

Study shows importance of wildlife in controlling ticks

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Morris Animal Foundation-funded researchers from the University of California, Santa Barbara, have found that a decrease in wildlife populations causes an upsurge in local tick populations, potentially increasing the threat of infectious diseases globally. The research team published their results in the *Proceedings of the Royal Society B: Biological Sciences*.

Ticks transmit many diseases to both humans and animals, and are found on nearly every continent in every type of environment. Each year, thousands of people and animals suffer from tick-borne illnesses. Lyme [disease](#) is a familiar disease transmitted to both people and animals by ticks, but there are scores of others, including Rocky Mountain spotted fever, tularemia, Q-fever and tick-borne encephalitis. If not treated, many infections are fatal.

The study, which was conducted in Kenya, highlights the importance of a robust, diverse [wildlife population](#) in controlling potential infectious disease spread, said senior investigator Dr. Hillary Young, Assistant Professor of Ecology, Evolution and Marine Biology at the University of California, Santa Barbara. Climate change, loss of habitat, as well as the declines of [wildlife populations](#) have affected tick numbers.

"This study showed that large mammal conservation can reduce the abundance of some ticks, including in this case the abundance of ticks infected with pathogens that negatively impact the health of both humans and wildlife in the region," said Dr. Young. "Finding this 'win-win-win' scenario in which conservation benefits both human health and wildlife health can, we hope, really motivate further conservation and ultimately help protect landscapes and wildlife health."

Dr. Young's research showed that when large wildlife were excluded from defined areas, tick populations rose by 130 percent to 225 percent

depending on the dryness of climate. Drier areas experienced greater increases in [tick](#) populations compared with wetter areas, and compared to open plots. The team also tested the ticks they captured for two important disease-causing bacteria. They noted that although prevalence of disease didn't change in the ticks captured from their different testing locations, they concluded that the more ticks present, the higher the likelihood of disease exposure.

"Morris Animal Foundation has a long tradition of tackling emerging diseases around the globe, as well as advocating for [wildlife health](#)," said John Reddington, DVM, PhD, President and CEO of Morris Animal Foundation. "This study reinforces the need to preserve and protect wildlife as a natural check on emerging [infectious diseases](#)."

Dr. Young and colleagues currently are doing follow-up work in California to see if the findings from their Africa study can apply to other areas of the world. Their work could provide another powerful argument for species preservation.

More information: Georgia Titcomb et al, Interacting effects of wildlife loss and climate on ticks and tick-borne disease, *Proceedings of the Royal Society B: Biological Sciences* (2017). [DOI: 10.1098/rspb.2017.0475](https://doi.org/10.1098/rspb.2017.0475)

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