

IN SICKNESS AND IN HEALTH

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Like people, wild animals get sick. Sometimes individual animals recover, and sometimes they do not, but as far as we can tell, wild animals have been getting sick for a long, long time. For much of that time, there has likely been some level of transmission between individuals of the same species, as well as to members of other species, including humans. This is a longstanding problem, but, like many things, it's exacerbated by the physical connectivity of our modern world. As people, we are moving ourselves and the products we buy or sell around the world more than at any other time in our history. That movement is inherent to what we wear, what we eat, and how we get to work, but flaws in these systems seem to put us at greater risk of rapid disease transmission. Further, human populations are increasing such that more people than ever are living in close contact with both domestic and wild animals, creating more opportunities for transmission to occur.

So, while many wildlife illnesses have likely been on the landscape since time immemorial, several diseases have emerged in the last few decades, all of which are new cause for concern. Sheep get pneumonia. Elk suffer from hoof rot. Rabbits catch their own hemorrhagic disease. Cervids succumb to chronic wasting disease. Turkeys and waterfowl are susceptible to avian flu. And those are just those species of wildlife that many of us like to hunt—there are numerous other species and other pathogens that blight them.

As we look for more wildlife diseases, we find more diseases in more wildlife species. The COVID-19 pandemic revealed the need to monitor, research, and adapt to all manner of diseases better than we had been, and wildlife diseases are no exception.

Diseases can be classified into three general categories that define how they spread and, therefore, how worried about them we might be: intraspecific (those that can pass from individual to individual within the same species), interspecific (those that can be transmitted from one species of wild animal to another), and zoonotic (a type of interspecific disease that may pass from wildlife to humans). Many of these diseases pose significant threats to our food supply and public health, especially if the pathogens can infect livestock or humans. Disease, of course, is a natural part of evolution, as is adaptation to pathogens. However, evolution requires far more time than a single human life, so we must react to these issues as they arise to try and maintain or advance the status quo.

All of this complicates our efforts to manage and conserve wildlife and is overwhelming our existing institutions. For state and tribal wildlife agencies tasked with managing wildlife, this means fewer resources available for habitat improvement, education programs, and the restoration of iconic species. Noting this, the leaders and contractors of the Boone and Crockett Club dedicated significant time and energy to procure resources from the federal government to assist the agencies.

In the final days of the 118th Congress, we completed a 10-year campaign to pass the Chronic Wasting Disease Research and Management Act. Now our focus has turned to ensuring the program is funded and implemented well. For states and tribes, this means ensuring agencies know that eligibility for the federal grant program has been expanded for both research and management. For now, the USDA is putting the money to good use, but the current grant program is clearly not enough for a problem that puts deer, elk, moose, caribou—our most popular game species—at risk. Concern and uncertainty among hunters continue to threaten the future of hunting.

It is the mission of the Boone and Crockett Club to promote the conservation and management of wildlife, especially big game, and its habitat, to preserve and encourage hunting and to maintain the highest ethical standards of fair chase and sportsmanship in North America. Noting this, I believe that while we continue to focus especially on big game, our role as sportsmen must expand beyond just the species that we pursue. This is not a novel concept. It is one

that is foundational to our Club. Charles Hallock, a mentor to George Bird Grinnell and founding editor of *Forest and Stream* magazine, wrote that a “practical knowledge of natural history must of necessity underlie all attainments which combine to make a thorough sportsman.” Disease, among other elements, must be a part of our collective and personal knowledge of natural history.

This expansion is why the Boone and Crockett Club continues to support the modernization of the National Wildlife Health Center (NWHC) in Madison, Wisconsin, where world-renowned scientists research emergent wildlife diseases. This center is the nation's only federal facility in its class that is exclusively dedicated to investigating diseases that pose risks to human, animal, and environmental health. The NWHC continues to be a world leader in crafting

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Read more about a B&C Fellow's CWD research on page 48.



Wildlife disease experts at the USGS National Wildlife Health Center in Madison, Wisconsin, examine a double-crested cormorant while wearing full biosafety gear. The postmortem examination gives the scientists clues to what may have caused the animal to die. Examination of wild birds is important to detect pathogens that could impact wildlife populations or be transmitted to domestic animals or people.

science-based solutions to the deadliest wildlife diseases, including avian influenza and white-nose syndrome of bats, that have devastated wildlife populations worldwide.

Adaptive management of diseases is key, as our community is constantly learning new information about these pathogens. When we know better, we must do better. Knowing better and doing better are both aided by interdisciplinary collaboration among scientists, public

health officials, and wildlife managers, which is at the core of the One Health concept. One Health is defined by the Centers for Disease Control as “a collaborative, multisectoral, and transdisciplinary approach—working at the local, regional, national, and global levels—with the goal of achieving optimal health outcomes recognizing the interconnection between people, animals, plants, and their shared environment.” As this concept expands and

collaboration is enhanced, we expect to see better public and private sector responses to disease outbreaks. Historically, like most wildlife conservation work—at least on game species—wildlife disease research and management has been bankrolled by hunters, anglers, trappers, and recreational shooters. However, the One Health concept calls on governments and non-governmental organizations to reach a broader audience. Additional federal monies help supplement this work, as is the case with chronic wasting disease and avian influenza, among other diseases, but more is needed as our institutions adapt to our needs as modern constituents of the world.

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