The Status of Marine Birds Breeding in the Barents Sea Region.

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The Status of Marine Birds Breeding in the Barents Sea Region.—Tycho Anker-Nilssen, Vidar Bakken, Hallvard Strøm, Alexander N. Golovkin, Vitali V. Bianki, and Ivetta P. Tatarinkova, Eds. 2000. Rapportserie nr. 113, Norsk Polarinstitutt, Tromsø, Norway. 213 pp., b/w drawings by Eugeny A. Koblik, numerous maps and figures. ISBN 82-7666-176-9. Cloth. 375 Norwegian Kroner (~$40). Can be ordered from Norsk Polarinstitutt, Polarmiljøsenteret, NO-9296, Tromsø, Norway or by e-mail at sales@npolar.no—The Barents Sea is one of the most important areas for marine birds in the world, both in terms of diversity and abundance. Over 7 million pairs of marine birds of some 40 species breed there, and many of those stay to feed during the nonbreeding season. The region has suffered many environmental insults in the past, and the future holds the distinct possibility of offshore oil and gas development, and increased ship traffic if the Northern Sea Route across Arctic Europe opens up. Thus, there is much to warrant an account of this European Arctic hotspot. Thankfully, marine bird specialists from Norway and Russia have obliged. After extensive collaboration over the past 10 years, they have produced this marvelous book on the status of marine birds in the Barents Sea region, which covers the Barents Sea proper, the Norwegian Sea north of the Arctic Circle, portions of the Greenland Sea and Arctic Ocean west and north of Svalbard and Franz Josef Land, and the entire White Sea.

Six sections and six appendices comprise the 213 pages of the book. Section 1 sets the stage for the work and lists its three main aims as follows: (1) present up-to-date information on all marine bird species breeding in the Barents Sea region, including descriptions of their breeding distribution and habitat preferences, population sizes and trends, migratory patterns and feeding ecology, (2) identify the most important gaps in our knowledge relating to this information; and (3) identify current and potential threats to the populations and, on this basis, propose research, mapping, and monitoring activities that should be given special priority in the near future.

Section 2 provides a description of both the physical and biological oceanography of the Norwegian, Barents, and White seas, emphasizing bathymetry, currents, sea ice, and distribution of marine bird prey species such as forage fish and blue mussels.

Section 3 is the largest and is split into accounts of the 41 species dealt with in the book, and authored by species experts familiar with the Barents Sea region. The marine birds covered are an eclectic mix of the traditional seabirds ($n = 25$), geese ($n = 3$), waders including phalaropes ($n = 5$), sea-ducks ($n = 7$), and a loon. Each account is organized around eight subheadings: (1) general description of the species, (2) breeding distribution and habitat preferences in the Barents Sea region, (3) movements, (4) population status and historical trends, (5) feeding ecology, (6) threats, (7) special studies, and (8) recommendations. For most species, a table of population sizes and trends for seven subregions within the Barents Sea Region is provided. The breeding distribution description is augmented with good, albeit small maps showing colonies (coded by size) and breeding areas. The description of movements is augmented with an even smaller but still useful map of band recoveries; recoveries are color-coded indicating either Russia or Norway as the country of origin. Feeding habits are presented for some species in table form. Each account is headed by a very attractive pen-and-ink portrait of the species drawn by the Russian artist Eugeny Koblik.

Section 4 deals with threats to marine birds in the Barents Sea region. Discussions of nine ''threat categories'' (e.g. fisheries, by-catch, oil pollution) are summarized in useful color-coded matrices for each subregion. Each cell of the matrix refers to a particular species and threat, and its importance is coded by a number and corresponding color. Code 0 (green) means none or insignificant, code 1 (yellow) means slight, code 2 (orange) means moderate, and code 3 (red) means great. For each threat category, two codes are provided: one for current and one for potential threat. Generally the potential threat cells are ''lit-up'' orange and red more often than the current threat cells, indicating that the situation could get a lot worse for marine birds in the region. I think that the matrices would have been just as readable if the cells were simply color-coded and not stamped with the (redundant) numeric code as well.

Section 5 brings forth recommendations to address threats to marine birds described in the previous section. The recommendations cover information needs rather than conservation actions and fall under three headings: mapping, research, and monitoring. Again, summaries are provided in the form of color-coded matrices. The final section of the book contains over 1,000 references. Many papers cited are well known but the section also contains many other hard-to-find Norwegian and Russian papers, theses, and reports. Most of those written in Norwegian or Russian provide English summaries.

Appendices cover species lists (with Norwegian and Russian names), conservation status of marine bird species covered in the book, place names, latitude–longitude and maps of the region, and three short reports on (1) the status of marine bird monitoring in the Barents Sea region, (2) international strategies (mainly covering the Conservation of Arctic Flora and Fauna initiative), and (3) joint Russian–Norwegian seabird projects conducted from 1990–1999.

I am very enthusiastic about this book on several levels. It provides the best, and perhaps only complete snapshot available of the status of marine birds in the Barents Sea region, against which, future studies can be compared. As is usual these days, the snapshot was taken in an environment already altered, in this case by unbelievable misuse as a result of both atmospheric and below-ground nuclear testing, and dumping or storage of nuclear waste. More recently, we heard of the huge oil pollution event in the tributaries of the Pechora River, which empties into the southern Barents Sea. Despite that, the region still teems with vast populations of marine birds and the species upon which they depend for food. In the future, however, oil and gas production in the Barents Sea region is likely, and increased boat traffic and inevitable oil pollution will result if shipping commences in earnest along the Northern Sea Route. This book will contribute greatly to the assessment of the environmental effects of those and other developments, and in the conservation of resident marine bird populations.

For those who do not have a direct interest in the Barents Sea region per se, the book is of value as a model of how to produce an authoritative, rigorous, and meaningful account of the status of a species group that is at the same time both attractive and readable. Unfortunately, to date there are few areas of the world in which the status of marine bird species is laid out so well. Perhaps this book will provide the stimulus for similar accounts to be produced elsewhere.—JOHN W. CHARDINE, *Canadian Wildlife*

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