

Diseases spread from wildlife pose risk to livestock and humans in Alberta, scientists find

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The foothills of southwestern Alberta are home to wild elk as well as cattle on ranchlands—and when the species intermingle, the potential for disease to spread is higher, according to a new study. Credit: Mark Boyce

Diseases transmitted from wildlife are a common threat to livestock and humans in Alberta, according to new research by University of Alberta biologists.

"One of the biggest risks to the [livestock industry](#) is the transmission of disease from [wildlife](#) to livestock," said Mark Boyce, an ecologist in the Department of Biological Sciences.

Boyce said the long list of diseases that occur between livestock and wildlife includes anthrax, [bovine tuberculosis](#), brucellosis, and many species of worms such as tapeworm and roundworm.

"And in addition to infecting one another, many of the diseases that are shared by wildlife and livestock are zoonotic, meaning that they also can infect humans," he noted.

Boyce said the foothills in the southwestern part of the province are home to wild elk as well as [cattle](#) on ranchlands—and when the species intermingle, the potential for disease to spread grows.

The researchers used data gathered from GPS-collared elk combined with cattle management information from 16 cattle operations in southern Alberta to identify locations and times where the probability of disease transmission is high.

They found the highest risk occurs in winter months, when [livestock](#) and elk are in the same pastures and use the same resources.

Based on their results, the researchers developed guidelines to help producers minimize the risk of infection.

"Livestock management that minimizes the risk of contact with wildlife will reduce the risk of [disease](#) transmission," said Boyce. "This includes keeping cattle in pastures near farm buildings during winter and calving season.

"It is also important to keep mineral supplements and hay next to ranch

buildings, again to reduce the contact between cattle and elk," he added.

The study, "Integrating Livestock Management and Telemetry Data to Assess Disease Transmission Risk Between Wildlife and Livestock," was published in *Preventative Veterinary Medicine*.

More information: Mathieu Pruvot et al. Integrating livestock management and telemetry data to assess disease transmission risk between wildlife and livestock, *Preventive Veterinary Medicine* (2019). DOI: [10.1016/j.prevetmed.2019.104846](https://doi.org/10.1016/j.prevetmed.2019.104846)

Provided by University of Alberta

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