

Publications

Inuit Polar Bears and Sustainable Use edited by Milton M.R. Freeman and Lee Foote (2009), xii + 252 pp., CCI Press, Edmonton, Canada. ISBN 9781896445458 (pbk), USD 50.00.

I disclose that as a member of the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), I piloted the status report on the polar bear in Canada. In 2008 COSEWIC assessed the bear as a species of Special Concern. Polar bears have become a tool in the politics of global warming. Many interest groups attempt to either dramatize or downplay their conservation status. This book presents the Inuit viewpoint on polar bear harvest, western science and politics.

Most chapters deal with the fallout of the listing of polar bear as Threatened under the US Endangered Species Act (ESA), which shut down the import of hides ('trophies') into the USA. Because most sport hunters were from the USA that listing will have an economic impact on Inuit communities that sold part of their bear quota to sport hunters. Several chapters report in detail how the harvest in Canada is regulated, the use of traditional knowledge in establishing quotas, how different Inuit communities decide who gets to shoot each bear, and the economic and social consequences of the sport hunt. Others consider how the media portrays polar bear conservation and Inuit, or explore the relationships between Inuit, scientific data and visiting sport hunters.

One chapter summarizes the response of the Nunavut government to the proposed ESA listing, and provides a science-based critique. The book mostly emphasizes how a regulatory decision in a foreign country had a negative economic and social effect on Inuit communities. Because quotas will be filled by Inuit hunters, curtailing the sport harvest will not affect the number of bears killed. It will, however, reduce the economic benefits of the hunt. A recurring theme is that a concern over global warming led to a decision that affected the sport hunt and will have no impact on carbon emissions.

Possibly because shrinking ice cover forces bears onto land, Inuit now see more bears than some years ago. Some elders recall times when bears were seldom seen. Inuit appear convinced that the bear population is healthy and probably increasing. The rest of the world, meanwhile, is told that polar bears are going extinct. Inuit depend on wild animals for food and income, and were severely affected by the European ban on seal products. They now have one more

reason to resent people in the south who cause environmental problems but appear to deal with them by restricting Inuit activities and income. Conservation is unlikely to be effective when local people do not agree with it. Here we are presented with a case where the Inuit view of polar bear conservation clashes with that currently prevailing outside the Arctic.

There are few attempts here to present a diversity of views, nor is there much discussion that there might be a variety of opinions amongst Inuit and Inuvialuit themselves. The book meets its objective to present the Inuit perspective, despite the occasional descent into the near-ridiculous (trophy hunting of male bears, we are informed, benefits the population by reducing predation by males on cubs and sows). While the economic and social consequences of the sharply reduced harvest quota for Western Hudson Bay are clearly presented, there is little emphasis on the strong data suggesting that that population is declining because of diminishing ice cover. We are reminded that most data suggesting a negative effect of global change on polar bears come from only two populations but there is no critical assessment of why the Nunavut government, against scientific advice, increased the polar bear quota by 28% based on traditional knowledge. That decision damaged the perception of co-management outside the Arctic, partly because little documentation was provided to support it. The quota increase, later largely retracted, provided an opportunity to discuss the integration of traditional knowledge in conservation programmes. If it is to be used, that knowledge must be subject to scrutiny. No such discussion is presented, leaving the impression of a reluctance to examine critically the core issue of this book. Only one chapter explicitly reports that the quota based on traditional knowledge went against scientific evidence. Scientists make mistakes but their findings are scrutinized by peers and vigorously discussed. Calls simply to accept traditional knowledge without scrutiny as guidance for conservation are as misguided as suggestions to ignore it. The book also reports a worrying trend that suggests a backlash against wildlife research. Recurring complaints about marking of polar bears and other wildlife are possibly an attempt to prevent scientists from gathering data.

If you work on conservation in wilderness areas you are probably dealing with Aboriginal issues. You should read this

book. Even though you may not like what it says, it is a major case study of a conflict between Aboriginal and western views of conservation.

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Ecosystem-based Management for the Oceans edited by Karen McLeod and Heather Leslie (2009), xxii + 368 pp., Island Press, Washington, DC, USA. ISBN 9781597261548 (hbk), USD 90; 9781597261555 (pbk), USD 45.

Those involved or interested in marine resource use and management have undoubtedly come across the term ecosystem-based management (EBM). More than likely they have also encountered suggestions that EBM is not well defined, understood or implemented. Karen McLeod and Heather Leslie address these criticisms by editing this comprehensive book. It is in five sections, successfully taking the reader from the conceptual stages of EBM through to practical applications and implementation. Consisting of 19 chapters, the book includes contributions by over 40 marine scientists, managers and conservationists. *Ecosystem-Based Management for the Oceans* is a concise resource for those working in marine conservation and management. The book summarizes scientific support for EBM, and discusses legal and political issues pertinent to practising EBM.

Setting the Stage, the book's first section, introduces the reader to why EBM is becoming a prevalent theme in management of the oceans. A background chapter explores the state of the world's natural resources and concludes that we should promote an alternative management regime if we wish to benefit from our natural resources in the future. EBM, although hot as an ecological buzz-word, has been slow to influence how marine management is actually practised. The incentives and disincentives facing managers as they progress toward a more ecosystem-based management paradigm are explored in chapter 2. The challenges to EBM, such as complete restructuring of institutional procedures if the goals of EBM are to be met, are addressed.

The second section of the book reviews the concepts behind EBM, which is a holistic approach to management where all

components of an ecosystem are evaluated together and trade-offs in management are explicit. This is a large deviation from the traditional single-species or single-sector management approach that has been the status quo in marine systems. One chapter in this section, Valuing Ecosystem Services, addresses a challenging aspect of practising EBM: how to integrate ecological processes and services with economic valuation. Several approaches to natural resource valuation are reviewed but the reader is reminded that 'economic analysis of ecosystem services has a long way to go' to effectively support EBM practices.

The third section addresses how to transition from the concepts discussed in the earlier sections to actually practising EBM. This group of chapters focuses on how to apply the principles of EBM. Valuation challenges are addressed again, with Edward Barbier discussing the difficulties in assessing trade-offs in ecosystem services throughout chapter 8. A chapter on integrating traditional ecological knowledge is a welcome departure from the quantitative methods and applications in most of the contributions. While quantitative modelling plays an important role in management, incorporation of qualitative data, such as the inclusion of traditional ecological knowledge, is also important to EBM. Issues raised in earlier chapters are addressed in chapter 10, which focuses on building the necessary legal and institutional frameworks. Current US governance structures that support EBM are reviewed, including the Magnuson-Stevens Act, but the authors point out that the current system is resistant to change. One of their suggestions to improve EBM practice in the USA is to link governance scales better to allow for overlapping institutions and shared authority.

The book's fourth section is dedicated to chapters reviewing EBM in practice. These case studies include: Morro Bay, California; Puget Sound, Washington; Chesapeake Bay, Maryland; Gulf of California, Mexico; and Eastern Scotian Shelf, Canada. Chapter 16 is a nice summary of how EBM is being implemented by different governments.

Two summary chapters in the fifth section address how to move forward. A philosophical piece asks readers to question the moral and ethical viewpoints that have led to our current ecological crisis. The authors suggest what a future ocean ethic, one that better supports EBM, could look like. In a reciprocal fashion, they also suggest that EBM may help us discover this new ethic, such that EBM is both a means and an end. McLeod and Leslie synthesize the book in chapter 19, reminding the reader that,

although achieving EBM may appear to be a daunting goal, there are several paths one can take. If EBM should, in fact, be a global goal, it can be implemented in various manners across the marine environment.

Although comprehensive in most regards the major limitation of this book is its lack of relevance to developing countries. Almost every chapter relates to studies and resource management issues directly relevant to developed countries, and especially the USA. However, EBM may be even more important in developing countries, where populations are often critically dependent on their natural resources.

The contributors and editors have done a good job integrating and synthesizing the chapters. Many chapters reference other contributions in the book. Overall, this book is a valuable resource for managers, scientists, and conservationists. It addresses everything from conceptualizing and planning EBM to implementation and evaluation.

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Assessing the Conservation Value of Fresh Waters edited by Philip J. Boon and Catherine M. Pringle (2009), x + 293 pp., Cambridge University Press, Cambridge, UK. ISBN 9780521848855 (hbk), GBP 75/USD 150; 9780521613224 (pbk), GBP 35.00/USD 70.

Covering only c. 0.8% of Earth's surface, freshwater habitats are home to almost 45% of all fish species, 25% of all mollusc species, and harbour a relatively high species density compared to the terrestrial and marine environments. Given the wealth of biodiversity associated with freshwater environments, how does one go about identifying and assessing the values of freshwater ecosystems, habitats and species for conservation? This challenging question is the focus of this book, edited by P.J. Boon and C.M. Pringle, a UK freshwater policy advisor and a US professor of freshwater research, respectively. The editors contribute a number of chapters and there is input from 17 other authors. The assessment of conservation value is a pressing and contentious issue and the book provides a good overview of various approaches, both legislative and scientific.

One strength of the book is that each of Chapters 2–8 is co-authored by a pair of authors, one each from the UK and USA. This format allows careful comparisons of

the approaches used in both countries. These chapters cover a number of key topics, including relevant legislative frameworks, underpinning philosophies, approaches for prioritizing freshwater values for conservation, responses to threats to freshwater biodiversity (including case studies), approaches for evaluating restoration potential, and approaches for assessing river and lake conservation values. Note that the book covers issues related only to lakes and rivers and does not specifically cover the assessment of conservation values of other freshwater ecosystems such as ponds or wetlands.

In Chapter 2 the results of a survey conducted by the editors are presented in which a number of freshwater specialists were asked to score various attributes (e.g. naturalness, rarity, diversity) as indicators of freshwater conservation value. Results were analysed by country (UK vs USA) and by professional grouping (researchers from universities and research institutes vs people working in conservation bodies vs river/lake/land managers and environmental regulators) for rivers and lakes, separately. Some patterns emerged from the data and, among other conclusions, the authors interpreted their results as indicating that the traditionally accepted criteria of naturalness, rarity, diversity and representativeness accurately summarize a general perception of freshwater conservation value.

To extend the scope of the book geographically and culturally interesting summaries of approaches used in Sweden, Australia and New Zealand, South Africa and in some developing countries are presented in Chapters 9–12. A sense of the urgency of freshwater conservation is generally communicated only in the latter chapters dealing with developing countries and Australia and New Zealand. The reader could be lulled into a false sense of security by chapters 2–9 as the complex legislative and scientific approaches employed in the UK, USA and Sweden are generally succeeding in conservation of freshwater biodiversity and ecosystems.

This book does not give the reader a sense of the great challenges that persist for freshwater conservation in the developed world, nor does it signal an emerging consensus or pathway that could lead to greater success in conserving freshwater species, habitats and ecosystems. Perhaps the authors will follow this book with one that analyses which approaches work best and which approaches have not worked. On the other hand, perhaps different approaches are needed to suit different cultural, historical and ecological circumstances and, thus,