

# A New Threat, West Nile Virus, Impacts Some Songbird Populations

Every morning during the spring, summer, and fall, I get up not long after the sun rises (sometimes before), and walk up the stairs behind my house up to the East Bluff to feed my horse. One of the wonderful things about this practice is the chance to hear the birds singing. From cardinals to pileated woodpeckers, from black-throated green warblers to American crows, from blue jays to wrens, they all have a song, or at least make some kind of noise.

The songs haven't always been so prevalent. In the 1960s, people began to notice a reduction in the number of song birds, as documented in Rachel Carson's classic book, "Silent Spring," published in 1962. It brought awareness to the problems created by the misuse of DDT and other pesticides.

DDT and other pesticides were sprayed on Mackinac beginning after World War II,



## Nature Notes

By  
Patricia Martin

and continuing into the 1960s, as a way to control the fly and mosquito populations and, of course, it did more than that. In Michigan it was also used extensively in the 1950s to control the beetles that carry Dutch elm disease. The result was a slaughter of American robins through the contamination of the earthworms that they eat, and particularly in predatory birds, a thinning of the eggshells, which caused a decline in populations. Amphibians were also greatly

affected by DDT. The use of DDT was discontinued on Mackinac in the 1960s, and in 1972, DDT was almost totally banned in the United States. It is still being used in Africa and many Central and South American countries, among other places.

Since the DDT ban, bird populations have recovered to a large extent in our area, and it's wonderful to hear them singing again.

Pesticides are not the only threat to bird populations. Recently a new threat has raised its ugly head. It's West Nile virus. In 1999 West Nile, a mosquito-borne virus, first appeared in North America in New York, quickly spread across the country over the next five years, and is now considered permanently established. Most of us who live on Mackinac became aware of this disease in relationship to our horses. Over the last few years, many horse owners have routinely vaccinated their horses against this deadly disease. Besides affecting horses, it also can infect birds, other animals, and people (there is no vaccine for humans). It's usually transmitted by the bite of a mosquito.

Several years ago, people in our area were asked to keep a lookout for dead crows, a bird that seems to be infected fairly commonly. Dead birds were collected and checked to see if they were killed by the West

Nile virus, to determine how far the disease had spread. In 2003, which was the worst year so far for West Nile, the Centers for Disease Control reported that more than 9,862 people had become infected, and 264 of them had died. Last year, there were 4,268 reported cases, and 177 people were killed by the disease.

Recently several studies have come out on the effect of West Nile on bird populations. According to a paper published in the journal *Nature*, West Nile virus has dramatically

reduced populations of several common bird species, including robins and chickadees. In some regions, there has been a population decline of almost 50% in crows. Researchers from the Consortium for Conservation Medicine at the Wildlife Trust, a New York-based research group, examined the populations of 20 different species of birds. There are between 300 to 400 other species of birds on our continent that were not included in the study, and it's not unreasonable to assume they also have been affected.

Researchers used 26 years of data from North American Breeding Bird Survey sites across 10 states to predict the size of populations of common bird species. They compared the predictions with what was seen in the bird survey in the years after the arrival of West Nile. Once the disease had arrived in a region, they discovered that there was a steep and sometimes progressive decline in populations of crows, robins, chickadees, and Eastern bluebirds (before the arrival of West Nile, their populations had been increasing). Population declines were also seen in tufted titmice, house wrens, and blue jays.

After the worst year for West Nile virus so far, which was 2003, 13 of the 20 species studied hit a 10-year population low. It seems that from the East Coast to the West, the population declines seemed to parallel the dispersal of West Nile. Declines in populations are not uniform across the country. According to the study, American crows, which were among the hardest hit species in the mid-Atlantic states, declined about 45%, but some sites in Maryland had population declines of close to

85%, and yet some areas had very little or no decline. The survey indicates that there is some increase in populations of certain species during the last year surveyed. In 2005, blue jays and house wrens, which had previously shown population declines,

rebounded to their pre-West Nile populations.

What can we expect this year? Who knows. A lot of it will depend on the mosquito population. We at Mackinac are rather fortunate in that we have a fairly low mosquito population. They are generally not too bad here, as we have very little standing water for mosquitoes to breed in, and a fairly good bat population to help keep the little bugs in line. Still, people can help by not allowing any standing water around private property. Birdbaths and ponds should have water circulated or changed regularly, for instance. Buckets or other reservoirs of standing water should be emptied. All of these things help.

*Trish Martin is a year-around resident of Mackinac Island, has earned a master's degree in botany from Central Michigan University, and owns Bogan Lane Inn.*



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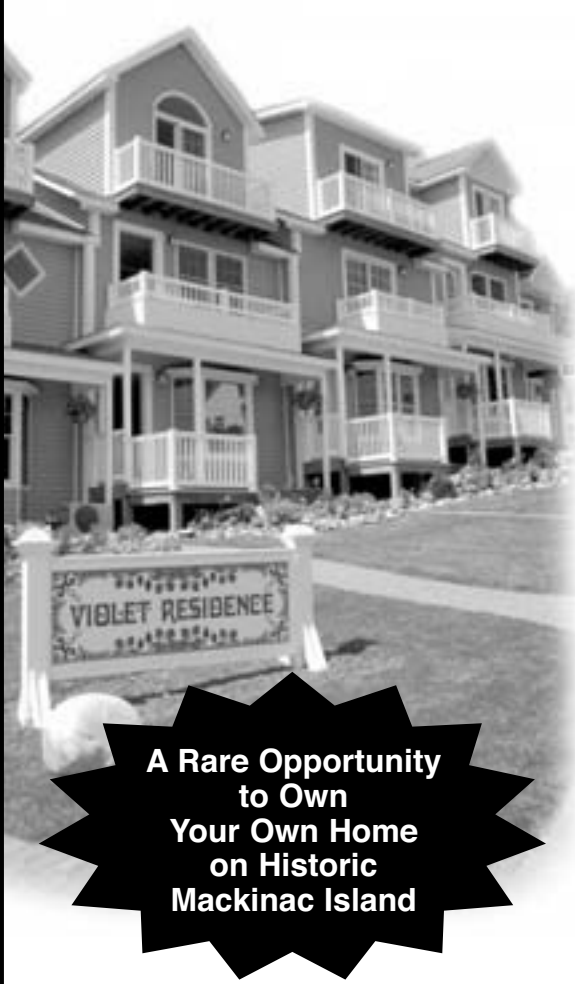
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