

animal welfare and conservation. Then, of particular interest to those of us who have followed the protection or use debate over the decades, is a chapter looking at the nuances of trade-offs between these two approaches. As most of us have suspected all along, protection and use often work best in tandem and are context specific. The chapter is well argued, although I doubt it will lay the issue to rest. The next chapter looks at trade-offs between biodiversity and poverty reduction, and calls for greater collaboration between the multitude of players in the conservation and development worlds, the conclusion being that, again, there are synergies to be found. Finally, the power of traditions in conservation are explored through a case study of the Maasai. The author finds a complex array of interactions between traditional practice and conservation, reflecting a broad range of attitudes and drivers against a background trend of waning traditional land use.

Part three starts with an excellent chapter on the hypothesis that too much conservation funding is spent on planning, workshops and modelling to the detriment of the more mundane necessities (e.g. vehicles and uniforms for park rangers). Again, pragmatic trends and remedies are suggested. Further chapters cover marketing approaches and dilemmas, trade-offs between conservation and extractive industries, and conservation as a positive force for peace in conflict areas.

Part four starts with a chapter that examines the differences between 'knowing' and 'doing'. The authors advocate 'consilience'—a trans-disciplinary approach—but acknowledge the inevitable compromises and trade-offs that occur in any conservation programme in practice. This is followed by a chapter that will make most readers squirm—path dependence in conservation—those bandwagons that we so readily climb aboard and that self perpetuate. Directions on how to avoid or get off are helpfully supplied. The final chapter in this section examines the politics of knowledge, and makes recommendations about how to recognize the objectivity (or subjectivity) of knowledge that frames the questions that drive both policy and trade-offs.

The final section sits oddly given what has come before. The previous sections suggest that conservation practice works best when it is pragmatic, adaptive and context specific. Climate change will create massive conservation challenges but the evidence for which, where and how is still too unclear to enable us to define the actions needed. Apart from a few other quibbles (no abstracts and an overwhelmingly in situ

focus) I have no hesitation in recommending this book. As a distillation of the complexities and dilemmas associated with conservation in practice it is enlightening and reassuring but, much more useful than this, its contributors bring a wealth of experience and thought to actually dealing with the problems. I suggest you buy it.

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The Wolf's Tooth: Keystone Predators, Trophic Cascades, and Biodiversity

by Cristina Eisenberg (2010), xvi + 254 pp.,
Island Press, Washington, DC, USA. ISBN
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Top predators are often charismatic but are equally often drawn into human-wildlife conflict scenarios. Consequently, conservation efforts can become more problematic for these species than for those at other trophic levels. Understanding exactly what role top predators play in regulating ecosystems, and in preserving wider biodiversity, is therefore a particularly pressing challenge for conservation science. Furthermore, top predators are increasingly viewed not only for their own inherent conservation value but also for their potential use as ecological tools: in habitat conservation, habitat restoration and habitat creation. Conservation biologist Cristina Eisenberg's colourful summary of the history and concepts behind the science of trophic cascades is, therefore, timely.

Trophic cascades refer to those cases in which significant impacts result from removing or introducing species at the higher levels of an ecological system, often top (or keystone) predators. *The Wolf's Tooth* is ostensibly divided into two parts: first exploring essential concepts relating to trophic cascades, and then their practical applicability. Part One examines examples of trophic cascades in aquatic and terrestrial systems, as well as cascades over longer timescales. Part Two focuses more on the importance of the concept in relation to global biodiversity conservation. However these divisions are blurred, and the book reads as a single continuous narrative; one in which Eisenberg blends anecdotes from her experiences in the field into a synthesis of the science and its historical development.

The author's writing style is readable, enjoyable and occasionally extremely lyrical; furthermore, her own personal experiences of interacting with the species in question make the discussion of the science

engaging. Equally, Eisenberg makes some strong theoretical arguments, backed up with a number of empirical studies, for the significance of top-down effects upon ecosystems. However, whilst reference is continually made to the debate between the significance of top-down and bottom-up effects, there is only limited treatment of the latter, which could have provided an interesting counterpoint and given a more balanced perspective. The book opens with the Robinson Jeffers quotation (What but the wolf's tooth whittled so fine / The fleet limbs of the antelope?) and leaves you wondering what the full answer would be.

Despite *The Wolf's Tooth* being written in a highly enjoyable style there is to some degree a lack of clear structure. Key concepts are repeated numerous times throughout, and the progression does not always appear logical: for instance, the basic definition of biodiversity is not explored until page 147. Nevertheless, Eisenberg demonstrates a considerable expertise, and outlines the key arguments for top-down effects in an authoritative and persuasive manner. Whilst the book is released at a time when these arguments are highly topical, it does not seek to introduce completely new concepts, or to attempt to change any established opinions in the debate. What it does do is identify some very important ideas and make them accessible, which is in itself a useful contribution to the literature. As such, the book perhaps functions best as an introduction to the concept of trophic cascades, and ideal for those with an interest in the historical development of key elements of ecological science.

In summary, this is an extremely interesting and enjoyable synthesis of the science of trophic cascades but one that could potentially have benefited from a more direct treatment of the opposing arguments. However, it is clear that outlining important scientific arguments are only part of Eisenberg's drive: the book is at the same time an ode to the wild and an expression of the author's clear passion for wildlife, as well as a respectful tribute to some of the great minds in the field.

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Lemurs of Madagascar (3rd edition) by Russell A. Mittermeier, Edward E. Louis Jr., Matthew Richardson, Christoph Schwitzer, Olivier Langrand, Anthony B. Rylands et al.