

Wolves & Chronic Wasting Disease

Unknown Consequences

Wolves can travel vast distances, act as an agent of dispersion, and displace big game herds from their traditional habitat.

Chronic Wasting Disease and Prions

“Chronic Wasting Disease (CWD) is a fatal neurological disease found in deer, elk, and moose.” *[Colorado Parks and Wildlife]*

“Scientists believe CWD proteins (prions) likely spread between animals through body fluids like feces, saliva, blood, or urine, either through direct contact or indirectly through environmental contamination of soil, food or water. Once introduced into an area or farm, the CWD protein is contagious within deer and elk populations and can spread quickly. Experts believe CWD prions can remain in the environment for a long time, so other animals can contract CWD from the environment even after an infected deer or elk has died.” *[Center for Disease Control and Prevention—Chronic Wasting Disease—Transmission]*

“Prion diseases or transmissible spongiform encephalopathies (TSEs) are a family of rare progressive neurodegenerative disorders that affect both humans and animals. They are distinguished by long incubation periods, characteristic spongiform changes associated with neuronal loss, and a failure to induce inflammatory response. The causative agents of TSEs are believed to be prions. The term “prions” refers to abnormal, pathogenic agents that are transmissible and are able to induce abnormal folding of specific normal cellular proteins called prion proteins that are found most abundantly in the brain. The functions of these normal prion proteins are still not completely understood. The abnormal folding of the prion proteins leads to brain damage and the characteristic signs and symptoms of the disease. Prion diseases are usually rapidly progressive and always fatal.” *[Center for Disease Control and Prevention – Prion Diseases]*



***Prions are extremely resilient and are very difficult to inactivate.
Prions can remain active in the environment for a very long time.***

“When it comes to infectious agents, it doesn’t get much worse than prions. These misfolded proteins are highly resistant to a wide variety of extreme disinfectant procedures. They have been identified as the culprits behind mad cow disease and chronic wasting disease in animals and humans, and are also implicated in Creutzfeldt-Jakob disease and other prion-related disorders.” *[Phys.org – Biology – Cells & Microbiology – February 15, 2012]*

Wolves Are Disease Vectors

Wolves are known carriers of rabies, canine distemper, parvovirus, coronavirus, and adenovirus; mange, bordetella bronchiseptica, neospora caninum, and tapeworms that cause hydatid disease.

It's likely that wolves will be a vector for Chronic Wasting Disease

CWD Prions Remain Infectious After Passage Through the Digestive System of Coyotes

(U.S. National Library of Medicine - National Institute of Health - Prion - Published online December 4, 2015)

“The continued spread of CWD is of concern to the health of both wild and captive cervid populations. Indirect transmission through the environment has been demonstrated in captive animals living in paddocks where CWD-positive animals had lived, and is a particular challenge due to the long persistence of CWD within the environment. Infectious material can be deposited in the environment by the decay of infected carcasses, from urine, feces, and saliva, and the spread of infected material may be aided by scavengers and predators. In this study we illustrated the ability of coyotes to pass infectivity in their feces after the ingestion of CWD-infected brain homogenate.”

“Coyotes have the ability to travel significant distances.”

“Transient coyotes are therefore provided an opportunity to translocate disease to previously CWD-negative locations.”

“This study was not designed to mimic a naturally consumed dose of CWD, but rather as a proof of concept to determine if infectivity could pass into coyote feces. The passage of disease in feces is a common route of translocation for many viral, bacterial and parasitic diseases.”



Wolves Travel Vast Distances Beyond Local Pack Territories

“Wolf packs usually hunt within a specific territory. It is not uncommon for territories to be as large as 50 square miles but they may even extend up to 1,000 square miles in areas where prey is scarce. Wolves often cover large areas to hunt, traveling as far as 30 miles a day. Although they trot along at 5 mph, wolves can attain speeds as high as 40 mph. Most wolves disperse from the pack they were born into by age three. Dispersing wolves have traveled as far as 600 miles.” [U.S. Fish and Wildlife Service Wolf – Great Lakes website]

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