references. The Berthold volume compares quite well to Alerstam's, as both have the same objective and both treat the subject comprehensively. Alerstam's writing style flows well, and he does an excellent job in explaining difficult topics. In contrast, Berthold's book has an excellent and relatively complete bibliography, and the references are more up-to-date than those in Alerstam's. The price difference between the two was originally great (Alerstam's volume in cloth $105; Berthold's volume in cloth $26.50), but a paperback version of Alerstam's book now sells for $37.95. At these prices both volumes could be a part of one's library of essential ornithological books.—SIDNEY A. GAUTHREAUX, JR., *Department of Biological Sciences, Clemson University, Clemson, South Carolina, 29634, USA.*

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The Northern Goshawk: Ecology and Management.—William M. Block, Michael L. Morrison and M. Hildegard Reiser (Eds.). 1994. Studies in Avian Biology No. 16. Cooper Ornithological Society. 136 pp. ISBN 0-935868-76-3. $16.00 (paper). [Available from Western Foundation of Vertebrate Zoology, 439 Calle San Pablo, Camarillo, California 93012-8506.]—This volume's title suggests an answer to a northern-latitude land manager's dream—an overview of Northern Goshawk (*Accipiter gentilis*) ecology and guidelines for goshawk management, all in 136 pages. If things were only that simple! Instead, what becomes clear almost immediately from these symposium proceedings is that there is much to be learned about goshawk ecology and management, and that current and past research efforts have addressed a wide range of goshawk-related issues, with little synthesis or general applicability. As pointed out by the editors in the introduction, "The current situation with the Northern Goshawk . . . bears an uncanny resemblance to that of the Northern Spotted Owl [*Strix occidentalis caurina*] a decade ago." The purpose of this symposium was to bring together managers and researchers to exchange information about goshawk biology and management, and this volume is the outcome of that effort.

There is widespread concern for the population status of the Northern Goshawk, especially in the southwestern and western United States. Management agencies, particularly the U.S. Forest Service, are searching for forest-management strategies that give consideration to and allow for persistence of goshawk populations. What is generally agreed upon is that goshawks are secretive, forest-nesting raptors that, in general, select for nesting older forest stands with sparse understories, are opportunistic predators that prey predominantly on medium-sized mammals and birds, and require relatively large areas to breed successfully and raise young. These generalities recently have been summarized and incorporated into management recommendations (Reynolds et al. 1992. Management recommendations for the Northern Goshawk in the southwestern United States, U.S. Department of Agriculture, Forest Service, Gen. Tech. Rep. RM-217, Ft. Collins, Colorado) for the southwestern United States, and the current volume is both an outgrowth of those recommendations, and an update on research findings since those recommendations were drafted.

The volume is organized into three broad categories: Research Approaches and Management Concepts; Resource Ecology; and Population Ecology. The proceedings start with a discussion of ecological scale, and an evaluation of efforts to manage forested landscapes in the southwestern United States to provide habitats where goshawks will likely persist as a breeding member of the ecological community. Of particular interest are manuscripts by Lilieholm et al. and Bassett et al. that discuss how forest management influences vegetative structure, and how current management recommendations (Reynolds et al. 1992) are influenced by the gradient of conditions over which they might be applied, respectively. The section on Resource Selection is an interesting mix of site-specific studies of microhabitat use, reproduction, food habits, home range, and territory occupancy, along with landscape-level evaluation and modeling of habitat use. The final section, Population Ecology, is largely a continuation of the preceding section, in that breeding and population parameters for a number of different populations are presented.

As the published proceedings of a symposium convened to "discuss ideas on the biology and management of the Northern Goshawk," the volume suffers the weaknesses common to symposia proceedings, but also offers an outlet for important information that otherwise might be unavailable in the peer-reviewed literature. The quality of papers is highly variable—several manuscripts might have been published in respected peer-reviewed primary literature, whereas others would likely be relegated to project reports and other gray literature. Although manuscripts are organized into the aforementioned categories, there is little continuity either within or among categories—a reflection of the diversity of current research involving Northern Goshawks and, perhaps, the lack of a unifying theme in the symposium.

The production of the volume and the quality of the editing are, for the most part, quite good. There are a few inconsistencies that are annoying at best and, at worst, confusing. First, and most importantly, terminology regarding reproduction is not used con-

sistently throughout the volume. Inconsistently applied definitions and use of terms describing breeding parameters of raptors have plagued the scientific literature for years, even though there have been efforts to standardize use of these terms (e.g. K. Steenhof, 1987. Pages 157–170 *in* B. A. Giron Pendleton et al. [Eds.], Raptor management techniques manual. Natl. Wildl. Fed. Sci and Tech. Series No. 10, Washington, D.C.). It is unfortunate that these proceedings continue that problem. Less serious, but still distracting, are inconsistencies in format. For example, the table and figure legends in some chapters are in small letters, and in other chapters, are in all capital letters.

Looking past these problems, these proceedings are of interest to both the scientific and management communities, and to others interested in raptor ecology and management. Although a rather eclectic mix of topics, there is both practical information and a broader perspective on ecological and conservation issues. For example, Clint Boal provides a photographic and behavioral guide to ageing nestling Northern Goshawks, and Suzanne Joy and coauthors provide useful information regarding design and costs of broadcast surveys for breeding goshawks. Stephen DeStefano and coauthors provide some of the first evaluations of adult goshawk survivorship—prerequisite for population modeling, or population-viability or metapopulation analyses. In a broader context, Johanna Ward and Patricia Kennedy describe an experimental approach using food supplementation in breeding goshawks to test predictions related to food limitation, and John Keane and Michael Morrison argue that a mechanistic understanding of factors that influence behavior and population dynamics is necessary to build a comprehensive conservation strategy for the Northern Goshawk. With the breadth of topics represented in these proceedings, most readers will find at least some manuscripts of interest.

In summary, these proceedings provide a good overview of current research and application of management recommendations for the Northern Goshawk, with emphasis on the southwestern and western United States. They also demonstrate that there are major gaps in current understanding of goshawk ecology, and that there are potential problems in broadly applying existing goshawk management recommendations. The proceedings include a number of high-quality manuscripts regarding goshawk ecology, and abundant site-specific information about local goshawk populations, some of which is of the kind that is generally unavailable in the peer-reviewed literature. The volume should be a part of libraries with collections of ornithological and conservation literature, and on the shelf (or in the hands) of managers and researchers interested in ecology and conservation of raptors.—DAVID E. ANDERSEN, *National Biological Service, Minnesota Cooperative Fish and Wildlife Research Unit, Department of Fisheries and Wildlife, University of Minnesota, St. Paul, Minnesota 55108, USA.*

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Identification Guide to European Non-passerines.—Kevin Baker. 1993. British Trust for Ornithology, The Nunnery, Thetford, Norfolk IP24 2PU, United Kingdom x + 332 pp., 170 text figures. ISBN 0-903793-18-0. £15.00 (paper), excluding postage.—For many years, bird banders in Europe, and others interested in being able to age and sex passerine birds in the hand or in the field, have been well served by the various editions of Lars Svensson's *Identification Guide to European Passerines*, now in its fourth edition (Svensson 1992). This volume aims to provide the same service for those interested in nonpasserines, for which there has been no previous comprehensive compilation, although there are excellent (if a little hard to obtain) guides at the family level (e.g. raptors, Forsman's *Rovfågelsguiden* [1984—in Swedish]; and wildfowl, Salminen's *Suomen sorsalinnut* [1983—in Finnish], which are fully acknowledged as major sources for this book. As Baker states in the introduction, this is intended to be the first edition of a continuously updated volume in the same mould as Svensson's work. Thus, one obvious criticism, that this book is rather centered on northwestern European species in its coverage (119 species are covered; certainly, almost all of those that could be expected to be encountered in the United Kingdom, but including no species of heron, owl or woodpecker that does not breed there), is one that will be easily rectified if workers send their information on ageing and sexing techniques for such species to Baker in time for a second edition. Shorebirds also are not covered by this guide, because they already have their own BTO guide to identification and ageing (*Guide to the Identification and Ageing of Holarctic Waders*, Prater et al., 1977).

Although this might be thought a work of identification from its title, in that sense the title is misleading, for the book is mostly concerned with noninvasive techniques of determining age and sex. Although in-the-hand identification features are discussed for all species, most potential users of this book will know how to identify the species involved. After an excellent introduction to the subject of molt, wear, and general techniques for ageing (which is closely based on the introduction in Svensson's book), 119 species accounts follow. These present detailed information on plumage-based and morphometric methods of ageing and sexing, together with excellent figures illustrating key points. Accepting the limitations on species covered, there are nevertheless some omissions within these species. For instance, there is no guide to identifying the young (prefledging) of wildfowl, gulls, terns or owls. Within the individual species accounts, there are also a few criticisms that can be made. Some of the ageing criteria based upon the shape of remiges (e.g. for Cory's Shearwater, *Calonectris diomedea*) look difficult, if not