

Bird Census Techniques

By C. J. Bibby, N. D. Burgess, and D. A. Hill. 1992. Academic Press, San Diego. xvii + 257 pp., illus. U.S. \$19.50.

No sooner had this book landed on my desk for review that a graduate student snatched it up from my hands and hurriedly left to study it. His master's work was on the effect of logging on bird communities, and he had been searching the scientific literature for information on bird census techniques, with only mixed success. Thus, right from the start, I believed the authors' claim that their book provides a useful central compilation of information not easily accessible elsewhere.

The following bird census techniques are covered: territory mapping, counts along line transects, point counts, capture-recapture, catch per unit effort, direct and indirect counts of particular species (e.g. flocking birds, seabirds, raptors, etc.), and distribution studies (e.g. atlases). Most of these methods receive full-chapter treatment, in which the authors discuss the types of question for which the method is appropriate, explain how the technique should be carried out, present the assumptions and limits of the method, give a few examples from the scientific literature, and provide a summary. Tables, figures, and explanations based on figures are gathered in boxes in the middle of each chapter. Equations to calculate densities are given, along with examples. The text is clearly written, but readers should be aware that the subject matter is intrinsically related to statistics and that analytical thinking is needed to understand some of the arguments and examples.

There are two things that readers should not expect to find in this book. First, the book is not an exhaustive collection of references on census techniques; only two or three examples (many of them on British birds) are given for each technique. However, at least three other books which contain more references are cited. Second, the book will not provide solutions for the shortcomings of the techniques. The reason is simple: such solutions do not exist. Instead, the authors make the readers aware of the shortcomings when choosing a method to address a specific question.

Very seldom does a counting method give an exact estimate of population size, and this book makes it clear. However, if one follows the authors' recommendations, it should be possible to draw valid conclusions from comparisons between habitats in the same year, or between years in the same habitat. These conclusions could influence management decisions and conservation of bird populations and habitats. This book will undoubtedly be useful to professional bird ecologists, but I would also recommend it to serious bird-watchers who are willing to put in the time necessary for thorough bird-counting. The reward could be a worthy contribution by birders to the conservation of birds and their habitats.

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The Ecology, Status, and Conservation of Marine and Shoreline Birds on the West Coast of Vancouver Island

Edited by Kees Vermeer, Robert W. Butler, and Ken H. Morgan. 1992. Occasional Paper (Canadian Wildlife Service) number 75. Canadian Wildlife Service, Ottawa. 136 pp. Free.

This is the 75th publication in the excellent Occasional Paper series produced by the Canadian Wildlife Service. This timely and useful book brings together a series of 17 papers which were presented at a symposium held in April 1991 at the Institute of Ocean Sciences in Sidney, British Columbia. The purpose of the symposium was to bring together researchers from various disciplines to discuss the marine biology of the west coast of Vancouver Island with particular emphasis being on birds. The 1989 Nestucca oil spill and the resultant dying of thousands of oil-covered seabirds increased awareness of the sensitivity of this coastline to disturbance, and to the avian populations that were dependant on this marine

ecosystem for breeding, migration, and feeding. As well, the presence of increased logging activities, the industrial development of estuaries, mudflats and spawning grounds, fisheries operations, human disturbance of colonies, and introduced predators have all put pressures on this coastal area. The coastline is remarkably productive due to a combination of the presence of a continental shelf, favourable currents which create productive upwellings, large tidal flats, and good breeding locations.

The papers are organized into four topical areas: "Physical and Biological Environment", "Population and Breeding Ecology", "Distribution", and "Oil Pollution and Conservation". The accompanying figures, tables, and maps are clear and well-presented and the text is not overrun with technical jargon. All the papers have ample "literature cited" sections and include a short abstract. One of the more important

papers is that presented by Manley, Shu, and Burger in which they describe the first two Murrelet nests found in British Columbia and discuss the importance of old growth forests as a habitat for this species.

This book is invaluable for anyone interested in marine and shoreline birds and for the protection of their habitats.

BOTANY

Vascular Plants of Wyoming, Second Edition

By Robert D. Dorn. 1992. Mountain West Flora Society, Cheyenne, Wyoming. 340 pp., paper U.S. \$19.95. Postage included.

The first edition of *Vascular Plants of Wyoming* (1988), according to the author, added more species to the number treated in his *Manual of Vascular Plants of Wyoming*, which was published in 1977. Both of these titles are now out of print. The present volume, according to a flyer, contains 123 families, 662 genera, 2398 species, and 123 varieties. This is a great step from the first edition which did not include infraspecific taxa, such as grain field weeds and species growing in open areas, including lawn weeds.

Two new species, *Cirsium aridum* var. *opalensis*, and three new combinations, *Agrostis aggregata* var. *tenuituba*, *L. spicata* var. *montana*, and *Potentilla hippiana* var. *effusa* are added on pages 304 and 306 and appear in the index. The first edition of *Vascular Plants of Wyoming* contained 5 1/2 pages of new taxa and new combinations which were not found by the authors of Index K Supplement XIX (1876-1990). Hopefully, those of the second edition and the earlier editions will all be in Supplement XX. It would have been better to have published them in a readily accessible journal such as *Rhodora*, *Madroño*, *Phytologist*, *Basin Naturalist*, or *Taxon*.

The Introduction is short and the user should refer to the Introduction of the earlier editions. The Taxonomic Notes also found there for the first edition are out of print, it would have been better to repeat these few pages in this edition.