

## THE MARINE BIRDS OF THE EASTERN UNITED STATES AND THE BAY OF FUNDY: DISTRIBUTIONS, NUMBERS, TRENDS, THREATS, AND MANAGEMENT

Nisbet, I.C.T., Veit, R.R., Auer, S.A. & White, T.P. 2013. Cambridge, MA: Nuttall Ornithological Club. 198 pp., 4 black and white illustrations. Hardcover: ISBN 1-877973-48-3, US\$49.75.

This book represents the 29th offering in the influential *Nuttall Ornithological Monographs* series, currently edited by P.A. Buckley. It reviews the distribution, numbers, status and trends of 83 marine bird species (including 31 breeding species) that occur regularly along the east coast of the United States, from Biscayne Bay, at the southern tip of Florida, to the Bay of Fundy, and in the waters of the continental shelf and slope out to the 2000 m isobath.

Few authors could be as insightful on the subject of marine birds in this region as Ian Nisbet and Dick Veit. Throw the support of Sasha Auer and Tim White into the mix and you have an extremely accomplished and knowledgeable team. Together, these authors tackle the important task of assessing long-term trends in marine bird numbers, as well as outlining threats and identifying research and conservation needs. In doing so, they compile data from an extremely broad range of sources. The bibliography of more than 600 entries alone makes this volume invaluable.

The book features four main sections: 1) Introduction; 2) Species List (and accounts); 3) Threats; and 4) Recommendations for Research and Management.

The Introduction provides the authors' definition of marine birds and describes the physical focus of the book, the regional oceanography and the general patterns of seabird distribution. This section also includes a brief historical perspective, considerable explanation of the authors' sources of information and the timeframe they have examined, mainly 1994–2010, with additional information since 1970 where available.

The Species List, which makes up the bulk of the volume (74 pages), provides individual accounts for all 83 species. Short and to the point, each account examines the status, seasonal distributions and trends, including the global breeding and non-breeding distributions, and any details of migration, if known, as well as brief updates on the existence and status of subspecies.

The authors then summarize the population trends for all species and present these data in a single concise table (Table 8). This table represents the very heart of the entire exercise, and its simplicity and elegance belies the enormous effort required to pull all of this information together in one place. We owe the authors considerable gratitude for being willing to invest the time and energy necessary to do so.

In the next largest section (30 pages), the authors identify and assess threats to the marine birds of the region. The Threats section covers climate change, human development of coastline, threats on foreign breeding sites, interactions with fisheries, hunting and other human persecution, human disturbance, human-enhanced predation, large predatory gulls, offshore wind turbines, oil spills, toxic chemicals, plastics and other artifacts, diseases and biological toxins. Not surprisingly, climate change and interaction with fisheries are given the greatest amount of attention here. The authors also summarize these threats nicely in another table (Table 9) that highlights certain species thought to be at highest risk from each of the identified threats.

The closing section lays out the authors' recommendations for research on, and improved and intensified management of, marine bird populations on the Atlantic coast. This section briefly covers some of the same issues identified in the previous Threats section, listed in order of their perceived importance.

The extensive Literature Cited section and Appendices close out the volume. Appendices include a list of scientific names, a gazetteer of locations named in the text and an interesting list of vagrant species recorded in the region, with general information on where and when they were encountered.

Overall, this valuable work provides an essential and long-awaited assessment of long-term trends of marine birds in this region, as well as a careful consideration of the major threats to these species. Undoubtedly, refuge biologists, resource managers, conservationists and students alike will find extremely useful information on the marine birds of the Atlantic coast within the covers of this book. On first impression, it seemed disconcertingly brief in some areas for my liking, but, with the increasing clamor for offshore energy generation and resource development all along the Atlantic coast, this book's influence and significance will only grow in the years and decades to come.

If you work on marine birds on the Atlantic coast, I would suggest you get yourself a copy now. You will probably reach for it often.

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## MIDWAY: A GUIDE TO THE ATOLL AND ITS INHABITANTS

Toops, C.M. & Greenberg, P.C. 2012. Naples, FL: Las Aves. 84 pp., 11 black and white photographs and 82 color photographs. Paperback: ISBN 978-0-9849148-0-7. US\$14.95.

This is a guidebook to Midway's birds, but it is much more than that. It begins by establishing a geographic and historic context to the northwestern Hawaiian Islands. It includes a discussion about the historic battle of Midway, accentuated with emotionally powerful photographs and interviews with soldiers who were there. It then guides the reader through the subsequent transition from "bullets to birds," when Midway became a national wildlife refuge and, more recently, a key part of a marine national monument. In the latter two-thirds of the book, the authors focus their attention on the rich marine and terrestrial environment at Midway and the diversity of wildlife that call Midway home.

It appears to this reader that the book was designed to fill an empty niche, as a fact-filled guidebook for the prospective visitor. Herein lies the unfortunate reality of wildlife conservation in the contemporary world. Things change, and the printed word is soon out of date. At the moment, the visitor program at Midway is "on hold," largely the result of insufficient government funds. It appears that this book will not get the attention it deserves until a visitor program is restarted. Hopefully, those who may never get to see this grand place will travel vicariously through this and other books about Midway's natural and cultural history.

I think that those with a casual or academic interest in seabirds will find this book a welcome addition to their library because of its comprehensive scope, its easy readability and its fine illustrations. It is apparent from the list of publications that appears in the "Resources" section that the authors undertook rigorous literature research and expert interviews to get their facts

straight. However, the book suffers to a degree from a lack of attribution for the facts and figures that appear in text. That makes it difficult for a reader to follow up on topics of interest. Similarly, I found a few statements in the text were either factually incorrect or unsubstantiated. Speculation regarding the origin of terms is acceptable in this type of book, but it should be described as such (e.g. use of Midway bird recordings in Alfred Hitchcock's film *The Birds*; origin of the term "mutton birds"). In addition, more thorough editing would have resulted in greater precision in the choice of words (e.g., Reserve vs. Monument, critical habitat vs. legally designated Critical Habitat).

Overall, I was pleased with the choice and quality of photographs and other illustrations. However, I would have preferred to see more half- and full-page photos, even if that required dropping some photos in the process. The historical black-and-white and color images were an excellent addition to the book, as they make the book more appealing to a diverse audience.

I was pleased to review this book, as it rekindles special memories from three years spent as the Midway refuge manager. In a brief "final thoughts," Toops captures the magic of Midway that resulted in this fine book. She describes Midway as "a place of refuge, a place of birthing, a place where nature's abundance is savored rather than squandered." She is so right. This book will never replace the satisfaction one derives from a visit to this special place, but it is the next best thing.

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## GOVERNING MARINE PROTECTED AREAS: RESILIENCE THROUGH DIVERSITY

Jones, P.J.S. 2014. Routledge. 240 pp. Hardcover: ISBN 978-1-84407-663-5. E-book: ISBN 978-0-203-12629-5. C\$118.17 (e-book C\$83.16).

The United Nations Environmental Programme (UNEP) funded most of the research that went into this book, with support and direction from other key individuals or organisations. There are eight chapters in the book, with the first four presenting introductory, overview or theoretical information about marine protected areas (MPAs), and the final four discussing the methodology, results and interpretations of 20 case studies. The primary aim of the book was to explore a statement by Kelleher (1999) that "the design and management of MPAs must be both top-down and bottom-up."

Chapter 1 is an introduction to MPAs, including a brief history, the international policy landscape and commentary on effectiveness and progress. The overview in this chapter is good for those who have little experience with MPAs and want to know some of the history, or for those wanting a refresher. I think it would have been

helpful in this chapter to introduce some of the most recent work on indicators for ocean health in the context of MPAs or marine protection — for example, the Ocean Health Index (Halpern *et al.* 2012) — because there are few instances of global references for ocean health. I was curious about why the author chose to use a 1991 definition for MPAs rather than the 2012 definition published by the IUCN. At any rate, it has not changed all that much. The more serious omissions in chapter 1 were a lack of discussion about effective and equitable governance, and about the process for establishing MPAs, including legislative and regulatory tools that will ensure implementation.

Chapter 2 is a summary of the objectives and categories of MPAs. Generally speaking, this chapter is a good overview of MPAs, including a list of eight functions. This is the only place in the

book where marine spatial planning (MSP) is mentioned. Given the importance of these public processes to advance marine protection goals globally, I found it surprising that this section was only 1.5 pages. I was curious as to why the UNESCO guide for MSP (Ehler and Douvère 2009) was not referenced, and there is scant mention of adaptation to climate change as possible functions for MPAs. Finally, governance systems for indigenous peoples are not covered, and alternative tools to MPAs in this context, such as indigenous peoples' and community conserved territories and areas (ICCAs). ICCAs, which are voluntarily conserved by indigenous peoples and local communities through customary laws or other means, are an IUCN category of conserved areas and another tool in a so-called "MPA toolbox" for conserving natural environments ([iucn.org/about/union/commissions/ceesp/topics/governance/icca/](http://iucn.org/about/union/commissions/ceesp/topics/governance/icca/)).

Chapter 3 is a summary of the key differences and divergences regarding MPAs. This chapter discusses important concepts, such as values and contrasting views of MPAs including contrasting storylines between conventional fisheries-based management and no-take MPA programs. As in other places in the book, I really liked the compare-and-contrast format for the summary table. As someone who enjoys philosophy, I found the section on perceptions of "naturalness" interesting and was pleased that the topic of property rights in relation to the ocean was introduced here. I thought perhaps the author might have taken the opportunity to make connections to the role of MPAs in restoring ecosystem function, as outlined in the previous chapter.

Chapter 4 discusses different theoretical perspectives on governance, including types of governance in relation to directing human behaviour. Again, the author's coverage of the content is in-depth and contains much food for thought. This is a dense chapter, and, for me, most of the theoretical arguments lacked good practical examples but others with strong stomachs for lots of theory will love it. I noted the absence of Elinor Ostrom's work, especially her famous "8 Principles for Managing a Commons" that describe how commons can be governed sustainably and equitably in a community (Ostrom 1990).

Chapters 5 through 7 are dedicated to the 20 case studies and include a very thorough review of the author's methodology, an overview of the case studies and an exhaustive analysis of incentives in relation to each case study (48 pages, to be exact). I found I wanted a map of the locations of the case studies, as well as more information on how and why each MPA was established, including the main objective or goal for designating a particular area as an MPA. Chapter 8 is a summary and conclusion, with the author emphasising his main thesis that socio-ecological resilience can be promoted through institutional diversity. The author does come back to the opening statement by Kelleher and concludes that a combination of incentives is best practice, "as diversity is the

key to resilience, both of species in ecosystems and incentives in governance systems."

The short glossary in the back is useful, although I noted several key terms were missing, including definitions for the terms "indicators" and "marine spatial planning." Generally speaking, the book has a decent citation list; however, several key papers on MPAs and MSP were missing, including the IUCN guidelines for MPAs by Jon Day *et al.* (2012) and, as previously mentioned, the UNESCO guide (Ehler and Douvère 2009).

As someone engaged in MSP globally, I had one main concern, especially for the reader who is a novice scientist or MPA planner: the author fails to mention or discuss the need for participatory and transparent processes for identifying MPAs. In my experience, effective governance of marine protected areas includes identifying the legislative or regulatory tools at one's disposal, working with stakeholders to identify proposed locations, and assessing the possible ecological and socioeconomic impacts.

I think that this book will be a great reference for those interested in the theoretical aspects of governance in general and in relation to MPAs. I cannot say that I found it a quick or light read, and I would not suggest taking it on weekend camping trips with the hopes of getting in a few chapters. However, this book might be useful for readers who are unfamiliar with MPAs or are wondering how top-down and bottom-up governance processes influence MPA creation.

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## PENGUINS: NATURAL HISTORY AND CONSERVATION

Borboroglu, P.G. & Boersma, P.D. (Eds.) 2013. Seattle, WA: University of Washington Press. 328 pp., 200 color photos, 20 maps. Hardcover: ISBN 978-0-29-599284-6. US\$40.00.

This handsome volume, featuring a plethora of photos, is an update of sorts of the penguin “bible” compiled by T.D. Williams (1995). In the case of well-studied species, such as King, Adélie and Chinstrap penguins, not much new information, and perhaps a bit less, is presented in the species accounts on natural history, distribution, behavior, etc. compared with accounts in Williams. On the other hand, information on less well-known species, such as Humboldt Penguin, is much more extensive, thanks to recent research. While Williams includes 124 pages of introductory material on life-history aspects common to all penguin species, including all important foraging ecology for this fish-like bird (comparisons that provide valuable understanding of penguins), the introduction in Borboroglu and Boersma (B&B) is just 1.5 pages, and the volume goes immediately to species accounts.

Many of the persons acknowledged by Williams for helping to assemble species information are authors in the B&B volume. Co-authorship of the contributions is irregular. In some cases, authors include most of the researchers who have worked on a particular species in recent years, e.g. King Penguin, Magellanic Penguin (six to 12 authors), thus representing a consensus for detailing aspects of conservation issues and recommended research, the backbone of this book. However, for other chapters, e.g. Adélie, Gentoo and Emperor Penguins, the single or the few authors are less representative as a consensus. Hence, the recommendations might be more colored by personal preferences.

The most valuable aspect of the B&B volume is the sections detailing main threats, recommended priority research actions for conservation, current conservation efforts, and recommended priority actions for increasing population resilience and minimizing threats and impacts. The conservation section in Williams was written by one of the editors of B&B, and it appears that threats have not changed much in the past 20 years. However, the listing of relative importance of threats by species in B&B is likely to be more effective, as long as this volume is used by managers and others who might effect changes in threats, which should be the case if progress is to be made. A case in point is the account for Galapagos Penguin, in which very specific recommendations are made among priority conservation actions, proposed by a large array of co-authors, which should reflect a well-informed summary.

Overall, having both the Williams and B&B volumes in hand will provide readers with most of the information needed for a basic understanding of the natural history and current status of penguins.

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## PENGUINS: THE ULTIMATE GUIDE

De Roy, T., Jones, M. & Cornthwaite, J. 2013. Princeton, NJ: Princeton University Press (First published by David Bateman Ltd., Auckland, NZ). 240 pp., Hardcover: ISBN 978-0-691-16299-7. US\$35.

At first glance, this appears to be a beautiful coffee-table book, but it is quickly evident that it is much more. In addition to exquisite photos taken by dedicated and experienced photographers, there is also a wealth of information on penguins. The book follows the format used in a previous volume on the albatrosses of the world by two of these authors (De Roy *et al.* 2008; for a review of this book in *Marine Ornithology* see Suryan 2010). There are dozens of books on penguins, and yet this volume stands out. The authors wanted the core of their book to be based on their own photos and personal experiences with all of the world’s penguin species, and they took 15 years to achieve this. A map showing the locations where the photos were taken leaves no doubt that their coverage will likely never be equaled. In addition, they invited contributions from leading researchers on penguins.

As in their albatross book, this volume has three main parts. In the first section, *Life Between Two Worlds*, De Roy provides seven short chapters introducing us to each genus and species of penguin. Her text, woven between stunning photos, is lively, personal and

insightful, vividly describing the excitement and wonder of visiting penguin colonies in remote and sometimes challenging locations. One cannot help feeling envious of the exceptional opportunities she and her co-authors have had to experience penguins across most of their global range.

In the second section, *Science and Conservation*, Jones begins with a review of interactions between humans and penguins. The account begins with the brutal exploitation of penguins for food by early explorers, continues through even more brutal exploitation of penguins for their oil, and ends with today’s world of climate change, oiling threats, intensive research, and penguins’ iconic role in popular culture (such as the film *Happy Feet*). The rest of this section has 16 essays contributed by people involved with research and conservation of penguins, including many well-known penguin personalities (David Ainley, Dee Boersma, Rory Wilson and Yvon le Maho, to name a few). These two-page essays provide fascinating and stimulating snapshots of a wide range of current research and conservation issues.

Despite the quality of the contributing authors and the material in these essays, I was a little disappointed in this section. I think the book's authors missed an opportunity to make these essays gateways into further information on the topics covered. There are no links to relevant websites or published material, and even the published sources cited in the text of many essays are not given in a reference list anywhere in the book. So the opportunity to guide the reader towards more information on these critical issues is lost. For example, I think many readers would eagerly follow up links to the many fascinating topics described, such as "Antimicrobial secretions that can inhibit digestion of food for 2-3 weeks within the stomachs of male King Penguins"; "The technowizardry of modern tracking devices and data loggers being used to study penguins at sea"; "A newly described species of penguin in New Zealand that went extinct after Polynesians arrived"; and "Responses by several species to catastrophic changes in their prey stocks and foraging conditions."

The third section, *Species Natural History* by Cornthwaite, begins with brief nuggets of information covering each species: head photos, fascinating facts (including physical features, lifestyles, behaviour, threats) and a very useful two-page table concisely summarizing the conservation status, population size, as well as trends, geographic range and principal threats of each species. The core of this section is the individual species accounts, giving more detailed but still concise summaries of each species, including description, size, population, distribution, breeding basics, diet and principal threats. Range maps show major colonies and population strongholds. The section ends with a suggestion of sites where one can see wild penguins. In total, this section is valuable as a background on each species and for easy comparison across species. However, again, the lack of references is a missed opportunity to lead the reader to information beyond this book. The short list of general references for further reading (publications and websites) is useful, but the addition of even one

page of more specific information sources would have greatly added to the book's value.

I have focused on the text in this review, but the book is primarily a celebration of penguins through uniformly stunning photographs. This is by far the best collection of penguin images ever contained in one volume. In addition to the usual portraits and colony shots, there are hundreds of great photos showing behaviour and all aspects of breeding. Close-ups of feet, beaks, eyes and feathery ornaments cause one to pause and ponder their function and adaptation. The only quibble here is the dearth of photos of penguins in the medium in which these birds spend the bulk of their lives — the ocean. Only the Galapagos Penguin has a range of underwater shots. If the authors had teamed up with a good underwater photographer, this volume would indeed qualify as the "ultimate guide."

This book, providing both excellent photographs and useful summary text, should be an essential purchase for the world's many penguinophiles. With its amazingly low price and unrivalled blend of information and images, I also highly recommend it to anyone interested in seabirds and in nature photography. Along with their matching albatross volume, these authors have established a unique new format combining summaries of rigorous information with exceptional photography.

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