Responding to a Chronic Wasting Disease Outbreak in Wild Deer in Minnesota – Opportunities and Challenges

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In February 2002, what we know as Midwestern white-tailed deer (Odocoileus virginianus) management forever changed when chronic wasting disease (CWD) was discovered in Wisconsin. In August 2002, the disease was found in a farmed elk herd in central Minnesota; this set into motion a CWD surveillance and management program that began that month when 109 deer were killed and tested around the positive elk farm. From 2002 – 2004, the Minnesota Department of Natural Resources (MNDNR) tested 32,000 deer at a cost to license buyers of $3 million dollars. No wild positives were detected and in 2005, MNDNR switched to a risk-based surveillance strategy that defined risk as newly infected wild deer in nearby states, opportunistic/suspect surveillance within the state, and new detections in the farmed cervid industry. This strategy successfully identified a single CWD positive deer in close association with a poorly regulated1 farmed elk herd in Olmsted County, Minnesota [1].

The MNDNR CWD response plan is functionally similar to response plans in other states in that it provides a framework to detect the disease early and implements procedural steps with the intent to eliminate disease. The ability to quickly respond to disease events is also dependent on the legal authorities granted to the state wildlife agency. In Minnesota, MNDNR has broad rule-making authority to respond to wildlife disease events. In as little as 2 weeks, rules can be promulgated that ban recreational feeding (baiting for the purpose of deer hunting is currently prohibited), open special hunting seasons, restrict the movement of carcasses, and require mandatory disease surveillance. We have used these rules successfully for one bovine tuberculosis and two CWD outbreaks. We feel that without this authority, MNDNR would be poorly positioned to respond quickly to disease outbreaks.

In fall 2016, the Minnesota Department of Natural Resources (MNDNR) sampled 2,966 harvested white-tailed deer for chronic wasting disease (CWD) in southeastern Minnesota. The surveillance effort focused on testing deer within deer permit areas (DPA) in the 300 series zone, in response to increased incidence of CWD in wild deer in both southest Wisconsin and northeast Iowa. Three deer tested positive for the disease in Fillmore County and MNDNR enacted its CWD response plan, which called for an immediate ban on recreational deer feeding, an aerial survey of the area, creation of a disease management zone, and additional sampling efforts to better understand the prevalence and spatial extent of the outbreak. During a winter (January-March 2017) supplemental surveillance effort, an additional 1,179 samples were tested through three operational phases; a special late hunt, landowner shooting permits, and a contract with United States Department of Agriculture–Wildlife Services (USDA-WS) for targeted deer removals. As a result, 8 more CWD positive deer were found. Surveillance efforts for CWD will were be intensified in fall 2017 and also expanded into 2 other areas of the state (Crow Wing and Meeker Counties) where the disease was recently discovered in captive cervid farms. During the opening weekend of the 2017 deer season (Nov. 4-5), we conducted

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1 The farm in question had level 1 CWD rating (no movement allowed), numerous dead and untested animals, missing animals on inventory, >20 fence holes and gate issues, and repeated occurrences of wild deer in the pens.
mandatory surveillance around these areas and collected over 12,000 samples in the three focus areas. To date, we have identified 17 CWD positive deer, all within the existing disease management zone. In late November 2017, CWD was discovered in a third captive cervid farm not far from the CWD zone, which will increase surveillance in that area starting in 2018. This will bring the total number of areas under surveillance to 4: 1 wild of unknown origin and 3 captive cervid farms.

From the multiple perspectives, a prolonged CWD response is neither practical nor affordable. For example, during the 2016 and 2017 deer seasons, MNDNR expended 28,300 hours of staff time (equivalent to 14 full-time employees) on CWD surveillance/response and spent $2.4 million hunter dollars on the effort. This comes at a time of chronic staff and budget shortages within the agency and multiple competing work priorities. Prolonged responses also impact staff morale and attitudes toward success. In addition, we see fatigue among hunters and landowners, along with diminished support for the response and increased negative perceptions about the agency. Given people are not observing direct mortality, it is difficult to communicate with stakeholders the importance of long-term objectives regarding disease establishment.

Chronic wasting disease management is especially problematic because one major source of risk is regulated by a different agency (Minnesota Board of Animal Health). In Minnesota, captive cervids are considered livestock and premises and inspection data are classified as ‘not public’. Wildlife agency staff are required to submit private data requests and also must justify their use before data are shared. As MNDNR is responding to CWD in 3 captive cervid herds, we are very interested in inspecting records independently. This is particularly important since all 3 farms were considered ‘level 6’, which means they were fully compliant with CWD testing for a period of 60 months. Recent media coverage detailing a flawed monitoring system on at least one CWD positive farm has highlighted the importance of the issue and lead to increased scrutiny of that regulator.

References