

# Chronic Wasting Disease in Colorado



## What is CWD?

Chronic wasting disease (CWD) is a fatal neurological disease found in species of the deer family (“cervids”). It belongs to a family of diseases caused by prions (abnormally shaped proteins). This particular prion attacks the brains of infected deer, elk and moose, causing the animals to display abnormal behavior, become uncoordinated and emaciated, and eventually die.

## How do animals get CWD?

For reasons that are not known, prions are misshapen and able to propagate in a susceptible animal's immune and nervous system. The prion can be transmitted by social contact among animals, but it can also be picked up in the soil. There is no known cure.

## What wildlife species are affected by CWD?

All four of the species of the deer family in Colorado are known to be naturally susceptible to CWD: elk, mule deer, white-tailed deer and moose. Natural susceptibility appears to be limited to species that are members of the deer family (cervids) and not pronghorn, bighorn sheep and mountain goat.

## Can CWD be transferred to other species?

The disease occurs in cervids – deer, elk, moose and their close relatives. It is not known to be transmitted naturally to other species outside the “deer family.”

## What are the concerns to herd health?

CWD shortens the lifespan of infected animals. As the number of infected animals increases, mortality will increase and the size of the population will decrease. Because deer can move great distances, the disease can be spread unpredictably.

## Does Colorado have CWD?

Yes. CWD has been found in deer, elk and moose herds in various locations in Colorado. About half of Colorado's deer herds

and one-third of its elk herds have animals within the herd that are known to be infected with CWD.

Updated maps of CWD prevalence in Colorado are available at [cpw.state.co.us/CWD](http://cpw.state.co.us/CWD). CPW's [Big Game Brochure](#) lists GMUs that will require mandatory submission of CWD test samples (heads) from all buck deer harvested during rifle seasons.

## Is there a risk to humans?

Disease in humans resulting from CWD exposure has not been reported to date. However, there may be a small risk from eating meat from infected animals. Consequently, public health officials recommend that people avoid exposure to CWD-infected animals. Please see the Colorado Department of Public Health and Environment website ([www.colorado.gov/pacific/cdphe/prion-diseases](http://www.colorado.gov/pacific/cdphe/prion-diseases)) for the most current recommendations on carcass testing and other preventive measures.

## What CWD precautions and preventative measures should hunters take?

To minimize exposure to CWD and other diseases of potential concern, Colorado Parks and Wildlife and state public health officials advise hunters not to shoot, handle or consume any deer, elk or moose that is acting abnormally or appears to be sick. When field-dressing game, wear rubber gloves and minimize the use of a bone saw to cut through the brain or spinal cord (backbone). Minimize contact with brain or spinal cord tissues, eyes, spleen or lymph nodes. Always wash hands and utensils thoroughly after dressing and processing game meat. More information can be found [here on the CPW website](#). A practical CWD video designed for hunters who want to learn and see more can be found here: [CWD video](#).



Mule Deer herd

WAYNE D. LEWIS/CPW



Whitetail deer yearlings

WAYNE D. LEWIS/CPW

**If I see a deer while I'm hunting that appears to be sick, what should I do?**

Note the location as specifically as possible and call the closest [CPW office](#) as soon as possible. Do not shoot the animal.

**If I see a deer in my yard or town that appears to be sick, what should I do?**

Call the nearest [CPW office](#) and provide a location.

**Why should people be concerned about CWD?**

CWD poses a significant threat to the future health and vitality of captive and free-ranging mule deer, white-tailed deer, elk and moose populations throughout 26 states and provinces in North America. A growing body of evidence suggests that unchecked CWD epidemics can impair the long-term performance of affected populations. The disease shortens the lifespan of infected animals. As a larger proportion of the population becomes infected, older age classes suffer high rates of mortality, and the average age declines. If CWD infection rates are high enough, the population may not be able to sustain itself.

CWD poses serious problems for wildlife management, and the

implications for free-ranging deer and elk are significant. Recent studies have shown local declines in deer abundance associated with CWD epidemics, and computer modeling suggests that CWD could substantially reduce deer, elk or moose populations by lowering adult survival rates. Where it occurs, CWD may alter the management of wild deer, elk and moose populations. For example, management recommendations in other states have sharply reduced the density of deer in areas with high CWD infection rates to slow the spread of the disease.

**Why do we want to prevent CWD prevalence rates from increasing in Colorado?**

As CWD prevalence rates increase within a specific herd, the likelihood of animals in that herd becoming infected also increases. Older animals have a higher potential for exposure to CWD — particularly for mule deer bucks — and as more of them die from the disease relative to younger animals, the average age of the herd decreases. A proportion of younger animals will also become infected and die at an early age. Animals will begin to die from the disease two years after infection. Considering this information, it is best to prevent high prevalence rates from occurring in a herd.

## Mandatory CWD Testing

**Why does CPW choose certain Game Management Units (GMUs) for mandatory CWD testing? What is the objective?**

Voluntary submissions of hunter-harvested deer, elk and moose for CWD testing have been low and limit CPW's ability to determine infection rates of CWD. As a result, it was necessary for CPW to begin mandatory harvest submissions of mule deer from select Game Management Units to increase the number of samples submitted for testing. The objective is to improve CPW's knowledge of CWD infection rates, which may influence harvest management as well as herd management decisions. More information on mandatory testing and its alignment with the [Colorado Chronic Wasting Disease Response Plan](#) is available on the [CPW website](#). Mandatory CWD testing has been authorized under the CPW Director's authority in accordance with CPW regulation Chapter W-02.209.F. Mandatory testing occurs periodically in select units, whereas voluntary submissions are accepted annually statewide.

**Why is testing for CWD important?**

The proportion of animals in the population that are infected (prevalence rate) is needed to inform wildlife management. Our ability to understand prevalence rates relies on biological samples collected from a large number of animals in a herd.

**What GMUs are included in the mandatory sampling effort? Are all hunters licensed for the selected GMUs required to participate in the mandatory sample?**

Hunters who harvest in mandatory units are required to submit their deer head or have a CWD sample taken. Visit the CWD Testing & Submission Information page for current GMUs included in mandatory sampling. Hunters are advised to check their hunt codes closely to see if their hunt falls within one of these units.

**I've eaten a lot of deer meat in the past, should I be worried?**

Disease in humans resulting from CWD exposure has not been reported to date. However, there may be a small risk from eating meat from infected animals. Consequently, public health officials recommend that people avoid exposure to CWD-infected animals.

Please see the [Colorado Department of Public Health and Environment website](#) for the most current recommendations on carcass testing and other preventive measures.

To minimize exposure to CWD and other diseases of potential concern, CPW and state public health officials advise hunters not to shoot, handle or consume any deer, elk or moose that is acting abnormally or appears to be sick. When field-dressing game, wear rubber gloves and minimize the use of a bone saw to cut through the brain or spinal cord (backbone). Minimize contact with brain or spinal cord tissues, eyes, spleen, or lymph nodes. Always wash hands and utensils thoroughly after dressing and processing game meat.

**Is it true that CWD is more common in bucks than does?**

In Colorado, yes. CWD studies have shown that prevalence rates for adult bucks are approximately double the prevalence rates found for the adult does of the same population. In addition, older bucks are more likely to have CWD than younger bucks. Thus, a commonly recommended management practice for reducing CWD prevalence rate is to reduce the buck-to-doe ratio and the average age of bucks.

**Why does CPW mainly track and report infection rates (prevalence) for deer bucks? And why are both sexes combined for elk?**

CWD infection rates tend to be higher among deer than among elk living in the same area, so tracking trends in deer have been



CPW's priority. For both mule deer and white-tailed deer, bucks are infected with CWD at about twice the rate found in does harvested in the same herd. In addition, in recent years far more bucks than does are harvested statewide. Reporting only infection rates in does or combining data from both sexes might be viewed as an attempt to mislead hunters about infection rates in an area. CPW reports infection rates for bucks, but doe hunters can divide the rate in bucks by two to estimate the local infection rates for does harvested in the same geographic area. For elk, both sexes are infected at about the same rate so the data can be combined without concerns about underreporting infection rates.

### **Why isn't CPW including elk or moose in the mandatory CWD testing?**

Infection rates are higher in deer than in elk and moose; therefore, the initial focus is on deer. CWD is more likely to cause a population impact in deer because prevalence is generally higher than in elk and moose, making testing a higher priority for deer than elk and moose.

### **How and when will hunters be informed that they are selected for mandatory CWD testing?**

[CPW's Big Game Brochure](#) identifies those units and hunt codes included for mandatory testing. If you buy a license in that hunt code, you're included.

### **I was selected for mandatory CWD testing. Where do I need to bring my sample? What part of my deer do I need to bring? What else do I need to bring with me?**

Anyone who is selected for mandatory CWD testing is required to bring the requested sample (head) of their harvested deer to a CPW Area or Regional Wildlife Office for testing. A list of office locations can be found [here](#). According to CPW regulation Chapter W-02.209.F, it is unlawful to fail to submit CWD samples if you are selected for mandatory CWD testing.

### **What to bring to the CPW submission site:**

1. **Hunting License.** You must bring your hunting license so CPW can obtain the information on your license. If someone else submits your deer head, they must bring a copy of your hunting license or Customer Identification (CID) number, but the carcass tag that came with your license should remain with the carcass.
2. **Location of Harvest** (GPS coordinates or map location). You will be asked for the GMU, date of harvest and the geographic coordinates (Lat/Long or UTM) of where you harvested your deer. If coordinates are not available, you will be asked to show where the deer was harvested on a map at the submission site.
3. **CWD Sample.** Please bring only the head of your deer to the submission site as soon as possible, preferably within five days of harvest. When removing the head, leave two to four inches of the neck below the lower jawbone and base of the skull. Whole brains or pieces of brain are not accepted for testing. Please wrap the exposed area with cheese cloth or similar material to prevent tissues from falling out of the skull. Keep the head cool, dry, and avoid freezing if possible. Antlers and capes from harvested deer may be removed by hunters before submitting heads for sampling. CPW will not remove antlers or capes for hunters. CPW suggests that hunters planning shoulder-mount taxidermy should take their animal to the taxidermist before submitting the head for CWD testing. Hunters planning European-mount taxidermy should bring the head to the CPW submission site before the taxidermist and plan to leave the head until a sample can be taken. You may have to wait up to a day to get your head back. Hunters planning taxidermy or mounting should notify CPW personnel at the submission site.



WAYNE LEWIS/CPW



**How soon after harvest do I need to submit my CWD sample for testing?**

It is recommended that the head of the harvested animal is submitted for testing as soon as possible. We highly recommend bringing the head to a CPW Area or Regional Wildlife Office submission site within five days of harvest. If possible, keep the head cool, dry, and prevent it from freezing until you are able to submit the sample.

**Is there a maximum number of days after harvest an animal can still be tested?**

Tests can be conducted many months after an animal is harvested, but to get the best and most timely results hunters should have heads tested as soon as possible after harvest.

**Does the mandatory CWD test cost the hunter anything?**

No. Hunters selected for mandatory CWD testing will not have to pay for the test.

**If I was not selected for mandatory CWD testing, do I need to pay to test my animal for CWD?**

Yes. The service is still available for hunters that wish to test their animal for CWD. Hunters not selected at random for free mandatory CWD testing that wish to have their animal tested will have to pay the subsidized rate of \$25 for the test. The cost of processing and testing each sample for CWD is approximately \$75, but CPW is only charging hunters \$25 to test their animal.

**If I was not selected for mandatory CWD testing, can I volunteer my deer for the sake of science?**

Yes, you can, but if you were not selected to receive a free CWD test as part of the mandatory sample, you will need to pay \$25 for CWD testing. If you submit your deer head for CWD testing, you will be able to access your CWD test results from the [CPW website](#).

**Can I take and submit my own CWD tissue sample?**

The collection of the correct tissues for CWD testing requires special training. CPW recommends bringing your deer head to a submission site or to a licensed veterinarian trained to collect the tissue samples needed for testing. If a veterinarian is used, you still need to bring the sample to a CPW submission site.

**How long will it take to receive the test results?**

Test results will take a minimum of two weeks and on average three weeks before they are available. During late seasons and times of high volume sample collection, CPW anticipates that test results may take longer than three weeks.

**What should I do with the meat while waiting for the CWD test results to come back?**

CPW recommends that hunters not eat the meat of an animal that tests positive for CWD. Hunters should process their deer as they normally would while waiting for the CWD test results. If using commercial processing, request that your carcass is processed and packaged separately. Marking packaged meat to clearly identify what animal it represents will aid in distinguishing meat from a CWD-positive animal if the test results are positive.

**What happens if my deer is CWD positive? Am I eligible for a new tag or a refund?**

CPW does not offer a replacement license or refund license fees to hunters that harvest a CWD-positive animal. CPW will reimburse some of the costs incurred from processing CWD-positive animals. Visit the [CWD Testing & Submission Information page](#) for up-to-date information regarding CWD policies for positive test results.



WAYNE LEWIS/CPW

## CWD Management

**What is Colorado doing to manage CWD?**

CPW's [Chronic Wasting Disease Response Plan](#) outlines how CPW is working to reduce the spread of the disease through hunting and strategic management practices. Since it is unlikely that CWD can be eradicated, the overall goal is to prevent CWD from increasing in prevalence or spreading. The primary management approach will use hunter harvest because public hunters are CPW's best tool to remove infected animals and prevent the spread of CWD. Management actions have previously been taken to reduce CWD prevalence, and the effectiveness has varied.

**What are the chances that my deer has CWD?**

CPW suggests looking at a recent CWD prevalence map to learn what the infection rate was estimated to be for the area of the state where you hunted your deer. [CPW will be uploading the latest maps for deer and elk here](#). Higher prevalence means that there is a higher chance your harvested deer is infected with CWD. For example, less than 1 percent prevalence means that fewer than one in 100 animals submitted for testing from that area has tested CWD-positive. In contrast, 5 to 10 percent prevalence means that one out of every 10 to 20 animals submitted has tested positive. Generally speaking, older deer are more likely to have CWD than younger deer, and adult bucks

are more likely to have CWD than adult does. Information collected from mandatory and voluntary sample submissions will allow CPW to update its prevalence maps and provide you and your fellow hunters with more current information about CWD in Colorado's deer herds.

#### **If my deer has CWD, what do I do with the meat and carcass?**

In the case that a harvested deer tests positive for CWD, the hunter should carefully discard the animal. CPW recommends that all parts of a CWD infected animal, including processed meat, be contained in two heavy duty plastic garbage bags and put out with the weekly trash or brought to the local landfill. Each plastic garbage bag should be independently tied. CPW will accept donations of unprocessed or processed meat that is infected with CWD for research purposes at the CWD submission sites in Fort Collins, Denver and Craig. Processed meat must not contain spices of any kind to be eligible for a donation.

#### **What can I do to minimize any potential exposure?**

To minimize exposure to CWD and other diseases of potential concern, CPW and state public health officials advise hunters not to shoot, handle or consume any deer, elk or moose that is acting abnormally or appears to be sick. When field-dressing game, wear rubber gloves and minimize the use of a bone saw to cut through the brain or spinal cord (backbone). Minimize contact with brain or spinal cord tissues, eyes, spleen, or lymph nodes. Always wash hands and utensils thoroughly after dressing and processing game meat. Hunters should note that many of the infected deer, elk and moose that are harvested in Colorado appear to be healthy, so submitting samples for lab testing even if the animal appears "normal" will further minimize the potential for exposure. Hunters can refer to maps posted on CPW's website for information on where CWD has been detected and on estimated infection rates.

To submit a head for testing, cut it off about 6 inches below the base of the skull. Minimize cutting into and handling of brain and spinal tissue. If possible bone out the meat. Do not consume brain, spinal cord, eyes, spleen, tonsils, pancreas and lymph nodes of harvested animals. Normal field dressing, coupled with boning out a carcass, will remove most of these body parts. Cutting away all fatty tissue will remove most remaining lymph nodes. Clean all knives and saws thoroughly; disinfect any cutting surfaces with bleach.

#### **How will I learn about the test results?**

As soon as results are known, they will be available on the CPW website ([cpw.state.co.us/CWD-Test](http://cpw.state.co.us/CWD-Test)). Remember to save your CWD head tag number, which is needed to look up your results.

#### **Are any changes needed to the disease management system or submission process?**

Submitted animals are screened based on national protocols for CWD testing. It's likely more animals will be brought in for testing, so CPW will need to evaluate systems to handle a larger volume of animals.

#### **Has CPW increased harvest in any areas of the state? And if so what are the results?**

Starting in 2008, we recognized that the rate of CWD infection for mule deer on Fort Carson might exceed 10 percent. In 2011, we increased buck licenses (from 15 to 50) on the installation in an effort to control the disease and reduce prevalence. Fort Carson also instituted mandatory sampling so we could better track changes in

prevalence rates. The CWD rate for mule deer bucks harvested in 2011 was 31 percent. Based on these results, we increased license numbers in 2012 and have continued a high level of harvest since that point. Prevalence rates appear to have dropped in GMU 591 but the results are still preliminary.

#### **What is Colorado Parks and Wildlife proposing for management?**

CPW's [Chronic Wasting Disease Response Plan](#) includes a 15-year monitoring program, a prevalence threshold for compulsory management, and a suite of management actions available to managers to reduce prevalence or maintain prevalence at low levels.

#### **What is CPW's objective for managing future prevalence levels?**

CPW's objective is to reduce the prevalence of the disease to levels that should minimize its long-term impacts on herd health. Once prevalence is low, the objective is to keep it low.

#### **What happens if we do nothing?**

Doing nothing would be a disservice to the people of Colorado and to the wildlife resource. If we do nothing, and prevalence rates increase to high levels, there will be widespread population impacts. CPW is a science-based agency that is charged with ensuring that Colorado's wildlife populations are managed sustainably. We accomplish that through research and management practices.



Bull Elk

TONY GUNZICK/CPW

### **ADDITIONAL INFORMATION (CWD)**

#### **Where can I learn more about CWD?**

Here is a link to a research paper written by Dr. Miller in 2016

[http://cpw.state.co.us/Documents/Research/CWD/Miller-Fischer\\_CWDlessons.pdf](http://cpw.state.co.us/Documents/Research/CWD/Miller-Fischer_CWDlessons.pdf)

#### **CPW suggests visiting the following websites:**

CPW's CWD webpage: [cpw.state.co.us/CWD](http://cpw.state.co.us/CWD)

The Colorado Department of Public Health and Environment website: [www.colorado.gov/pacific/cdphe/prion-diseases](http://www.colorado.gov/pacific/cdphe/prion-diseases)

CWD Alliance webpage: [cwg-info.org](http://cwg-info.org)