

Conservationists seek to identify prime stopover sites for migrating birds

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An ambitious effort in avian conservation is underway this spring throughout the New York portion of the Lake Ontario watershed.

A legion of highly skilled volunteer ornithologists is helping a team of scientists to identify the best stopover sites for migrating birds in the southern coastal zone of Lake Ontario. The study specifically focuses on Neotropical migrants. These songbirds summer in the subarctic part of Canada through northern New York and winter in Central America and the northern part of South America.

The fieldwork conducted by the volunteers will help verify a model that uses geographic information systems technology to select optimal resting locations based on distance from the lakeshore and the extent and diversity of wood cover.

A pilot phase funded with \$35,000 from the Nature Conservancy and in-kind support from the Audubon Society began the last week of April and will run through the end of May. The effort anticipates the launch this fall of a federally funded three-year project to be administered by the Nature Conservancy.

"Conservation of migratory birds requires the protection of a network of stopover sites where birds can rest and put on weight for the next leg of the journey," says John Waud, professor of environmental science at RIT and lead scientist on the study. "These sites have to be rich in food and have cover so the birds aren't exposed to predators when eating.

They need a lot of these stopover sites and these sites are the focus of conservation right now for migratory bird species."

Migrating birds travel several hundred miles to their destinations. Radar shows that birds fly approximately 10 hours at night at 30 miles per hour—or 200 to 300 miles a night. According to Waud, as much as 85 percent of deaths in migratory bird populations occur while birds are flying en route to their wintering or breeding grounds. The conservation of stopover sites is critical to migrating birds.

"The goal of the project is to produce a GIS-based tool that will allow the Nature Conservancy, Audubon and other conservation groups to focus on preserving the most important places," says Waud.

A dozen scientists from colleges and universities across the region spent two years developing the model at the request of the Nature Conservancy and Audubon Society. Karl Korfmacher, director of environmental science at RIT, provided GIS expertise, and David Mathiason, director of the RIT honors program and a statistician, designed the model. Both were pivotal to the study, says Waud.

"This is one of the most important projects in terms of conservation that any of us will ever have the opportunity to work on, certainly in terms of avian conservation. I would say that unequivocally," Waud says.

"Many bird species are in decline, and migratory birds more so than the rest," he adds, referring to the National Audubon Society's "List of Top 20 Common Birds in Decline." "Since 1967, the top eight—more than 70 percent of the population—have declined. The top 10 have all declined by two-thirds or greater over a period of four decades. They're declining fast, and in biological terms, incredibly fast."

The geographic scope of the study extends from the south shore of Lake

Ontario from east of Niagara frontier to the edge of Oswego County, and 75 kilometers inland.

Volunteer ornithologists participating in the pilot study are visiting 21 different sites having two transects each during the peak migration of Neotropical migrant birds, such as wood warblers, vireos and thrush. They will spend 30 minutes walking along a 300-meter transect, documenting every bird-related detail they see and hear within a 25-meter-wide path on either side of a flagged line. The volunteers will make their observations between dawn and four hours after dawn twice a week for four weeks. Every week, their assignments will change to account for variability in observations.

Waud and the other scientists on his team will sort through the data at the end of the four-week project. "There will be resident [birds](#) there, Neotropical migrants and temperate migrants that fly shorter distances," he says. "We don't want the observer to think about all that. We just want them to get down on paper everything they see and hear."

Data from the pilot project will be used to verify the best stopover sites for Neotropical migrants and will help refine the study before the larger three-year effort begins in the fall. The next phase will focus on 72 sites selected by the model based on distance from the lakeshore and the extent and diversity of wood cover. The follow-up phase to the site-identification project may involve bird-banding studies to show directly the benefit of the stopover sites to the Neotropical migrants.

"The follow-up will be to go to some of the sites we believe are really the best and set up a banding protocol there and do some energetic calculations," Waud says. "Banding is a tool routinely used in ornithology, but in this first phase it wasn't even remotely feasible to put banding on the end of this. With 72 sites and 144 transects, this is a pretty mammoth undertaking."

Source: Rochester Institute of Technology ([news](#) : [web](#))

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