



Chronic Wasting Disease Management in Illinois:

Fact or Fiction?



State of Illinois

Illinois Department of Natural Resources

Division of Wildlife Resources

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CWD and its history in Illinois

Chronic wasting disease (CWD) is a disease of the nervous system that affects deer, elk, and moose. Caused by a prion, or abnormal protein, CWD causes degeneration of the nervous system. As the disease progresses, the animal begins to display abnormal behavior, weight loss, and loss of control of normal bodily functions. There is no treatment or cure; CWD is always fatal. Although deer may show no visible signs of illness for a year or more after infection, health typically declines rapidly once symptoms become noticeable, with death occurring within weeks to a few months later. CWD is contagious, with infection passed between animals and also from contaminated environments.

CWD was first found near Roscoe in northern Illinois in the fall of 2002. Since that time, more than 50,000 deer have been tested in order to accurately identify where the disease occurs and how severe it is. CWD has been found in seven Illinois counties (Stephenson, Winnebago, Boone, McHenry, Ogle, DeKalb, and LaSalle), but the most severely infected areas occur along the line between Winnebago and Boone counties.

The Illinois Department of Natural Resources has used hunter harvest supplemented by trained agency sharpshooters to reduce deer populations in CWD areas in an attempt to eliminate the disease and to keep it from spreading to other parts of the state. While reaction to our program has been overwhelmingly positive from both hunters and the general public, opponents tend to be vocal, aggressive, and willing to spread misinformation.

In this pamphlet, we examine commonly-heard arguments against CWD management, and provide facts about CWD and the Illinois management program so that Illinoisans can make informed decisions.

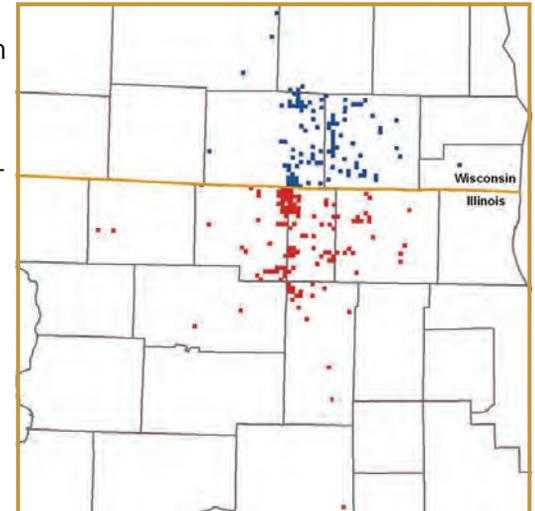


Testing of “suspect” animals resulted in identification of the first Illinois case of CWD.

You may have heard this about CWD and its management, but...

“CWD has always been here, and IDNR only found it recently because they began looking for it.”

The distribution of CWD cases in Illinois says otherwise, with a central core of high disease prevalence east of Roscoe, IL that becomes progressively more diffuse as distance from the core increases. This disease pattern is typical of a recently-established, emerging disease, and NOT of a disease which over the long term has had the opportunity to spread and become entrenched throughout the deer range. After sampling more than 50,000 deer from throughout Illinois, CWD has only been found in the northern Illinois outbreak area.



CWD cases are most concentrated in the area where disease was first found, and decrease as you move away from the “core.”

You may have heard this about CWD and its management, but...

“CWD is a low-level disease – it doesn’t affect many animals, so it doesn’t impact the population. We never see any sick deer.”

Prior to the turn of this century, CWD was viewed by many as a quaint, interesting disease that didn’t seem all that significant. It was found only in very limited areas in the wild, hadn’t been observed to affect a high proportion of the population, and likely had very limited effects on wild populations. However, our knowledge about CWD has since increased dramatically. We now know that the disease has the potential for extensive spread; that prevalence rates in wild cervid populations can reach remarkable levels; and that some wild deer populations have undergone long-term declines in the face of high levels of CWD. Some portions of Wyoming and Colorado, where CWD prevalence rates were formerly “single digits”, now have prevalence rates in the range of 30% - 45%. While we can only imagine how Illinois would look under those conditions, it wouldn’t be pretty.



Chronically ill deer often seek shelter around houses and subdivisions, particularly during winter.

Even with the current low rate of disease, our biologists and law enforcement officers regularly receive calls about sick deer, because chronically ill deer often seek shelter around houses and subdivisions, particularly during winter. Without management, the disease will get much worse.

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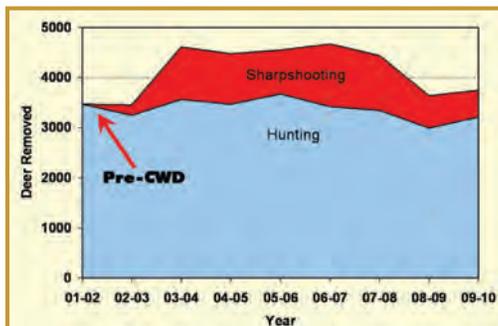
“Even if there was cause to be concerned about CWD, you should just let the hunters take care of it. Give us the opportunity, and we’ll lower the population to where it needs to be.”

Experience in Illinois and in other states has demonstrated that while hunters are our most valuable asset when it comes to deer population control and disease surveillance, there are limitations to the effectiveness of using hunters as *the only tool* for controlling CWD. To date, no state has been successful when taking this approach, even though extra seasons, longer seasons, no limit on hunter harvest, “earn a buck” regulations, and even rewards have been employed. Reasons for this lack of success vary, but the most likely reasons include: (1) hunters want to harvest only a limited number of deer, as they only have so much room in the freezer; (2) hunters have limitations on the amount of time they can spend hunting; (3) hunters prefer to hunt in areas where deer densities are high, so they discontinue hunting areas with low densities, even though disease management may require continued harvest to reach even lower levels; (4) hunter access is limited, particularly in urbanized areas, so human safety concerns and posting of land for other reasons result in significant deer refuges from hunting; and (5) hunters are more likely to avoid diseased areas than to flock to them, so it is difficult to focus hunter harvest in the specific locales where it is most needed.



Hunter harvest data is invaluable for providing disease surveillance information throughout counties.

In Illinois, hunter harvest in our primary CWD counties (Winnebago, Boone, McHenry, and DeKalb) has been a virtual flat line since the discovery of CWD, in spite of unlimited permits and additional days of gun hunting. Although hunter harvest is an important part of our disease management program, hunters tend to distribute themselves throughout available deer habitat based upon their ability to gain access, with preference for higher quality habitat, higher numbers of deer, and lower competition from other hunters. As a result, hunter harvest data is invaluable for providing disease surveillance information throughout counties, and hunter harvest is useful for broad-scale control of county deer populations, but has not been intensive enough at the local level to effectively combat a disease epidemic. For these reasons, Illinois DNR supplements hunter harvest with localized agency sharpshooting to allow a focused removal of deer from areas in which CWD is known to occur. Addressing disease control in this fashion at the local level actually allows us to more effectively fight CWD without drastically reducing deer populations throughout the entire county, as would be the case if we were forced to use hunting as the only tool for disease control.



Hunter harvest in our four primary CWD counties has been a virtual flat line since the discovery of CWD, in spite of unlimited permits and additional days of gun hunting.

You may have heard this about CWD and its management, but...

“IDNR sharpshooters are just shooting the deer and leaving the carcasses in the fields. It’s a waste of a valuable resource.”

All deer taken by IDNR sharpshooters are removed from the property where they were shot, and transported to one of IDNR’s CWD Field Laboratories. Here they are field dressed, samples of lymph nodes and brain tissue are removed for CWD testing, and additional tissue is collected for various research studies. For each deer, biologists record the age, sex, date, the exact location where taken, and any observations about the deer that might be out of the ordinary. All deer that appear healthy are then taken to a meat processing facility for processing and packaging. Once test results are available for the processed deer, meat from deer that test



positive is removed and disposed of at a commercial incinerator. All meat from deer that test negative for CWD is given to the Northern Illinois Food Bank, which distributes the venison to local food pantries. In 2009, this resulted in more than 30,000 lbs of venison donated to charities.

At the lab, biologists collect samples for CWD testing and other research, and record information about each deer. In 2009, more than 30,000 lbs of venison was distributed to local food pantries.



You may have heard this about CWD and its management, but...

“It’s a known fact that you can’t control CWD by shooting deer — look at other parts of the country. Sharpshooting doesn’t work.”

No other state or province has tried a sharpshooting program to control CWD that is as intensive or as sustained over the long term as Illinois’ experimental management program. What has been called “intensive culling” elsewhere has generally fallen short of how we would define that term. As a result, Illinois’ program is being closely observed throughout the country to serve as a basis for deciding whether or not sharpshooting programs DO work. Available options to control CWD in wild deer are very limited, and localized reductions in deer density appear to offer the only reasonable expectation for successful control at this time. While scientists continue to research the disease in hopes of finding other avenues, we cannot wait and do nothing in the meantime while our epidemic worsens.

After several years of sharpshooting in CWD areas of northern Illinois, IDNR biologists worked with scientists at the Illinois Natural History Survey and the University of Illinois to evaluate whether sharpshooting activities were proving beneficial in managing CWD. Scientists evaluated the effects of our program on local deer densities and on disease prevalence rates, theorizing that densities must be measurably reduced before we could reasonably expect to affect prevalence. They found that our activities had desirable effects on both density and disease prevalence, but sustained effort was required. In northern Illinois, a significant reduction in deer density generally required at least three years of sharpshooting activities that removed 25 or more deer per square mile annually. They also found that disease prevalence rates were affected — the risk of disease in young deer (fawns and yearlings) and in female deer declined in areas where significant sharpshooting occurred. We will continue to collect data and monitor results over the long term so that we can continue this evaluation process.

You may have heard this about CWD and its management, but...

“Hunting regulations do not allow hunters to use bait, because bait piles can help spread disease. But DNR sharpshooters use bait, so they’re making the disease worse.”

There are potential disease concerns about the use of bait (and feeding deer in general), since this may cause unnatural congregation of deer feeding at the same source. This results in increased risk of disease transmission through direct (animal to animal) contact, and through saliva or wastes deposited at the bait site.

After weighing the costs and benefits of using bait in our sharpshooting program, IDNR biologists decided that the benefits far exceeded the potential negatives. A primary consideration was public safety, as many of our sharpshooting locations have a very limited field of fire because of houses and other development. Using bait sites allows us to position deer in a particular spot (with a suitable backstop, etc.), so that they can be taken with the utmost safety in mind. In addition, IDNR sharpshooting is conducted four nights a week for two and a half months, so most deer using our bait sites are harvested. As a result, few deer that use IDNR bait sites survive to spread the disease. At the end of each sharpshooting season, biologists remove the bait from each site and dispose of it. Although we realize there is some risk of disease transmission, the demonstrated declines in deer density and decreased risk of infection that have been found to result from our sharpshooting program are evidence that the benefits outweigh the risk.



Use of bait sites allows DNR sharpshooters to safely remove deer from residential areas.

You may have heard this about CWD and its management, but...

“IDNR is shooting deer year-round throughout the CWD counties, so I don’t see deer when I go hunting anymore.”

IDNR’s sharpshooting program is conducted only in specific areas and only during a limited time period. Sharpshooting does not begin until after the close of the last deer hunting season in mid-January and ends in late March, so it is limited to a two and a half month period. Sharpshooting activities are constrained to those areas where CWD is known to occur, and site priorities are determined based upon disease surveillance data combined with deer density and distribution information collected via aerial deer counts. Generally speaking, our highest priority work areas are those with the most ‘entrenched’ disease, highest prevalence rates, and highest deer densities. In those areas, our goal is to significantly reduce the local deer population, since



Aerial deer censuses are used in conjunction with CWD surveillance data to determine which locales are most in need of disease management.

it is serving as a source of disease which maintains our epidemic and which can be spread to new areas.

However, there are other sharpshooting locations at which our goal is different. For example, in new “spark” areas (representing the first finding of CWD in a new location) the goal is to collect enough disease testing data to allow biologists to determine the local status of CWD. Typically in those locations, sharpshooters target a set number of deer needed for sampling, and leave the area when that goal is reached. Results of this follow-up CWD testing affects how the site will be treated in the future.

While deer densities in localized areas are impacted by this sharpshooting approach, the majority of the landscape in CWD counties is not. Although the CWD management area comprises thousands of (one square mile) sections, IDNR sharpshooting activities have been confined to properties in approximately 100 sections or less (<5% of the total area).

IDNR biologists realize that herd reductions are an inconvenience to hunters, who eagerly anticipate the opening of deer hunting seasons. However, we firmly believe this to be preferable to the alternative - allowing this disease to increase and spread (as it has in several other states) will have very serious and long-term negative consequences for Illinois' deer herd. Some western states are now documenting areas with infection rates about ten times higher than in Illinois, and deer populations appear to be declining as a result of it. In contrast, management in Illinois has helped keep the disease at low levels, and helped to prevent its spread.

The number of sections (approximately one square mile) in northern Illinois in which sharpshooting has occurred since the winter of 2002-2003.

Winter	Sharpshooting: Number of Sections Involved With 1 or More Properties
2002-2003	23
2003-2004	65
2004-2005	84
2005-2006	93
2006-2007	103
2007-2008	108
2008-2009	106
2009-2010	83