A New Tick Arrives in Northern Michigan

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http://naturechange.org/2016/03/25/a-new-tick-arrives-in-northern-michigan/

This is a story about ticks and Lyme disease. It's also a story about mice and birds and how climate may be changing the ecology of diseases.

According to our state's Department of Health and Human Services, Lyme's is the most commonly reported vector-borne human disease in Michigan. In fact, 55 cases have been reported already this spring, 6 in northern Michigan. But Lyme's may be more prevalent in our pets.

If our region had fewer ticks and no Lyme disease just a decade ago, what happened? One answer appears to be the movement of animals Dr. Philip Myers, a zoologist and ecologist studies the movement of small mammal populations in northern Michigan. He says the data is compelling. The white footed mouse has moved north into Michigan displacing the deer mice. The white footed mouse is a better host for the tick that carries Lyme disease.

New bird and tick species also appear to be frequenting northern Michigan too! Just last summer, Traverse City-based avian parasitologist, Dr. William Scharf reported the first occurrence of a southern species of tick in our region.

Scharf says that occurrence of ticks on birds used to be fairly rare. I've been doing this since 1968. From 1968 until now it was uncommon to see ticks on birds, and now it's extremely common, and I've seen as many as 100 ticks on one bird's ear. That's the place where they tend to congregate is in ears of birds."

"We think the climate is changing enough so that it's becoming favorable for the ticks. The ticks are able to hitch a ride on the birds and stay on the birds longer," Scharf says. "The fact is the birds act as carriers for the ticks and spread them around."

Topics Covered

Biology; Insects; Population Dynamics; Climate; Birds; Mammals

Next Generation Science Standards

- 3-LS4-4. Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.
- 3-LS4-3. Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.
- MS-LS1-5. Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.

- MS-LS2-4. Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.
- HS-ESS3-5. Analyze geoscience data and the results from global climate models to make an evidence-based forecast of the current rate of global or regional climate change and associated future impacts to Earth systems.