

THE ATLAS OF THE BREEDING BIRDS OF ONTARIO, 2001–2005. Edited by Michael D. Cadman, Donald A. Sutherland, Gregor G. Beck, Denis Lepage, and Andrew R. Couturier. Co-published by: Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources, and Ontario Nature, Toronto, Ontario, Canada, 2007: 706 pages. ISBN: 978-1-896059-15-0. \$92.50 (hard-cover).—The Canadian province of Ontario is an extraordinary place for birds. It encompasses many different habitats, from the world renowned migratory flyways at its southern boundary, the populous and heavily cultivated south, through vast stretches of Boreal forest wilderness, to the Hudson Bay lowlands at its northern edge. These habitats provide breeding areas for a great diversity of birds. The new *Atlas of Breeding Birds of Ontario* celebrates this diversity by presenting a thorough and engaging summary of a 5-year survey. It is a monumental achievement and sets a new standard for breeding bird atlases.

This is the second edition of Ontario's breeding bird atlas, describing a province-wide assessment conducted between 2001 and 2005. Data collection involved 3,417 volunteers who surveyed Ontario's 1 million km<sup>2</sup> of bird habitat. The survey effort was more extensive in the heavily populated south than in the northern wilderness, but the coverage throughout the entire province is impressive. Consequently the atlas provides a

rigorous and comprehensive census of Ontario's breeding birds.

Species accounts for each of Ontario's 287 species of breeding birds are presented in two large facing pages. Each species account includes several photographs and one to four maps showing presence of breeding individuals and patterns of relative abundance. The text for each species account is divided into four sections. (1) A brief introduction to the species. (2) A summary of the species' distribution and population status in Ontario, often including comparisons to the first breeding atlas and to other early historical accounts as well. (3) A brief overview of the breeding biology of the species. (4) A short paragraph describing patterns of abundance. The writing is concise and well-referenced. An additional 20 species, known to have bred in Ontario in the past but absent from the 2001–2005 survey, are given a brief treatment at the end of the atlas.

In addition to the species accounts, the book features 50 pages of general information. This section includes specific details about how the data in the atlas were collected. It also includes well-written sections on the biogeography of Ontario, overall results of the atlas, and carefully written notes about changes in bird distributions in Ontario over time. Each of these sections includes beautifully produced maps and graphs.

The book shows striking differences from the first atlas of Ontario breeding birds, which described the period from 1980 to 1985. The second atlas is physically larger: 23 by 31 cm and 706 pages compared to 22 by 25 cm and 617 pages in the first atlas. Gone are the black-and-white pen-and-ink drawings of each species, replaced with glossy photographs. Effort was clearly spent in choosing interesting photos, often emphasizing breeding activities of birds by showing them at their nest or with supplemental photos of their nesting habitat in Ontario. Gone are the maps with subtly variable shades of red to indicate evidence for breeding, replaced with bold multi-colored maps showing breeding evidence and relative abundance contours.

The more time I spend with the atlas, the more I find myself poring over the maps. Each 10 km<sup>2</sup> in southern Ontario (or 100 km<sup>2</sup> in northern Ontario) uses a yellow/orange/red color scheme to show whether a species' breeding activities were possible/probable/confirmed in that area. A yellow dot in the center of each square indicates birds were

found in the second atlas but not the first, while a black dot indicates birds were found in the first atlas but not the second. The resulting maps provide not just snapshots of the current distribution of breeding birds, but also dynamic patterns of change in Ontario's bird populations. Waves of yellow, for example, show the growth of Ontario's Merlin (*Falco columbarius*) and Wild Turkey (*Meleagris gallopavo*) populations, and the range expansions of House Finches (*Carpodacus mexicanus*) and Canada Geese (*Branta canadensis*) over the last 25 years. Waves of black, in contrast, show worrisome reductions in Chimney Swift (*Chaetura pelagica*), Whip-poor-will (*Caprimulgus vociferus*), and Common Nighthawk (*Chordeiles minor*) throughout the province. These patterns can help direct conservation efforts by indicating important bird habitats, providing data for understanding population trends, and will help guide the expeditions of recreational birdwatchers.

Based on the high quality of the data present in this atlas, the engaging full-color distribution and abundance maps, the attractive color photographs, the carefully written text, and the general analyses of patterns of change, I recommend this book be present in every Ontario library, including public libraries, school libraries, and the personal libraries of serious birdwatchers. Biologists throughout Canada and the northeastern United States will also find much interest in the atlas as a point of comparison to adjacent regions, or as a source of information in guiding their own survey efforts. Moreover, conservation-minded biologists beyond Ontario will find this atlas an important resource for understanding changes in animal breeding patterns.—DANIEL J. MENNILL, Department of Biological Sciences, University of Windsor, Windsor, ON N9B 3P4, Canada; e-mail: dmennill@uwindsor.ca