CHRONIC WASTING DISEASE FACT SHEET

Chronic wasting disease (CWD) is a neurological disease in North American Elk, Red Deer, Mule deer, Black-Tailed Deer, White-Tailed Deer, Sika deer, and Moose, collectively known as "cervids." The disease was first recognized in 1967 in captive mule deer in Colorado, and has since been documented in captive and free-ranging deer in 23 states and two Canadian provinces. The disease is similar to bovine spongiform encephalopathy (BSE; "Mad Cow Disease") in cattle, scrapie in sheep, and other prion-based diseases. This disease presents numerous challenges for state wildlife agencies across North America. Of primary concern is the potential for decline within deer, elk, or other susceptible cervid populations. In addition, CWD could impact hunting and hunting-related economies. In Texas, hunting is a $2.2 billion economic engine, supporting many rural towns across the state.

Because eradication is nearly impossible once CWD becomes established in a population, it is imperative that a sound CWD management program is established to reduce the severity of implications resulting from the disease. Of course, disease prevention is the best approach to protect cervid populations and avoid social and economic repercussions. Texas Parks and Wildlife Department (TPWD) and Texas Animal Health Commission (TAHC) are working cooperatively to address risks, develop management strategies, and protect resources from CWD in captive or free-ranging cervid populations.

What is Chronic Wasting Disease (CWD)?

Chronic wasting disease belongs to a family of diseases known as transmissible spongiform encephalopathies (TSE) or prion diseases. Other TSEs include bovine spongiform encephalopathy (BSE) in cattle, scrapie in sheep, feline spongiform encephalopathy (FSE) in cats in Europe, and Creutzfeldt-Jakob disease (CJD) and a new variant (vCJD) in humans. While CWD is similar to BSE ("mad cow disease"), there is no evidence that CWD can be transmitted to people. CWD, which is invariably fatal in cervids, is believed to be transmitted through prions, which are misfolded proteins that attack the nervous system of the host. These prions accumulate in the brain, spinal cord, eyes, spleen, and lymph nodes of infected animals, but are found ubiquitously throughout the animal.

How does it spread?

CWD can spread through natural movements of infected animals, and transportation of live infected animals or carcass parts. There is no known treatment or vaccine for CWD. Deer and other cervids may become infected with CWD by animal-to-animal contact or by animal contact with a contaminated environment. Prions are shed from infected animals in saliva, urine, blood, soft-antler material, feces, or from the decomposition of an infected animal which ultimately contaminates the soil and environment in which deer and other cervids live. Prions shed into the environment can remain capable of infecting other animals for an undetermined number of years. As more deer become infected over time the number of infectious CWD prions in the environment increases. Once CWD prions become established in an area, deer are more likely to become exposed to CWD by coming into contact with prions shed in the environment. Conversely, in areas where CWD is not well established, and where the environment is relatively uncontaminated, animal to animal contact is the most likely source of transmission of CWD to uninfected deer.

There are no known management strategies to mitigate the risk of indirect transmission of CWD once an environment has been contaminated with infectious prions. This makes eradication of CWD almost impossible in areas where CWD may have been established for a long period before initial detection. Removing infected animals from the population early in an outbreak offers some hope of limiting the geographic extent of the disease as well as prevalence within the deer population by reducing direct transmission between animals and limiting the potential for environmental contamination.

Where has it been found?

CWD has been detected in captive and free-ranging deer and elk in 23 states and two Canadian Provinces: Colorado, Wyoming, Saskatchewan, South Dakota, Nebraska, Montana, Wisconsin, New Mexico, Minnesota, Oklahoma, Illinois, Alberta, Utah, New York, West Virginia, Kansas, Michigan, Virginia, Missouri, North Dakota, Maryland, Iowa, Pennsylvania, Ohio, and Texas.

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How can you tell if a deer has CWD?

The disease cannot be diagnosed by symptoms alone since other diseases or conditions can cause the animal to exhibit similar symptoms. Definitive diagnosis is made by post-mortem laboratory testing of distinctive parts of the brain and lymph nodes in the throat. Live animal tests available at this time are not as sensitive and are unreliable in the early stages of the disease. Symptoms of infected animals include emaciation, excessive salivation, lack of muscle coordination, difficulty in swallowing, excessive thirst, and urination. Clinically-ill animals may have an exaggerated wide posture, may stagger and carry the head and ears lowered, and are often found consuming large amounts of water. These symptoms don't occur until the terminal stages of the disease process. It is also important to remember that an infected animal can be shedding infective prions well before symptoms become apparent.

What should I do if I see a deer that shows symptoms of CWD?

Accurately document the location of the animal (record GPS coordinates if possible), take pictures if possible, and immediately contact the nearest TPWD Wildlife Division or Law Enforcement Division office, or call TPWD headquarters in Austin toll-free at (800) 892-1112 and enter 5 for wildlife and 1 for general wildlife information; or contact TAHC toll-free at (800) 550-8242. Do not attempt to touch, disturb, kill or remove the animal.

Is CWD dangerous to humans?

Researchers with the Federal Center for Disease Control and Prevention in Atlanta, Georgia, and along with the Colorado Department of Public Health and Environment, have studied CWD and have found no evidence that CWD poses a serious risk to humans or domestic animals. Years of monitoring in the affected area in Colorado has found no similar disease in people or cattle living there. The World Health Organization (WHO) has likewise advised that there is no current scientific evidence that CWD can infect humans. However, as a precaution, the WHO and the CDC advise that no part of a deer or elk with evidence of CWD should be consumed by people or other animals.

What precautions should hunters take?

Health officials advise hunters not to consume meat from animals known to be, or believed to be, infected with CWD or any other disease. Since it's not always apparent that a deer may be carrying a disease, hunters should take simple precautions such as wearing latex gloves when field dressing carcasses, and washing hands and instruments thoroughly with a 2% chlorine bleach solution after field dressing is complete. Another precautionary recommendation is to bone out meat and avoid the lymphatic and neurological tissue (i.e., lymph nodes, brain, and spine). Also, see TPWD publication *Common Sense Precautions for Handling and Processing Deer* (PWD LF W7000-859) for more information about processing deer. Finally, when taking deer to a game processor, hunters may consider requesting their animals be processed individually, without meat from other animals being added to meat from your animal.

Can I have deer venison tested?

Deer "venison" cannot be tested. However, appropriate tissue samples can be tested from a harvested deer. TPWD biologists will be collecting tissue samples from hunter-harvested deer throughout the state. Test results from TPWD's check station sampling will be conveniently posted on the TPWD CWD website by a unique number within several weeks of collection. In addition, Texas A&M Veterinary Medical Diagnostic Laboratory (TVMDL), http://tvmdl.tamu.edu/, can test tissue samples for CWD at the owner's expense. If you wish to have your harvested animal tested, please DO NOT freeze the head. The tissue sample must be removed soon after harvest. The entire head (it is acceptable to remove the antlers and the top of the skull) may be chilled overnight in a water-tight container and shipped to TVMDL (if a whole head is to be submitted, chill as quickly as possible to keep sample viable). It is advisable to contact the lab (979-845-3414) before you send the sample. Arrangements can also be made through your local veterinarian to collect the correct tissue sample and store it in formalin. Once the sample is stored in formalin, it can be sent by regular post.

What can hunters do?

Hunters should report any suspected cases of CWD to the TPWD or TAHC immediately. Proper disposal of carcasses is strongly recommended for big game harvested in any area identified as a CWD endemic zone, in order to minimize the risk of spreading CWD via infected carcass parts to other areas of the state. Unused carcass parts, especially the brain or spinal tissue, need to be handled responsibly and could be disposed of at the site where the animal was harvested, in a landfill, or buried. Hunters should also support Texas surveillance efforts and should report any suspected movement or importation violations. Finally, hunters should become familiar with information about CWD as well as practical tips they may use in the field to help prevent spread of CWD and minimize any risks associated with the disease.

To learn more:

Texas Animal Health Commission: **www.tahc.state.tx.us**
USDA APHIS VS: **www.aphis.usda.gov**
Chronic Wasting Disease Alliance: **www.cwd-info.org**
Texas Parks and Wildlife Dept.: **www.tpwd.texas.gov/cwd**
Texas Animal Health Commission: **www.tahc.state.tx.us/animal_health/cwd/cwd.html**
USGS National Wildlife Health Center: **www.nwhc.usgs.gov/disease_information/chronic_wasting_disease/index.jsp**
Department of Health & Human Services Center for Disease Control: **www.cdc.gov/prions/cwd/index.html**

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