this volume and commend the authors for focusing their writing and keeping examples as specific and relevant to carnivores as possible. I also commend editors L. Boitani and R. Powell for working with the authors to ensure this potential for redundancy did not occur. Finally, I applaud the editors for gathering the 41 experts from around the world who collectively have many decades of experience at the forefront of developing and testing field and analytical techniques for carnivores.

In contrast to many edited volumes, the 17 chapters in this book were not formally categorized into sections. Nevertheless, the editors provided a natural and orderly progression of topical areas as described in the introduction that can loosely be grouped as an overview to experimental design and data interpretation (chapters 2 and 3); approaches to data collection (chapters 4–7); analytical approaches for treating data (chapters 8–13); and human–carnivore relationships, including conflicts and conservation (chapters 14–17). Following the introductory chapter, the 1st section of this book begins with the chapter Designing carnivore surveys (chapter 2). Although it could be argued that an introduction to experimental design can be found elsewhere and is not necessary to include in a volume on carnivore techniques, I personally believe a topic this fundamental to the study of ecology and conservation should be included in every techniques book. The chapter on experimental design is followed by Mind the map: trips and pitfalls in making and reading maps of carnivore distribution (chapter 3), which provides a thorough and cautionary overview of how to draw appropriate inference from existing maps and data requirements for the development of new ones.

The 2nd section includes Noninvasive sampling for carnivores (chapter 4), Humane and efficient capture and handling methods for carnivores (chapter 5), Carnivores in hand (chapter 6), and finally Radio-telemetry equipment and applications for carnivores (chapter 7). Each of these provides a relevant and thorough introduction to their respective topics. Readers should be aware that the chapters are not exhaustive in depth but clearly provide more than adequate breadth of the most important topics and primary literature sources to find greater detail.

The next and largest section describing analytical approaches includes chapters titled Estimating demographic parameters (chapter 8), Movements, home ranges, activity, and dispersal (chapter 9), Carnivore habitat ecology: integrating theory and application (chapter 10), Describing food habits and predation: field methods and statistical considerations (chapter 11), and Reproductive biology and endocrine studies (chapter 12), and concludes with Investigating cause-specific mortality and diseases in carnivores: tools and techniques (chapter 13). I especially enjoyed reading the chapter on carnivore habitat ecology, which provided an excellent overview of approaches to improve our understanding of carnivore resource use, made relevant by being grounded on broad biological principles. Also, I found the portions of chapter 11 on applications of global positioning system collars to identify kill sites and stable isotope analyses for estimating assimilated diets of particular interest.

I was pleased to see a meaningful emphasis placed on carnivore conservation. Too often we become caught up in the tools of our trade as opposed to the long-term ecological and societal benefits of understanding and conserving the environments and species around us. The final section on human–carnivore interactions begins with Mitigation methods for conflicts associated with carnivore depredation on livestock (chapter 14). The treatment of this topic is solid but I would like to have seen expansion into other areas of human–carnivore conflict. Remaining chapters include Carnivore restoration (chapter 15) and Designing a monitoring plan (chapter 16), and conclude with Assessing conservation status and units for conservation (chapter 17). With the current human population worldwide estimated at a staggering 7.1 billion individuals and increasing, and the comparatively high threat for carnivore extinctions relative to other mammal species, the need for improving human–carnivore coexistence and ensuring the long-term viability of carnivores and a network of areas they inhabit is more crucial than ever.