

## Summary and the Results

erloo Region, Ontario. *Ontario* 51-86), the latter forming the current atlas, a tribute to the conservation of amphibians and the extensive work and reports in southern Ontario throughout the

Other important Ontario urban areas are included within the atlas, including Dundurn Castle, and thus covering political counties or regional divisions: Haldimand-Norfolk, Halton, Niagara, Peel, Waterloo, and the southern portion of the province. The atlas is divided into 11 sections. The first section, on the southeast to Brantford in the province, contains 11 species accounts are presented. The second section, still thought to exist in the province, is given as of former times and 3 as introduced. The third section, a significant portion of the province, recorded for all of the species accounts are presented. The fourth section, Ontario Distribution, covers the Hamilton area 1960-1983, and the fifth section, Atlas 1984-1992. The first section is a date survey of the existing records of each species, and personal comments are illustrated with a photo-plate. The second section, except for one each by Don Sutherland) and many by sketches (by Premek Mys Gardiner, and Chris Mys Gardiner, and Chris Mys Gardiner) is its maps (developed with data entry by Chris Mys Gardiner) are based on a system of maps as informative as possible. This method has great value as it challenges the survey as it challenges the method and thus provides a means to searching ever more. The number, 1142, is the resolution. The success for the method; the atlas study team of students accounted for 6907 records. The Hamilton Field-Naturalists' Club 1977-1992 for 2504, those in the Ontario Herpetological Society (1984-1992) 2453, and landowning study team contributed

These sections contain: Introduction, a Literature Review, Methods, a List of Species, and a List of

Explanation of Species Accounts, Cited Observers and List of Symbols and Abbreviations. Valuable inclusions are four base maps of the study area which show roads, remaining forest cover, species diversity, and political divisions. A strong point of the treatment is the lengthy discussion of the Blue Spotted-Jefferson Salamander Complex (*Amystoma laterale*, *A. jeffersonianum* and their hybrids) first in the introductory section and again in the species accounts. These have been written in close consultation with J. P. Bogart, University of Guelph, who cooperated with the project by analyzing specimens in his laboratory, and underscore the vital importance of voucher collections and locality-by-locality examination of variation. The detailed discussions included in each account of rarer species of records and possible status is also of special value. A six-page bibliography concludes the atlas.

This publication, a model of thoroughness and quality, is not just an essential stepping-stone for conservation in the Hamilton area, which arguably is

now the best-documented area in Canada for amphibians and reptiles, but also should serve as an inspiration to naturalists' groups throughout the country who consider initiating local surveys. Also it is a valuable reference for any naturalist in eastern Canada for its discussion of literature and observations of natural history for species common to this wider region.

It is to be hoped that the Hamilton Field-Naturalists' Club will use this milestone as a base and continue to monitor these groups, document further changes, and fight for the local preservation of amphibian and reptile habitat based on its data. All those who contributed should feel justly proud of this beginning, not the least Don McLean who designed the publication and carried out typesetting and layout which have contributed materially to its ease of use.

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## The Northern Goshawk: Ecology and Management

By W. M. Block, M. L. Morrison, and M. Hildegard Reiser. Editors. 1994. Studies in Avian Biology Number 16. Cooper Ornithological Society. Available from W. Wehtje, Western Foundation of Vertebrate Zoology, 439 Calle San Pablo, Sacramento, California 93010. vi + 136 pp., illus + plates. U.S. \$16.00.

This is a collection of 22 scientific articles, from a total of 41 contributors, forming the proceedings of a symposium held by the Cooper Ornithological Society in Sacramento, California, on 14-15 April 1993. Of the 22 articles, 18 are based on research done in the Southwestern United States, 2 more are from Oregon, 1 is from the Yukon, and the last one comes from the New York-New Jersey Highlands. The heavy western bias stems from the fact that the Northern Goshawk has been declared a Forest Service Sensitive Species within the Rocky Mountain and Intermountain regions. As an indicator species for mature forests, the goshawk bears resemblance to the well-known Northern Spotted Owl, a western species on which a similar symposium was organized in 1984.

The first six papers are grouped under the section "Research Approaches and Management Concepts": two provide conceptual frameworks, one examines the relationship between stand density and vegetative structural stages, and three describe techniques (on estimating the age of nestling goshawks, on locating their nest by measuring the response of parents to taped broadcast calls of conspecifics, and on assess-

ing habitat with a stand density index). The next section, entitled "Resource Ecology", contains five papers on habitat selection and use, two more on territory characteristics, another one on the correlation between body size and nest habitat characteristics, and one on the diet of goshawks in Ponderosa pine forests. The last section, "Population Ecology", features three papers on nest productivity, two articles on survival rates and mate retention, another one on the population response of goshawks to changes in the number of snowshoe hares (the Yukon study), and one more on the results of a food supplementation study.

This collection of papers is meant to represent the current state of knowledge on Northern Goshawk ecology, apparently with a view to influence forest management practices. Possibly because the work is diversified and, in many cases, still in progress, no general take-home message seems to have emerged from the symposium, at least not in written form (there is a short introduction to the book, but no concluding remarks). Nevertheless, this book should be of interest to professionals working on the ecology of forest-dwelling birds, or on the general biology of forest-dwelling raptors.

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