

Flight



Patterns

New York's second breeding bird atlas points to shifting bird distributions



Carolina wren

Eric Dresser

by Kimberley Corwin

"Teakettle! Teakettle! Teakettle!" I turn my head toward the sound and catch a glimpse of brown feathers. Together with its loud and distinctive song, a white stripe across the bird's head confirms that this is a Carolina wren. Wrens never fail to make me grin, what with their inspirationally inquisitive nature. The five-inch Carolina wren first introduced itself to me when I was visiting Long Island more than eight years ago. Today I frequently hear Carolina wrens around my home in Albany County. They did not always breed this far north, though. This wren and other bird species in New York have shifted their breeding ranges, some quite drastically.



Susan L. Shafer

From 2000 to 2005, more than 1,400 bird watchers participating in the New York State Breeding Bird Atlas project spent countless hours scouting fields, forests, wetlands and rivers to find birds and document their presence and breeding behavior. The work of these dedicated volunteers was compiled and analyzed over the past three years and the results are now available in the new book, *The Second Atlas of Breeding Birds in New York State*.

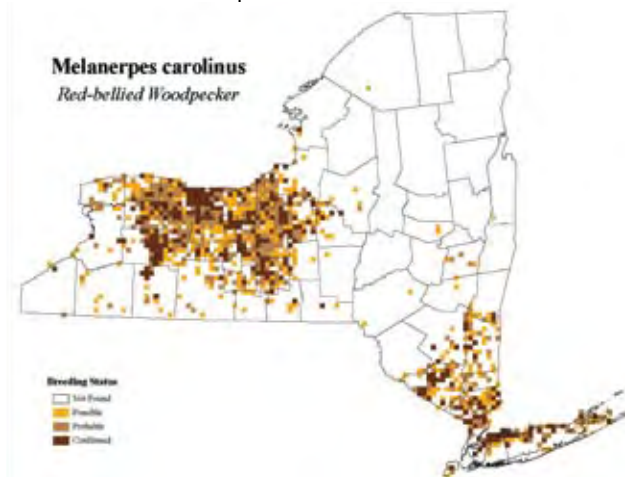
Many birds have shifted their distribution in the last twenty years.

A breeding bird atlas is a collection of maps that demonstrate where birds breed in a given area; in our case, within New York State. To gather this information, biologists divided New York into 5,332 survey blocks, each measuring 25 square miles. During a five-year period, volunteers reported the bird species they saw in each survey block. Close observation of each bird's behavior allowed observers to determine whether a bird was a possible breeder, a probable breeder, or confirmed as a breeder in the state. For example, if an observer finds an adult bird tending to a nest with chicks, it is a confirmed breeder in New York. Simply seeing an adult bird during breeding season allows only a "possible" designation. Plotting all the data on a map reveals the distribution of the species in New York.

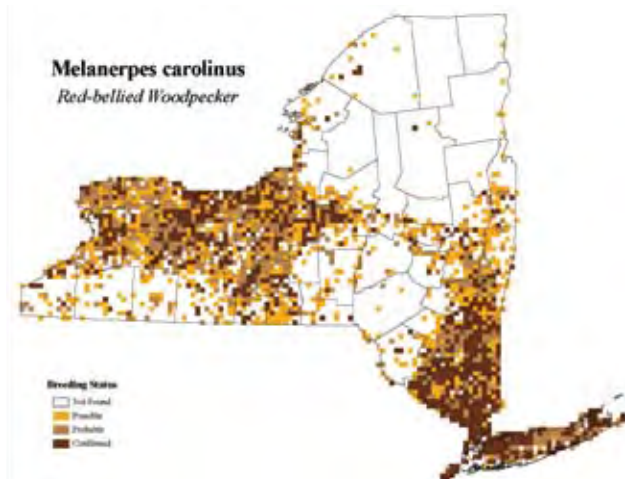
The greatest value of New York's breeding bird atlases is that they allow for comparison between two large sets of information from two distinct time periods. New York is the first state to produce a second generation of its breeding bird atlas; the first was published in 1988. The 2000-05 survey and resulting book document the changes in bird distributions over the 20-year period. It is surprising to see just how dynamic our bird populations are.

Many birds have shifted their distribution in the last twenty years. About 22 percent of our 252 bird species showed a notable expansion or contraction in their distribution. There are six new species, too; trumpeter swan, common eider, black

vulture, merlin, sandhill crane, and Wilson's phalarope have all become established breeders since the first atlas. When studying the differences between the two data sets, biologists can identify patterns of change and document long-term trends. Two of these long-term trends are the increase of forest birds and the decline of grassland birds, as illustrated by expansion of the range of red-bellied woodpeckers and the decline of Henslow's sparrow.



In the past twenty years, red-bellied woodpeckers expanded their range significantly.



Top: from the first atlas. Bottom: from the second.

Victor Lamoureux



The red-bellied woodpecker presents an interesting case study of a species expanding its distribution in New York. Two distinct populations of this woodpecker were present in the first atlas: one in western New York and one in the southeastern part of the state. In the ensuing twenty years, both populations expanded and the two have now merged. This interesting pattern of range expansion is likely due in part to the availability of new forest habitat and the maturation of existing forests.

Another habitat change that has occurred in New York over the past few decades is the decline of grasslands. In New York, this habitat type is dependent on active farming; a decline in farming preceded the decline in grassland cover. Loss of grassland habitat is a well-known concern among bird biologists throughout the northeast, as the same socio-economic factors are working in neighboring states. One of the bird species suffering the most from this change in habitat is the Henslow's sparrow. The blue blocks on the change map indicate the locations where this species once bred but is no longer present. Efforts to conserve grassland habitat can benefit this bird and many others that rely on open habitats.

While some species have declined, others have benefited. One of these is the merlin, a medium-sized raptor that

resembles a peregrine falcon. Twenty years ago, the merlin was not known to breed in New York, but nested to the north, across most of Canada. The second atlas revealed that a surprisingly expansive population of merlin had become established in New York, with records in 131 survey blocks. Nesting was confirmed not only in the Adirondacks, where habitat similar to that in Canada is available, but in other areas of the state as well. Interestingly enough, confirmed nesting records came from well-populated areas including Ithaca and Binghamton. In these cases, the birds built nests in tall conifer trees and found abundant prey items at bird feeders.



Merlin

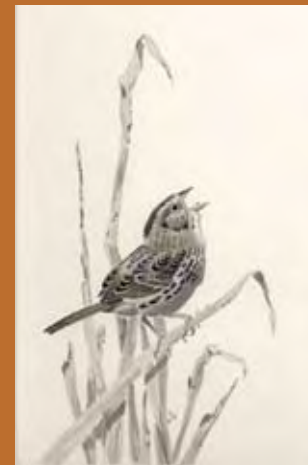


John Perry Baunlin



Juvenile pileated woodpeckers

Eric Dresser



An exhibit on New York's two breeding bird atlases opened at the New York State Museum in Albany on October 3rd. It focuses on the status of our bird populations and includes a display of the original artwork commissioned for the book.

The book can be ordered through the Cornell University Press website at: www.cornellpress.cornell.edu

Another interesting observation is that some bird species seem to have adapted more successfully to being near people, or have even managed to benefit from the association. This category of "people-friendly" birds includes Cooper's hawks, which often take birds from backyard feeders, and pileated woodpeckers, which were once considered to be shy birds but now often appear in neighborhoods. Both species have increased their distribution in New York.

Global climate change will likely affect bird distributions in the coming decades and future atlases will help us to document resulting distribution shifts. The current atlas shows northward movement for several species including black vulture, Carolina wren, and hooded warbler. Interestingly—and perhaps unexpectedly—several northern species have expanded their distributions south. These include common merganser, merlin, and palm warbler. Many factors play a role in the shifting of

species distributions, whether north, south, east or west. It's a bit too early to say with certainty that global climate change has contributed to distributional shifts seen in New York.

The next breeding bird atlas in New York will be conducted in 2020-2025. It will be fascinating to see how the stories that unfolded during the second atlas will develop in the third.

Kimberley Corwin works as a wildlife biologist in DEC's Albany office. She was Project Coordinator for the recent atlas fieldwork and is co-editor of *The Second Atlas of Breeding Birds in New York State*.