USGS
science for a changing world

Diagnosing and Controlling Wildlife Disease

The USGS National Wildlife Health Center provides technical assistance, research, and leadership for addressing health issues involving wildlife resources under Department of Interior stewardship and fosters partnerships with others to address wildlife health as a component of ecosystem health.

During the past quarter-century the emergence of new diseases afflicting humans and the re-emergence of previously conquered diseases have become an international focus for concern and action. Wildlife populations are also afflicted by new and re-emerging diseases. The National Wildlife Health Center, located in Madison, Wisconsin, is a science component of the U.S. Geological Survey (USGS) charged with addressing the health and disease issues of free-ranging wildlife across the Nation. The Center works closely with other bureaus in the Department of Interior to apply scientific findings to manage and prevent disease outbreaks.

Specialized biological containment facilities allow USGS scientists to investigate highly infectious diseases affecting a broad spectrum of wildlife such as amphibians, eagles, sea turtles, sea otters, migratory birds, wolves, large mammals, and other species. The more than 70 scientists and support personnel on staff are specialists in such fields as wildlife ecology, epidemiology, veterinary medicine, pathology, virology, bacteriology, parasitology, chemistry, biometry, and population ecology. The Center provides a multidisciplinary, integrated program of disease diagnosis, field investigation and disease management, research, and training, and maintains extensive databases on disease findings in animals and on wildlife mortality events.

The Center is an international focal point for research, information, and scholarly exchange on scientific matters involving the study of wildlife health and disease. Research on zoonotic diseases concentrates on better understanding the ecological relationships between free-ranging wildlife, domestic animals, and public health concerns.

The gregarious habits of many wildlife species can enhance their susceptibility to catastrophic losses from diseases such as avian botulism and pesticide poisoning, and from infectious diseases that can rapidly spread through a population. The mobility of wildlife enhances the potential for infectious disease to quickly spread to new locations and populations. Timely and accurate diagnosis of wildlife illness and mortality is critical to achieving effective disease control and prevention.

Center research focuses on understanding the ecology of disease in order to identify the most vulnerable linkages between affected species (the host), the disease agent, and environmental factors resulting in disease. This understanding is fundamental for developing effective disease prevention and control strategies. Center investigators also evaluate the impact of disease on wildlife population dynamics, model environmental factors influencing disease outbreaks, and explore the pathogenesis of disease agents in susceptible hosts. Other Center research is directed towards developing enhanced technology for disease detection and diagnosis and towards developing biologics to protect animals against infection.

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