



# Chronic Wasting Disease FACT SHEET



## What is Chronic Wasting Disease?

Chronic Wasting Disease (CWD) is a progressive and fatal neurologic disease affecting members of the Cervid family such as deer, elk, moose, and reindeer. CWD is caused by an infectious protein called a prion. The brain of an affected animal will have a microscopic sponge-like appearance, placing this disease in a group known as a transmissible spongiform encephalopathy (TSE). Other diseases such as scrapie in domestic sheep and goats, bovine spongiform encephalopathy (BSE or “mad cow disease”) in cattle, and transmissible mink encephalopathy in farmed mink are all types of TSEs in these domestic or captive-reared animals. Creutzfeldt-Jakob Disease (CJD) is one of several human TSEs that occurs worldwide.

## How is CWD spread?

CWD prions are shed from secretions of infected animals in saliva, blood, feces, and urine. Prions have been found throughout the body of infected deer, particularly in the brain, eyes, spinal cord, spleen, tonsils, and lymph nodes. They are shed before the animals appear sick and are known to remain infectious in the environment for decades where they bind to soil and plants. Prions can spread by animal-to-animal contact or by contact with a contaminated environment. CWD can be spread by the natural movement of infected animals or by humans moving live, infected, captive deer or carcass parts of infected deer.

## Where did CWD originate?

CWD has been known for more than 40 years by its characteristic symptoms first displayed in captive mule deer and may have been present then in free-ranging mule deer. In 1967, Colorado was first to report CWD in a captive mule deer population.

In 1977, it was diagnosed in captive mule deer and black-tailed deer in Wyoming and in captive elk in 1979. In 1981, CWD was diagnosed in a free-ranging elk in Colorado and in 1983 the first hunter harvest survey was conducted there for CWD. As of December 2018, this disease has been found in 26 states and four Canadian provinces as well as Norway, Finland, and South Korea.

Cattle and other domestic livestock may be naturally resistant to infection. CWD could have been derived from alteration of an existing TSE or the CWD prion could have occurred spontaneously. Its origin may never truly be known. Key events in the chronology of CWD can be found at [www.cwd-info.org/timeline/](http://www.cwd-info.org/timeline/).

## How close is CWD to New Jersey?

CWD was discovered in New York in 2005 at two captive deer facilities and in nearby wild white-tailed deer. Since then, surveillance testing by the New York Department of Environmental Conservation has revealed no CWD-positive animals.

Pennsylvania's first discovery of CWD occurred in 2012, where it was detected in a captive deer facility in Adams County. A few months later, the disease was found in free-ranging deer in Blair and Bedford counties. Additional counties have been added with dozens more CWD-positive captive and free-ranging deer identified. When CWD is detected in a new area, the Pennsylvania Game Commission responds by designating a Disease Management Area where special rules apply regarding the hunting and feeding of deer.

CWD was detected for the first time in Maryland from a hunter-harvested deer in 2010. Since then, 27 CWD-positive deer have been documented there. The Maryland Department of Natural Resources has been testing deer for CWD with increasing intensity since 1999, having already tested over 9,500 deer. Sampling is conducted on road-kills and deer brought by hunters to cooperating deer processors. The Maryland Department of Agriculture, Maryland Department of Health and Mental Hygiene, the Southeastern Cooperative Wildlife Disease Study and the U.S. Department of Agriculture are integral partners in Maryland's CWD surveillance plans to assist in monitoring wild deer populations, protecting domestic animals and preserving human health.

West Virginia first detected CWD in 2005. Since 2002, the West Virginia Department of Natural Resources (WVDNR) Wildlife Resources Section—in cooperation with the Southeastern Cooperative Wildlife Disease Study at the University of Georgia and the Minnesota Veterinary Diagnostic Laboratory—has tested 15,504 deer from West Virginia for CWD. As of June 2015, only 183 deer were found positive for CWD. Due to the uncertain ramifications that CWD may have on the white-tailed deer resource in West Virginia, the WVDNR is taking actions to gather more information on the prevalence and distribution of the disease in the area surrounding the known infected deer. This goal will be accomplished by increasing the number of deer tested with the support of other state and federal agencies, deer hunters and local landowners.

Virginia's Department of Game and Inland Fisheries has been testing for CWD since 2002, discovering the disease in 2009. During the first few years of Virginia's CWD outbreak, infected deer were found close to the West Virginia state line. In 2013 and 2014, infected deer were found several miles southeast of the established cluster. Since then the disease has spread along the Virginia-West Virginia state line. Approximately 12,000 deer have been tested with 38 positive cases documented between 2009 and 2018. None of the CWD-positive hunter-harvested deer in Virginia exhibited clinical signs of CWD.

## Is CWD in New Jersey?

As of August 2018, a total of 7,490 deer (7,332 wild white-tailed deer, 143 captive white-tailed deer, and 15 captive exotic cervid species) have been tested for CWD in New Jersey since recorded surveillance began in 1997. ***All samples to date have been negative for CWD.*** For more information on New Jersey's CWD surveys, see the survey updates at [www.NJFishandWildlife.com/cwdinfo.htm](http://www.NJFishandWildlife.com/cwdinfo.htm).

## Where is CWD?

Information on the current distribution of CWD in North America can be found here: [www.cwd-info.org/index.php/fuseaction/about.map](http://www.cwd-info.org/index.php/fuseaction/about.map)

## Can humans get CWD?

**No cases of human disease have been linked to CWD in deer.** It's important to remember that animals from known CWD regions in the Western United States have been in the human food chain for decades without a known case of related human illness. In Colorado, no cases of CWD or Creutzfeldt-Jakob Disease have been found in people or cattle living in the CWD-infected area despite more than 20 years of monitoring.

Epidemiologists with the Center for Disease Control and Prevention (CDC) have conducted extensive studies into the potential for human risk from CWD. No association has been identified between human neurological disease and CWD. Conclusion: there is no evidence that CWD is linked to disease in humans.

Nevertheless, based on recommendations from the CDC and the World Health Organization, the best advice is to act with common sense. Do not eat meat from any apparently sick deer, elk, or any animal found dead or known to be positive for CWD. Also, as a precaution in areas where CWD has been identified, hunters are advised not to eat tissues known to harbor CWD prions (lymph nodes, tonsils, spleen, pancreas, brain, and spinal cord) and to “bone out” the meat before transporting. Hunters should be aware of—and comply with—each state’s mandatory sampling requirements, bag limits, and seasons along with carcass movement restrictions before hunting outside of New Jersey.

## What do CWD infected animals look like?

Although the clinical signs are not unique to this disease, loss of body weight, even as the deer or elk continues to eat, is typical. The animals may walk in the same short path repeatedly. They may be slightly unsteady, standing with legs separated wider than normal and may show a subtle head tremor. Symptomatic animals may be found near streams or ponds due to excessive thirst. At times they may appear sleepy, unresponsive, or may carry their head down with ears lowered. Increased salivation, drinking, and urination may also occur. Usually months to years pass from when the animal is infected to when it shows these signs which have not been observed in deer younger than 17 months. Once the signs develop, they usually last for months. Occasionally, death occurs within a few days.

## **How does the New Jersey Division of Fish and Wildlife test for CWD?**

Currently, post mortem examination and sampling of retropharyngeal lymph nodes (in back of the throat) is the most reliable way to diagnose CWD in white-tailed deer. There is no live test available for CWD. Microscopic brain examination of deer that died from CWD reveals the typical sponge-like changes. Special chemical stains applied to specific animal tissues will reveal the presence of CWD prions in infected deer. Prion-specific stains also have been used to detect the CWD prion in biopsy samples of tonsils and rectal mucosa from live deer and elk, but these tests require anesthetizing the animal and lack the sensitivity that a lethal sample provides.

New Jersey tests a random sampling of hunter-harvested deer every year, along with testing any suspect symptomatic wild or captive deer plus all illegally imported captive deer of unknown origin or from CWD-endemic states.

## **Can CWD be eliminated?**

Unfortunately, once CWD has become established in a deer population elimination of CWD is unlikely. Prions are extremely resistant to normal disinfection procedures that kill most infectious microbes like bacteria or viruses. Prions can remain infectious for years in the environment. Management of affected deer populations would focus on preventing or minimizing spread of the prion to reduce the impacts of CWD.

## **How can CWD be prevented or controlled?**

Preventing CWD from entering New Jersey is the Fish and Wildlife's primary focus. The most appropriate strategies include surveillance for the prion in deer, limiting movement of captive or infected animals, and euthanizing known infected captive herds. In June 2012, the U.S. Department of Agriculture announced an interim final rule to establish a national CWD herd certification program for use in declaring a captive herd free of CWD. Unfortunately, the criteria used to confer "CWD-free" status on a herd—five-years with zero detection of CWD-positive animals—has proven to be impractical, as the incubation period for CWD can be very long. Many "CWD-free" certified herds have been found later to have the disease.

New Jersey has banned the importation of live cervids since 2002. Active surveillance, through sampling hunter-killed deer, and passive surveillance, through submissions of sick deer to Fish and Wildlife's Office of Fish and Wildlife Health and Forensics, are essential to monitor the CWD threat to New Jersey.

## **How can the public help?**

- **DO NOT** import any live deer into New Jersey.
- Immediately report any deer displaying symptoms of CWD (accurately document the location of the animal, record GPS coordinates if possible, take pictures if possible) either to Fish and Wildlife's Office of Fish and Wildlife Health and Forensics at (908) 637-4173 x120, a regional Division Law Office, a Division Deer Biologist. One of the most important ways of stopping the spread of CWD is early detection, so your reports of potentially sick deer are critically important to NJ's disease monitoring efforts!

## How can hunters help?

When deer hunting in New Jersey, deer hunters are asked to shoot sick deer or those behaving abnormally. Note the animal's location, preferably as a GPS waypoint, and report it immediately either to Fish and Wildlife's Office of Fish and Wildlife Health and Forensics at (908) 637-4173 x120, a regional Division Law Office, a Division Deer Biologist or on [www.NJFishandWildlife.com/contact.htm](http://www.NJFishandWildlife.com/contact.htm). Hunters can support our surveillance efforts by donating the head of their deer when requested by a Fish and Wildlife biologist or through game butcher shops.

New Jersey residents returning from hunting in states where CWD is known in deer, moose or elk populations must follow the rules of those states such as boning out the meat while being sure to leave behind the brain, spinal cord and lymph nodes which may harbor infectious prions. The following deer parts are safe to bring back to New Jersey:

- Cut and wrapped meat (either commercially or privately)
- Quarters or other meat portions to which no part of the spinal column is attached
- Deboned meat
- Hides with no head attached
- Finished taxidermy heads
- Antlers with no attached tissue
- Clean skull plates with no attached lymphoid or brain tissue
- Clean skulls with no attached lymphoid or brain tissue
- Upper canine teeth (also known as buglers, whistlers or ivories)

Skull plates, antlers or skulls from which residual brain tissue has been removed should be soaked in a 30 percent Clorox solution for 15 minutes to destroy the prions. A deer carcass with meat removed must be bagged and disposed of in the trash rather than discarded in the field where deer may have contact with the remains.

Hunters should also be aware of New Jersey's [Urine-Based Deer Lures Advisory](#). Fish and Wildlife recommends the use of synthetic, non-urine-based scents or lures for deer hunting. Refrain from using urine and scents as lures if they are derived from live deer, as CWD can be spread with these products. Many, if not all, of these scents and lures are derived from captive deer where the risk of CWD is greatest. Some states and provinces already prohibit the use of natural scents and lures; you must abide by those regulations. Even where not mandated, it is important that you take measures to reduce or eliminate the spread of these materials in the environment.

## How can captive deer owners help?

DO NOT import live deer into New Jersey. When exporting live deer, first check with the destination state's regulations. If a captive deer, elk, or other member of the deer family in your possession dies of natural causes—especially one that is skinny at death—keep the head cool (not frozen) and immediately notify Fish and Wildlife at (908) 637-4173 x120 to make arrangements for CWD testing.

## How can game butchers and taxidermists help?

Use designated food waste dumpsters for disposal of animal waste materials, a particularly important step for facilities that receive deer or elk from any state or province listed as having CWD in wild and/or captive deer. Proper disposal will eliminate exposure to contaminated waste, including salty remnants created in taxidermy processes that may attract live deer. Cooperation with taxidermists and game butchers is vital for providing deer samples for the State’s CWD surveillance program. Age and sex of the animal is linked to CWD, with older males being most likely to be infected. With this, taxidermists can be very helpful in providing the most valuable samples to examine for CWD surveillance in the state. The NJ Division of Fish and Wildlife has started a program cooperating with taxidermists to test older male deer for CWD. Please contact the Office of Fish & Wildlife Health at (908) 637-4173 x120 if you are a taxidermist that would like to participate in this program.

## Important Phone Numbers:

Northern Region Law Enforcement Office (Bergen, Essex, Hudson, Hunterdon, Morris, Passaic, Somerset, Union, and Warren Counties).....(908) 735-8240  
Central Region Law Enforcement Office (Burlington, Mercer, Middlesex, Monmouth, and Ocean Counties).....(609) 259-2120  
Southern Region Law Enforcement Office (Atlantic, Camden, Cape May, Cumberland, Gloucester, and Salem Counties)..... (856) 629-0555  
Office of Fish and Wildlife Health and Forensics..... (908) 637-4173 x 120  
Northern/Central Region Deer Biologist..... (609) 259-6965  
Southern Region Deer Biologist..... (609) 748-2044

## Where can I learn more?

### Links for chronic wasting disease, its management and related diseases:

[www.cwd-info.org/](http://www.cwd-info.org/) Information on CWD and links to state-specific information and regulations

[www.cdc.gov/prions/cwd/index.html](http://www.cdc.gov/prions/cwd/index.html) Centers for Disease Control and Prevention

[www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/sa\\_alternate\\_livestock/sa\\_cervid\\_health/sa\\_cwd/ct\\_cwd\\_index](http://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/sa_alternate_livestock/sa_cervid_health/sa_cwd/ct_cwd_index) U.S. Department of Agriculture – Animal and Plant Health Inspection Service

<http://cpw.state.co.us/learn/Pages/ResearchCWD.aspx> Colorado Parks and Wildlife

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