



Michigan Surveillance & Response Plan for Chronic Wasting Disease

**Executive Summary
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Developed by:
Michigan Department of Natural Resources
Michigan Department of Agriculture



Left to right: George Burgoyne, Jr., K.L. Cool, Keith Creagh, Dan Wyant, Dr. Joan Arnoldi

Michigan Department of Natural Resources Director K.L. Cool and Michigan Department of Agriculture Director Dan Wyant finalize and sign the state's Surveillance and Response Plan for Chronic Wasting Disease with DNR Resource Management Deputy George Burgoyne, Jr., MDA Deputy Director Keith Creagh, and State Veterinarian Dr. Joan Arnoldi.

Michigan Surveillance and Response Plan

Introduction

Within the core mission of the Michigan Department of Natural Resources (MDNR) is a directive to protect the health of the state's wildlife. The Michigan Department of Agriculture (MDA) maintains a similar mission with regard the health and safety of domestic livestock

Specifically, the state's wild, free ranging white-tailed deer and elk herds – estimated to be around 1.8 million animals – fall under the MDNR's jurisdiction. MDNR manages Michigan's wildlife populations and monitors their health and well being.

Additionally, under Michigan law – Public Act 190 of 2000, the Privately Owned Cervidae Producers Marketing Act – captive cervids (deer and elk) are considered livestock or farmed deer and elk and as such fall under the Michigan Department of Agriculture's jurisdiction. MDA oversees the licensing, registration and inspection of the state's approximately 900 to 1,000 captive (hereafter referred to as “privately owned”*) cervid operations, representing about 25,000 animals.

Chronic Wasting Disease (CWD) is emerging as a disease that has the potential to significantly impact both wild and privately owned cervids and cripple segments of the state's hunting, agriculture and tourism industries. Because of this threat, MDNR and MDA, with input from university researchers, the agriculture industry and outdoor and hunting organizations, have formed a strong partnership to review, develop, enhance and implement comprehensive CWD surveillance, testing and control actions. In addition, as an emergency preparedness measure, the state has designed a detailed response and contingency plan should CWD be found in Michigan.

This document summarizes these actions and outlines the state's surveillance and response plan. MDNR and MDA activities and plans are broadly defined in two categories: Surveillance and Response/Control. Ongoing communication, education and outreach efforts complement both.

*Under Michigan law, farmed deer and elk are referred to as “privately owned,” and not the more common term of “captive.”

for Chronic Wasting Disease

Michigan is home to about 1.8 million free ranging deer and elk as well as 900 to 1000 privately owned deer and elk facilities.

History and Background

CWD overview, symptoms, transmission and history in the United States

The biology of CWD is not yet fully understood. It is a disease of white-tailed deer, mule deer and elk that attacks the central nervous system. It is a member of the TSE (Transmissible Spongiform Encephalopathy) group, which is the same disease family as BSE or “mad cow disease” in cattle and scrapie in sheep. There is no evidence to date that CWD affects humans or other animals.

CWD is caused by prions (pronounced ‘PREE ON’ – mutant versions of normal proteins), which are not sensitive to normal sterilization, disinfectants, or cooking. The multiplying prions eventually destroy nerve cells and account for symptoms.

At this point there is no live-animal test, no treatment and no vaccine for CWD. The disease is found by a screening process looking for vacuoles (sponge-like bubbles) in brain tissue and special stains for the prions in brain and lymph tissues.

Symptoms of CWD do not develop until deer and elk are least 16 months of age and the disease is always fatal. Clinical signs include chronic weight loss, behavioral changes (loss of fear of humans, listlessness, lowering of head, repetitive walking, blank facial expression, hyperexcitability), excessive salivation and grinding of teeth. Symptoms can sometimes be confused with other diseases such as brain worm, parasites, rabies or simply malnutrition/starvation.

The transmission route is unknown but is suspected to occur from cervid to cervid through saliva, feces, and possibly urine. It has a long incubation period of 18 months or longer. Again, there is no evidence of transmission to humans or other species of animals.

Again, CWD has not been found in Michigan to date.

It was first observed in 1967 and diagnosed in 1977 at a Colorado cervid research facility and, in 1981, in free ranging cervids in northeastern Colorado. Since then, CWD has been found in both privately owned and wild, free-ranging cervids in other states and other countries. Specifically, it has been discovered in wild deer herds in Wyoming, Nebraska, South Dakota, the Canadian province of Saskatchewan, Wisconsin, and most recently, New Mexico. In addition to Colorado, CWD has been diagnosed in privately owned deer and elk herds in Kansas, Nebraska, Montana, Oklahoma, South Dakota, the Canadian provinces of Saskatchewan and Alberta, and South Korea.

Michigan's efforts to-date to prevent CWD

Free ranging cervids

In past years, MDNR scientists and the National Veterinary Services Laboratory have tested approximately 450 deer for CWD, all of which have been negative. In addition, MDNR has tested deer having symptoms similar to those of CWD on an ongoing basis. All of these animals have tested negative as well.

In 2002, the Michigan Natural Resources Commission, which serves as MDNR's policy-making body, moved in the first of a series of steps to prevent CWD from entering Michigan.

The Commission ordered an end to supplemental deer feeding in the Upper Peninsula, starting with the four U.P. counties bordering Wisconsin and including the remaining 11 counties by May, 2003. Supplemental feeding is presently banned in the Lower Peninsula. The move is aimed at lowering deer numbers that are kept artificially high through unnatural feeding and reducing the nose-to-nose contact inherent with congregated feeding.

Further, the NRC implemented a 50-mile buffer zone around the state. If CWD is discovered within 50 miles of any state border, all baiting and feeding activities in the adjacent peninsula will be immediately banned.



White-tailed deer closely gathered at an unnatural feeding site. Michigan is working to end this practice.

Privately owned cervids

MDA enacted a one-year ban or moratorium effective April 26, 2002, on any imports of deer and elk destined for privately owned cervid farm operations.

Before the temporary ban, MDA had prohibited the importation of any deer or elk from a county or adjoining county in any state where CWD has been diagnosed. Cervids brought into Michigan were also required to obtain a pre-entry permit, accompanied by a health certificate and statement from an accredited veterinarian attesting that the animals had not been exposed to CWD or any other communicable disease.

In addition, after the CWD discovery in Wisconsin, the Department enacted a ban on all cervid imports from Wisconsin effective March 6, 2002.

The state's act governing privately owned cervid operations also provides important tools, including mandatory herd inventory reporting, mandatory fence inspection, standards for fence construction and mandatory record keeping of all animal movement, that help MDA and the state prevent, monitor for and potentially respond to CWD.

"MDNR and MDA are committed to doing whatever is necessary to ensure the future health of Michigan's deer and elk. Our long-term success with protecting free ranging cervids will be underpinned by the close partnership we have with the hunting community."

K.L. Cool, DNR Director

Michigan Surveillance and Response Plan

Surveillance Plan

Aggressive surveillance – testing of animals to determine the presence/absence and extent of disease – for CWD in free ranging and privately owned cervids is a key component of the state's efforts.

Free ranging cervids

MDNR will expand its CWD surveillance efforts throughout the state, with particular emphasis on deer taken in border counties and counties with large numbers of privately owned cervid operations. Approximately 6,000 free ranging deer and elk will be tested statewide over the next three years.

These surveillance efforts will be twofold: “Targeted” (identifying and testing free-ranging cervids statewide that show symptoms consistent with CWD), and “Active” (testing of outwardly healthy cervids harvested by hunters).

MDNR will continue current activities to identify and test free-ranging cervids statewide that have been observed by the public or DNR staff as showing symptoms consistent with CWD (emaciation, abnormal behavior/nervous system symptoms, excessive salivation, etc.). These animals will be collected and tested.

All 83 counties in Michigan will be sampled at some point during a three-year cycle. However, limited personnel and funding require that surveillance testing be prioritized. Priority is established by considering factors such as: the number of privately owned cervid facilities in a county; the presence of cervid research facilities; and geographic location. Counties judged on the basis of epidemiological factors to be of higher risk may be sampled repeatedly during this period.

Initially, approximately 50 deer will be tested from each of 40 counties. This sample size will provide sufficient statistical power to be 95 percent confident of detecting CWD if it is present at a prevalence of at least 5 percent. In addition, 50 elk will also be tested annually over the next three years.

Privately owned cervids

The first part of MDA's surveillance plan for privately owned cervids targets potential risk imports. Potential risk imports include animals identified by USDA as possibly being CWD exposed. To date, all traces have been completed with no animals testing positive for CWD. The other group of potential risk imports is all Wisconsin cervids brought into Michigan for the past three years before that state's discovery of CWD. These animals have all been identified and located, and will be purchased and tested for CWD.

Surveillance will also be conducted on privately owned cervid herds throughout the state. This will be done by testing death losses, sick and slaughtered animals 16 months of age and older based on herd plans developed by MDA's State Veterinarian office.

CWD is also a reportable disease per the state's animal health laws. Any deer and elk farmer, veterinarian, or member of the public who *suspects* CWD must report it to MDA immediately. Veterinarians trained in the diagnosis of the disease will be dispatched immediately to follow up, which further enhances the state's ability to detect CWD if it exists in Michigan.

“This surveillance and response plan is an excellent example of the partnerships and coordinated scientific and testing activities that are the cornerstones of effectively addressing newly emerging animal diseases like CWD.”

Dan Wyant, MDA Director



MDNR deer check station employees examine a hunter's deer, recording the location the deer was taken from, age, sex and the overall health of the animal.

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Education / Outreach

Establishing and maintaining strong public awareness and education are critical to the state's CWD surveillance and response efforts. Hunters, farmers, outdoor enthusiasts and wildlife watchers are valuable partners in state surveillance efforts. Effective communication through the media will help raise public awareness about CWD, and prevent misinformation and rumors from spreading.

During the surveillance period, MDNR and MDA officials will focus on new ways to educate Michigan residents about CWD and Michigan's plans for surveillance and control. Staff from both agencies will work at a regional level, attending local meetings of respective constituency groups to make presentations and answer questions. Natural Resources Commissioners and Agriculture Commissioners will work to raise support and awareness about the state's surveillance efforts and prevention goals. Agency executives will assist with message dissemination through the media. Designated agency representatives will keep the state Legislature apprised of new developments. Both agencies will maximize outreach opportunities on their respective web sites, by establishing and maintaining up-to-date CWD information.

Response Plan

Should the state's comprehensive surveillance activities detect CWD in either free ranging or privately owned deer and elk in Michigan, MDNR/MDA will build upon efforts and actions taken to date by immediately activating the state's CWD Response Team to coordinate the decision-making process and operations.

This CWD Response Team will coordinate the field activities between MDNR, MDA, the U.S. Department of Agriculture, private veterinarians, and the Michigan State University College of Veterinary Medicine and Animal Health Diagnostic Laboratory. All actions will be aimed at quick identification and aggressive response to limit further transmissions of

the disease and eradicate it, as well as keeping governmental and stakeholder groups and the public and media informed.

The response to CWD confirmation will be based upon where it has been found and how many animals have been detected. Specifically, it will be triggered by one of two scenarios: CWD identification in free ranging deer or elk or in a privately owned cervid operation. While each will trigger slightly different testing and eradication activities, the common objective of MDNR and MDA control efforts will be to determine the magnitude and geographic extent of CWD infection in the privately owned operation(s) and free-ranging population, and rapidly and aggressively take steps to eliminate it.

Agency veterinarians will conduct thorough epidemiological investigations to determine the specific cause, source of disease, population exposed, and population infected. These findings may necessitate a series of actions, including: quarantines and depopulation of affected privately owned cervid facilities, killing large numbers of deer by means determined to be the most effective, and maintaining local deer populations at very low densities for prolonged periods of time.

In addition, heightened surveillance, restrictions on movement of carcasses of free-ranging deer, and restrictions on baiting and feeding of free-ranging cervids will apply to areas surrounding any CWD positive deer, while a ban on rehabilitation of deer will be enforced statewide.

All response actions will be continually monitored, evaluated and modified as needed by the CWD Response Team to ensure maximum effectiveness, strong public awareness and minimal negative impact on the state's deer and elk farming and hunting industries. Michigan's actions will also be partially based upon the information gained from the experiences and results of other states currently engaging in CWD control efforts.

Conclusion

Michigan's success in preventing and responding to the threat of Chronic Wasting Disease is underpinned by rigorous surveillance, strong public education efforts, and responsive scientific laboratory support. Also key to dealing with this disease are strong partnerships between state, federal, local and university entities, as well as Michigan's sportsmen and deer and elk farmers. Continued nationwide research efforts to better understand CWD could someday offer cures and vaccines for this disease. Until then, the State of Michigan remains committed to a two-prong approach focused primarily on strong prevention and surveillance activities, and timely response in the event that CWD is ever detected here.

For more information or questions, contact:

Wildlife inquiries:

Rose Lake Wildlife Disease Laboratory
MDNR Wildlife Division
517/373-9358

Producer or veterinarian inquiries:

Dr. Joan Arnoldi, State Veterinarian and MDA Animal Industry Division Director
517/373-1077 or arnoldij@michigan.gov

Dr. Doug Hoort, MDA Cervidae, Aquaculture, Exotic Species Program Manager
517/373-1077 or hoortd@michigan.gov

Media inquiries:

Brad Wurfel, MDNR Press Secretary
517/335-3014 or wurfelbj@michigan.gov

Sara Linsmeier-Wurfel, MDA Public Information Officer
517/241-4282 or linsmeiers@michigan.gov

On the web:

Visit www.michigan.gov/mda; www.michigan.gov/mdnr; or
<http://aphisweb.aphis.usda.gov/vs/nahps//cwg/cwd-program.html>

To report a potential animal disease:

State Veterinarian's Office
Phone: 517/373-1077
Fax: 517/373-6015
After hours/weekends: 517/373-0440

U.S. Department of Agriculture
Animal and Plant Health Inspection Services
Veterinary Services
Phone: 517/324-5290
Fax: 517/324-5289

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