

Seabird Breeding Atlas of the Lesser Antilles

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falls on the side of the cormorant, but he thoroughly captures the multi-dimensional nature of the problem. There are occasional inaccuracies in some of the technical information reported, including an unfortunate typo that greatly overestimates the Great Lakes cormorant population size. Additionally, the book is not highly annotated or referenced, and for those seeking additional information this may leave a bit to be desired. Despite these issues, however, key points are accurately represented, and Wild poses many important questions. One particularly provocative one is: what makes the actions of the Henderson Harbor residents a “criminal slaughter” while those of the government are a legal cull? By providing an in-depth view of attitudes toward cormorants and the belief in human ownership of fish resources, Wild has cast light on the cultural underpinnings that are at the heart of cormorant conflicts, and identifies a loss of interest in nature as part of the bigger problem the cormorant faces. With no sense of curiosity or amazement for this animal, there is also no appreciation for it, which allows the killing of thousands of cormorants to be accepted. This book resets the balance of opinion about this much maligned species and, as such, is a valuable contribution toward increasing public understanding not only of cormorants but of fish-eating birds in general.

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Seabird Breeding Atlas of the Lesser Antilles.—by Katharine Lowrie, David Lowrie and Natalia Collier. 2012. CreateSpace/Environmental Protection in the Caribbean, Charleston, South Carolina (www.create-space.com/3565696). 221 pp., 48 figures, 79 tables, 5 appendices, numerous photographs and other illustrations. Softcover: \$48.00 US. (ISBN 978-1-466-20437-9).

This book is the culmination of a 2-year breeding seabird survey of the Lesser Antillean islands, including all islands and cays between Sombrero, Anguilla, and Grenada. This census, covering over 3,162 nautical miles and visits to over 200 islands, was conducted in 2009 and 2010 by Environmental Protection in the Caribbean (EPIC). While there have been a number of previous detailed surveys for specific sites or island groups in this region, some dating back to the 1800s, and several attempts to compile existing data sets, this study is the first to systematically document seabird populations for the entire region.

The Lowries spent over 300 days at sea sailing from island to island on their 75-year-old wooden sailboat the *Lista Light*. Every site capable of supporting nesting seabirds was visited and colonies with seabirds that nest throughout the year were each visited twice. When conditions made it impossible to go ashore, surveys were done by boat, but for most islands counts were made from land using standard plot and transect analysis. This was a major undertaking and the Lowries are to be applauded for their efforts and dedication to this program.

The book is focused. A foreword by David Wege is followed by introductory material that includes a detailed description of the field methods and data analysis. The core of the text consists of accounts of the 18 species of seabirds nesting in the region, and of the 16 island nations that make up the Lesser Antilles. Both sections feature color-coded maps depicting locations, sizes and species composition of nesting colonies. Species of conservation concern are discussed as are the current threats to the existing colonies. These sections are followed by appendices and a five-page bibliography.

The species accounts contain key information in a telegraphic format, photographs of the species and often of their nests or eggs as well, and a few brief paragraphs on the birds' biology. Also included are the survey methods and the data analysis used to determine populations for that particular species. The individual island accounts are much more detailed, providing information that will allow the governing bodies of

the islands to appreciate the significance of their seabird colonies and to develop island-specific strategies to protect them. The accounts begin with a block of text summarizing key information on the island itself and its marine bird fauna. Detailed survey methods also include visitation dates. Tables and color-coded maps summarize the results of the surveys. The results section discusses the findings of the island's survey and spells out current threats. A discussion section addresses conservation issues, ongoing island-specific conservation actions and educational outreach programs.

The strengths of this program lie in its regional and island-by-island approach. Just as many seabird species require different census methods, different islands, because of their topography, present real challenges for people trying to estimate the sizes of seabird populations. The authors have presented their methods of counting and analysis in such a way that reliable comparisons can be made across time. Previous publications addressing this were largely compilations of various studies done over different time periods. While a few of these were very accurate and provided detailed survey methods, many were simply lists of species and estimates of numbers provided from various haphazard visits by naturalists and ornithologists who took the time to record what they observed. Not only are the EPIC staff interested in documenting the population sizes of specific colonies, they encourage the local communities to be involved, and help develop individual island educational outreach programs. I suspect that over time the community involvement and education programs will greatly enhance conservation efforts for the seabirds of the region.

While this publication is a benchmark for the future tracking of seabird populations in the Lesser Antilles, I fear that it overlooked its educational potential. The individual species accounts, which are unbelievably brief, missed the opportunity to make these birds more interesting to the general reader and to highlight the regional cultural and historical importance of some of these birds.

A number of the tables in this book are devoted to illustrating the percent of the global population of each species nesting on these islands. While this is interesting, many are wide ranging species with substantial breeding populations in the Pacific and other areas. A point not immediately apparent is that many of these nesting colonies represent major portions of our total tropical or western Atlantic populations. Additionally, a number of the species nesting in the region are represented by endemic subspecies confined to the West Indies or to the tropical Atlantic and most have small populations. Many of the birds covered in this publication have some officially designated conservation status. This was summarized by Schreiber and Lee (2000) and Bradley and Norton (2009), but for some reason these conservation rankings are not included here.

While this is the first publication specifically addressing seabird populations of the Lesser Antilles, there have been several previous works covering the West Indies region that provided population estimates for these islands and mapped out the colonies (van Halewyn and Norton 1984, Schreiber and Lee 2000, and Bradley and Norton 2009). It would have been informative to include a table showing the various population estimates over the previous quarter of a century and compare them to the actual tallies presented here. It is interesting to see that even comparing numbers over this period, while there is much variation, nearly all the estimates and actual counts are of the same order of magnitude. It's hard to tease out which changes are the result of actual changes in populations and which result from improved census methods.

That said, this is after all an atlas and its value centers on the maps and the data that were generated in producing them. The effort put into this by the Lowries is not just inspiring, but the cooperation, ingenuity and logistics required to pull off this Herculean task cannot be overstated. A major component of this effort was its cooperative and educational nature and EPIC's and the authors' insistence in engaging the local communities in the program. This is a bench-

mark publication that will be useful to those in government agencies and the private sector making future decisions regarding these seabird colonies.

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The Painted Stork.—by A. J. Urfi. 2011. Springer Publishing, New York. 180 pp., many color photographs. Hardcover: €106.95/EURO (about \$143 US). (ISBN 978-1-4419-8467-8).

Focusing on the Painted Stork (*Mycteria leucocephala*), this book provides a thorough compilation of the knowledge of this relatively well-studied species. The Painted Stork is one of four species of *Mycteria* storks (see below) and its range extends throughout the Indian subcontinent from Pakistan and Sri Lanka east to Vietnam and eastern China. Like its congeners, it nests colonially and preys primarily on fish. The species is thought to be declining, particularly on the periphery of its range, and it is considered “near threatened” by BirdLife International.

The natural history aspects of the book are based on extensive research on the Painted Stork from the 1960s through the present and generally provide an excellent overview of what is known (e.g., diet and foraging, nestling development) and not known (e.g., large-scale movements, longevity, contaminant uptake) about the species.

The author covers all the expected bases of the focal species, such as distribution, foraging ecology, breeding biology and conservation concerns, but also goes into explanatory detail on other topics related to Painted Stork studies such as coloniality, mating patterns and sexual size dimorphism. These detailed explanations almost provide a textbook quality to the book. However, the author has a very easy-to-read style, even when discussing study findings, and occasionally drifts to interesting tangents, such as the origin of the term rookery.

Several discussed findings about the Painted Stork can be attributed to the scenarios associated with many of the studies. Much of the early research was conducted by Desai and his co-workers (1960s–1970s) and was centered on the “wild” breeding colony on the grounds within the Delhi Zoo. Due to the nature of this colony (e.g., close proximity and access of nests by observers and/or researchers) at this site, studies regarding nestling development and sexual size dimorphism were undertaken. Research at this site has continued through the present time by the author and others. However, it is important to note that the author also extensively describes and discusses the breeding and ecology of Painted Storks inhabiting other, less urban environments.

Throughout the book, Urfi includes discussions of the congeners of the Painted Stork, primarily the Wood Stork (*M. americana*), but also Milky (*M. cinerea*) and Yellow-billed (*M. ibis*) storks. These discussions are included either for comparative purposes or to make suggestions relative to undetermined aspects about Painted Stork natural history. Whereas the four congeners have a great many physical, behavioral, and ecological similarities (e.g., tactile foraging, ritualized displays to establish pair bonds), there are sufficient differences to make such comparisons interesting. For example, all *Mycteria* are strongly influenced by rainfall and wetland hydroperiod, but their timing of breeding relative to precipitation varies. Painted Storks time their breeding relative to initiation of the monsoon (rainy season) and the resulting pulse of fish breeding and fry production as