

# Chronic Wasting Disease Fact Sheet

*Chronic wasting disease (CWD) is a progressive, fatal, neurological disease affecting members of the deer or “cervid” family. Elk, red deer, black-tailed deer, white-tailed deer, sika deer, reindeer and moose are currently known to be naturally susceptible. 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 26 states and 3 Canadian provinces, as well as Norway, Finland and South Korea.*

*Because of the lengthy incubation period, no treatment or vaccination, lack of adequate testing methods, and potential for persistent environmental contamination, this disease presents numerous challenges for wildlife agencies across North America. Of primary concern is the potential for population impacts within deer, elk, or other susceptible cervid herds. Consequently, CWD could impact hunting and hunting-related economies.*

## **What is Chronic Wasting Disease (CWD)?**

Chronic wasting disease belongs to a family of diseases known as transmissible spongiform encephalopathies (TSE). They are believed to be caused by prions, which are misfolded proteins that disrupt the nervous system of the host. These diseases are invariably fatal and there is currently no known cure, treatment or vaccination for them. 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 variant Creutzfeldt-Jakob (vCJD) in humans. While these diseases are similar in the lesions they create in the brain, they differ in the species they infect and their modes of transmission. CWD has a long incubation period and clinical signs may not appear for two to four years after infection. Infectious prions are shed before an animal shows symptoms.

## **How does it spread?**

Prions are shed from secretions of infected animals in saliva, urine, blood, and feces. Prions also accumulate in body tissues, especially nervous tissue like brain and spinal cord, lymph tissue, spleen, eyeball as well as other tissues. Prions are known to persist and remain infectious in the environment for long periods of time. Deer and other cervids may become infected with CWD by direct animal-to-animal contact or indirectly by contact with a contaminated environment. CWD can be spread from one area to another by the natural movement of infected animals or by unnatural, man-assisted movement of either live, infected deer or carcass parts from infected deer.

## **How can you tell if a deer has CWD?**

Symptoms of infected animals include emaciation, excessive salivation, lack of muscle coordination, difficulty in swallowing, excessive thirst, and excessive urination. Subtle behavioral changes like loss of fear of humans or other abnormal behavior are often the first signs noticed. Clinically-ill animals may have an exaggerated wide posture, may stagger and carry the head and ears lowered, dull expression, and have a seemingly shaggy hair coat. These symptoms don't occur until the terminal stages of the disease process. It is also important to remember that an infected animal may be shedding infective prions well before symptoms become apparent. 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. It is important to note that existing tests can only detect the disease after it has reached certain structures in the body and the animal may be shedding prions before diagnosis. There is currently no truly negative test for CWD.

## **Why are we concerned about CWD?**

Population impacts to our deer herds are a major concern. Several state agencies have documented population effects in some herds that have had CWD for a long time and the prevalence or number of animals infected is high. In those herds population declines are occurring as well as shifts in age structure, to younger animals resulting in fewer mature animals. In addition, CWD infected deer in these populations are experiencing higher death losses compared to uninfected deer due to predation, car collision and are more likely to be harvested by hunters. These impacts could affect hunting and hunting related economies in Tennessee. While there is no known evidence that CWD can be transmitted to humans, other TSEs like BSE, have been shown to cross the species barrier to humans. The lack of treatment options, vaccination, reliable diagnostic tests, and the potential for infection from persistent environmental contamination are other concerns.

## **Where has it been found?**

CWD has been detected in captive and free-ranging cervids in 26 states and 3 Canadian provinces as well as Norway, Finland and South Korea. North American locations are in: Colorado, Wyoming, South Dakota, Nebraska, Montana, Wisconsin, New Mexico, Minnesota, Oklahoma, Illinois, Utah, New York, West Virginia, Kansas, Michigan, Virginia, Missouri, North Dakota, Maryland, Iowa, Pennsylvania, Ohio, Mississippi, Tennessee, Texas, Arkansas, Saskatchewan, Alberta and Quebec.

## **Is CWD dangerous to humans?**

Researchers with the Federal Center for Disease Control and Prevention (CDC) in Atlanta, Georgia, 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. 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 strongly advise testing susceptible species harvested in known CWD areas and to not eat meat from CWD positive animals. For more information on their recommendations: [www.cdc.gov/prions/cwd/prevention.html](http://www.cdc.gov/prions/cwd/prevention.html)

## What precautions should hunters take?

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. Instruments should be disinfected with a 2% chlorine bleach solution (3 parts water to 2 parts household bleach) and rinsed with water after field dressing or butchering is complete. Another precautionary recommendation is to avoid sawing through bones and avoid the lymphatic and neurological tissue (i.e., lymph nodes, brain, and spine).

## Can I have deer venison tested?

Deer "venison" cannot be tested. However, appropriate tissue samples can be tested from a harvested deer. The Tennessee Department of Agriculture (TDA) can collect the samples for you. The head should be kept cool, not frozen, until the sample can be collected.

## What can I do?

You should report any suspected deaths or cases of CWD in captive deer to the State Veterinarian's Office (615-837-5120) immediately.

## What should I do if I see a wild 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 TWRA Regional Office (see the map below). Do not attempt to touch, disturb, kill or remove the animal. Early detection of CWD in an area is vital to containing the disease to prevent it from spreading to other areas of the state.

# Tennessee Wildlife Resources Agency Regional Offices and Districts

### Region I Office

200 Lowell Thomas Drive  
Jackson, TN 38301

Phone: 731.423.5725  
Toll Free: 800.372.3928

### Region II Office

5105 Edmondson Pike  
Nashville, TN 37204

Phone: 615.781.6622  
Toll Free: 800.624.7406

### Region III Office

464 Industrial Blvd.  
Crossville, TN 38555

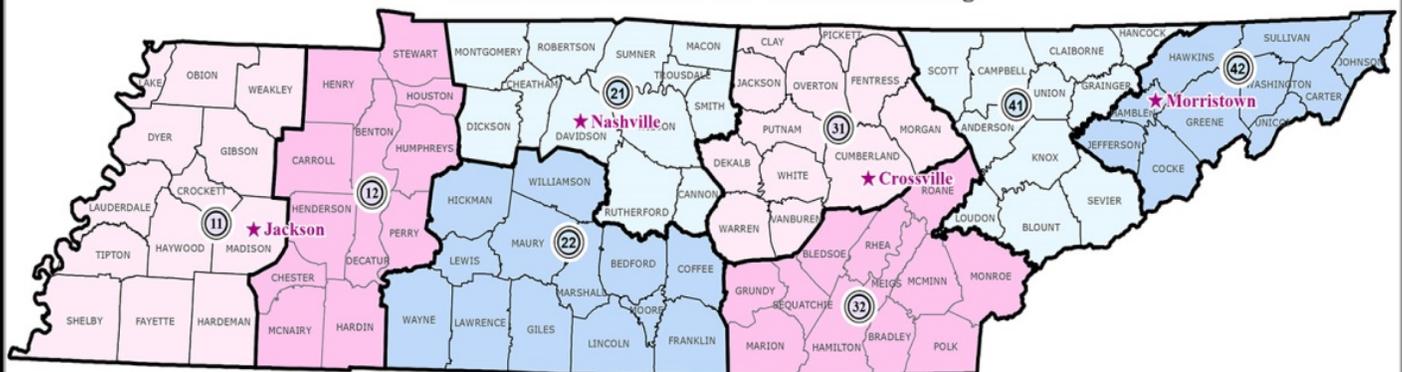
Phone: 931.484.9571  
Toll Free: 833.402.4698

### Region IV Office

3030 Wildlife Way  
Morristown, TN 37814

Phone: 423.587.7037  
Toll Free: 800.332.0900

Visit the TWRA website at: [www.tnwildlife.org](http://www.tnwildlife.org)



### Region I

- TWRA District 11
- TWRA District 12

Law Enforcement Manager: Brian Thompson  
Fisheries Manager: Tim Broadbent  
Wildlife Manager: Jim Hamlington

### Region II

- TWRA District 21
- TWRA District 22

Law Enforcement Manager: Mitch Bailey  
Fisheries Manager: Todd St. John  
Wildlife Manager: Richard Kirk

### Region III

- TWRA District 31
- TWRA District 32

Law Enforcement Manager: C J Jaynes  
Fisheries Manager: Mark Thurman  
Wildlife Manager: Kirk Miles

### Region IV

- TWRA District 41
- TWRA District 42

Law Enforcement Manager: Brian Ripley  
Fisheries Manager: Bart Carter  
Wildlife Manager: John Mike

