PREFACE

Vermont's Breeding Bird Atlas Project (1976–81) represents the most complete set of baseline data gathered to date on the nesting birds of Vermont, and one of the first sets of statewide information on breeding birds ever gathered in the United States. Atlas Project data were gathered by 200 volunteers—including members of the seven Vermont chapters of the National Audubon Society and of the Vermont Institute of Natural Science (VINS) research staff—who spent six summers in the field. This volume is the first state or provincial breeding bird atlas to be published in North America.

The purpose of a breeding bird survey such as the Vermont Atlas Project is to document the current status and distribution of all the breeding species of birds within a geographical area, and to publish these data in an atlas as a permanent record. Similar surveys are going on in many parts of the world now, and are adding immeasurably to our knowledge of the natural world. All such surveys depend on the dedication and involvement of amateur, unpaid—but highly skilled—fieldworkers.

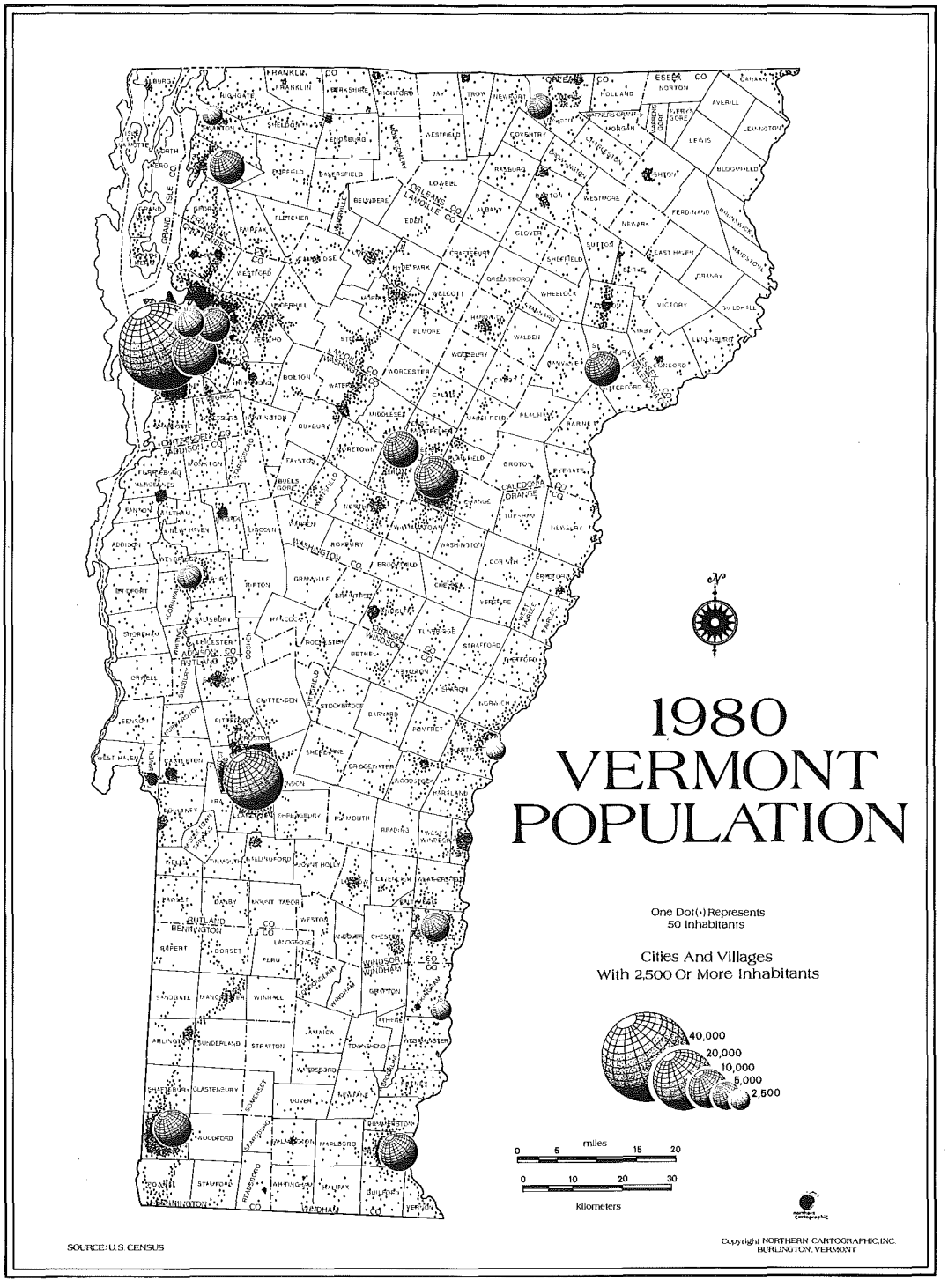
The breeding bird atlas is a valuable conservation tool, especially in times of great environmental change. Because birds are reliable environmental indicators, each survey completed and each atlas published represents a major advance in our knowledge of bird distribution and in our ability to evaluate the state of the environment. Although breeding bird distribution is not static and is constantly changing as a result of natural processes and human manipulation of the environment, an atlas documents the existing situation. A breeding bird atlas provides a basis for comparative evaluations of future surveys.

This atlas of the breeding birds of Vermont owes its inception, methods, and procedures to the natural history surveys based on latitude and longitude and the atlases that have preceded it. Natural history surveys based on maps have a long history, and have traditionally been a compilation of known distributional information placed on maps. In the past several decades a new survey method, involving widespread cooperative fieldwork to systematically collect data in specific survey areas defined by a map grid, has greatly increased the value of natural history atlases (Robbins 1982a). By this method, the distribution of the flora of Great Britain and Ireland was determined and published as the *Atlas of the British Flora* (Perring and Walters 1962). This project inspired the British Trust for Ornithology and the Irish Wildbird Conservancy to undertake an atlas of the breeding birds in Britain and Ireland (1968–71). The resulting book, the *Atlas of Breeding Birds in Britain and Ireland* (Sharrock 1976) was published in 1976; it

serves as an inspiration and a model. The British enthusiasm quickly spread to other European countries, and in 1971 the European Ornithological Atlas Committee (EOAC) was formed. The EOAC developed standardized atlas codes and recommended a standard map grid. The French atlas (Yeatman) and the Danish atlas (Dybbro) were published in 1976, the West German atlas (Rheinwald) in 1977, the Netherlands atlas (Teixeira) in 1979, and the Swiss atlas (Schifferli et al.) in 1980. The first African atlas, the *Bird Atlas of Natal* (Cyrus and Robson), was published in 1980.

The first North American atlas project to be modeled after the British example entailed two countywide surveys of the breeding birds of Maryland, initiated by the Maryland Ornithological Society in 1971. In 1974, the Massachusetts Audubon Society began an atlas project survey of the breeding birds of Massachusetts, which directly inspired the Vermont Atlas Project. Communications among American breeding bird atlas project organizers were greatly facilitated by the Northeastern Breeding Bird Atlas Conference held in November 1981 at the Vermont Institute of Natural Science in Woodstock, Vermont. The conference adopted recommendations for the use of standardized map grids and standardized data recording codes (see Appendix D), and published its proceedings (Laughlin et al. 1982).

The Vermont Breeding Bird Atlas Project owes its inception to the Massachusetts Breeding Bird Atlas Project (1974–79). When Deborah Howard, Massachusetts Audubon Society's coordinator for the Masssachusetts Atlas Project, spoke at the annual Vermont Bird Conference on June 14, 1975, she impressed Vermonters with the need to undertake an atlas before their swamps became paved parking lots and their untrammeled hillsides were overrun with second-home developments. Although funding of the project was problematic, Vermont birders felt the urgency of carrying out the survey as soon as possible, while Vermont balanced on the edge of inevitable environmental change. The Vermont Institute of Natural Science undertook the planning, coordination, and funding of the project, which the Vermont Audubon Council and the Vermont chapters of the National Audubon Society cosponsored. The Vermont Audubon Council appointed coordinators for each of the Vermont chapters, who organized fieldwork in their counties or regions. The summer of 1976 was the pilot year for the Atlas Project, during which each regional coordinator undertook the surveying of one or two 7½-minute sections, with as many volunteer workers as could be mustered, to determine how much of the state's area could be surveyed. The pilot project year made it clear that Vermont lacked the manpower to survey the entire land area of the state, and that only designated areas (*priority blocks*)—one-sixth of the state's total area—could be adequately surveyed.



MAP 1. Vermont's Human Population Density

The governing body for Vermont's project, the Vermont Breeding Bird Atlas Committee, was made up of representatives appointed by each of Vermont's regional chapters of the National Audubon Society, prominent Vermont ornithologists, field birders, and members of the Vermont Institute of Natural Science's research staff. The institute's executive director, Sarah B. Laughlin, provided overall direction; the regional editor of *American Birds*, Douglas P. Kibbe, served as ornithological adviser; and VINS staff member Annette L. Gosnell served as Atlas Project coordinator. Volunteers were recruited from all over the state, although the less populous areas (Map 1) presented a challenge.

A breeding bird atlas project is structured to allow volunteer, amateur birders to obtain field data, the collection of which would be prohibitively expensive if collected by professionals. The 200 volunteer workers who participated in the project in Vermont donated at least 25,000 hours to the project over the years. A critically important aspect of an atlas project survey is the codes employed to determine the breeding status of the birds located. Vermont adopted with very little change the Massachusetts Atlas Project breeding criteria codes, which in turn had been adopted with little change from the codes used in the British atlas. The Vermont codes appear after the introduction. Today, uniform codes (Appendix D) exist for North America; they will greatly facilitate comparisons among the atlas data of different states and provinces.

It is hoped this atlas will provide a model for the North American atlases that will follow. Each atlas project completed is an important step forward in our knowledge of the natural world.