## **Protection of the Three Poles**

By Falk Huettmann (ed.). 2012. Springer Publishing Company, 11 West 42nd Street, New York, NY, USA, 10036. 337 pages, 149.00 USD, Cloth.

Hardly a day goes by without seeing or hearing some mention of climate change. Satellite images of ice shelves disintegrating, photographs of extreme flooding and drought, and predictions of species extinctions at the Poles are alarming and should cause us to evaluate human behavior in the context of unrestrained economic growth. But, do they, and is it already too late? It might be. In fact, the Foreword of this book includes a prospective "Epitaph for the Poles." In the pages that follow, the book's 31 contributors provide such a bleak assessment of the current state of polar protection that the reader might well decide to seek solace on the nearest barstool or pew. The Introduction, written by the Editor, is a no-holds-barred exposé of the climate change crisis that is both entertaining and unsettling (and depressing). He reviews how rapidly changing abiotic and biotic conditions at the Three Poles - Arctic, Antarctica, and Hindu Kush-Himalaya - warn of a broken global system and reflect the predictable outcome of an "aggressive and inappropriate business model" that willfully ignores concepts of carrying capacity and sustainability. Sustainable development and sustainable growth are fraudulent ideas whose legitimacy must be questioned and whose practice must be stopped. All groups bear responsibility for climate change, some more than others, as he condemns scientists, governments, NGOs, international corporations, and the media. Natural resource management, as currently implemented by individuals, groups, and institutions, is failing and a new science, one with sustainability on its main agenda, is needed. He hopes the book will provoke the discussion necessary to achieve global welfare.

After this blistering Introduction, I was surprised to find the 11 content chapters somewhat traditional in scope and relatively uninspiring. The first is an overview of the International Polar Year of 2007-2008, focusing on the benefits and challenges faced in realizing what was to be one hallmark of the effort - freely accessible data (we learn later that only 35% of participants fulfilled this commitment). The next two chapters are Antarctica case studies: the first addresses human exploitation of the Antarctic Toothfish in the Ross Sea and the second evaluates how the Madrid Protocol aspires to protect wilderness and aesthetic values of the continent. Two case studies on the Hindu Kush-Himalaya follow, one analyzes the importance of the Third Pole and how it should be protected, and the other reviews the Himalayan Uplands plant database and its accessibility and usefulness for conservation. The next five chapters, the largest section of the book, are devoted to the Arctic. Two chapters cover marine mammal conservation in Russia, one based on community interest and involvement (bottom up) and the other taking the more customary approach linking government policy and actions (top down). The next two chapters on Arctic waterbirds and seabirds discuss the daunting challenges associated with conservation at a truly global scale, considering long-distance migrations, circumpolar distributions, and an increasing industrial presence. The final content chapter warns of potential shifts in disease distributions and their consequences as a result of climate change.

The conclusion, immodestly titled "Yet Another, But This Time Realistic, Polar Synthesis, Meta-analysis, and Outlook", is nearly twice as long as any other chapter. In it Huettmann repeats much of the criticism leveled in the Introduction, recounts specific failures in polar conservation, identifies the organizations and institutions bearing responsibility, and calls for implementation of the environmental ethics of Aldo Leopold and others. He then lists the actions individuals should take to affect change and the ways science should be restructured to address the climate crisis. Both lists merely repeat what you would find in standard conservation texts.

Huettmann engages the reader while he disassembles nearly everyone and everything related to conservation, but the book is supposed to be about the three poles and I would have liked to see less of his writing (89 of the total 337 pages) and another two or three content chapters. In fact, given the criticism he levels at unsustainable economic growth, it seems a major shortcoming that a chapter on environmental economics is not included. I think field naturalists will appreciate much of this book, particularly the chapters on protecting wilderness values, mining plant databases, and protecting arctic birds. For an edited volume, the writing across chapters is remarkably consistent, yet I found the mixture of black and white figures and colour figures within chapters somewhat distracting. Moreover, some figures were of poor quality (6.2, 6.5) or completely useless given the complexity of the legend (e.g., Chapter 10 bird distribution maps, Textbook 1 in Chapter 12). The book is filled with dozens of internet URLs – I tested 10 and eight worked.

Finally, are there ideas or methods in this book that will help us achieve what Huettmann hopes is a "truly global sustainability?" Unfortunately, I think not. Despite his statement that the book and contributors are all about the "best possible solutions and smoothest possible transitions", most of the chapters outline distressingly commonplace problems (over exploitation, weak enforcement of protected areas, poor outlook) and offer traditional recommendations (a need for more data, more funding, and greater coordination among conservationists and organizations). All proceeds of the book are directed toward sustaining a Fellowship in the Protection of the Three Poles. Sadly, I think an Epitaph for the Poles may well be written by one of those Fellows in 50 years or so.

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