

COMBATTING CHRONIC WASTING DISEASE IN PENNSYLVANIA

DECEMBER 2020

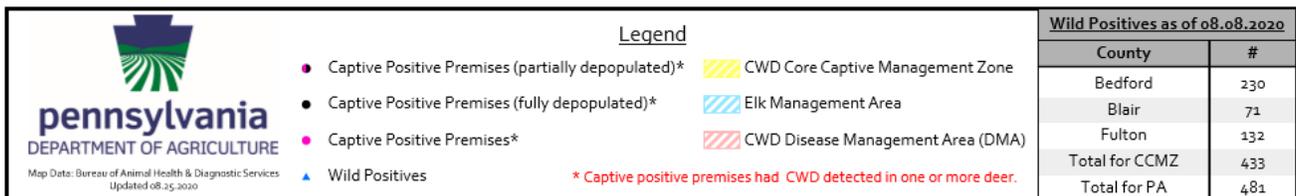
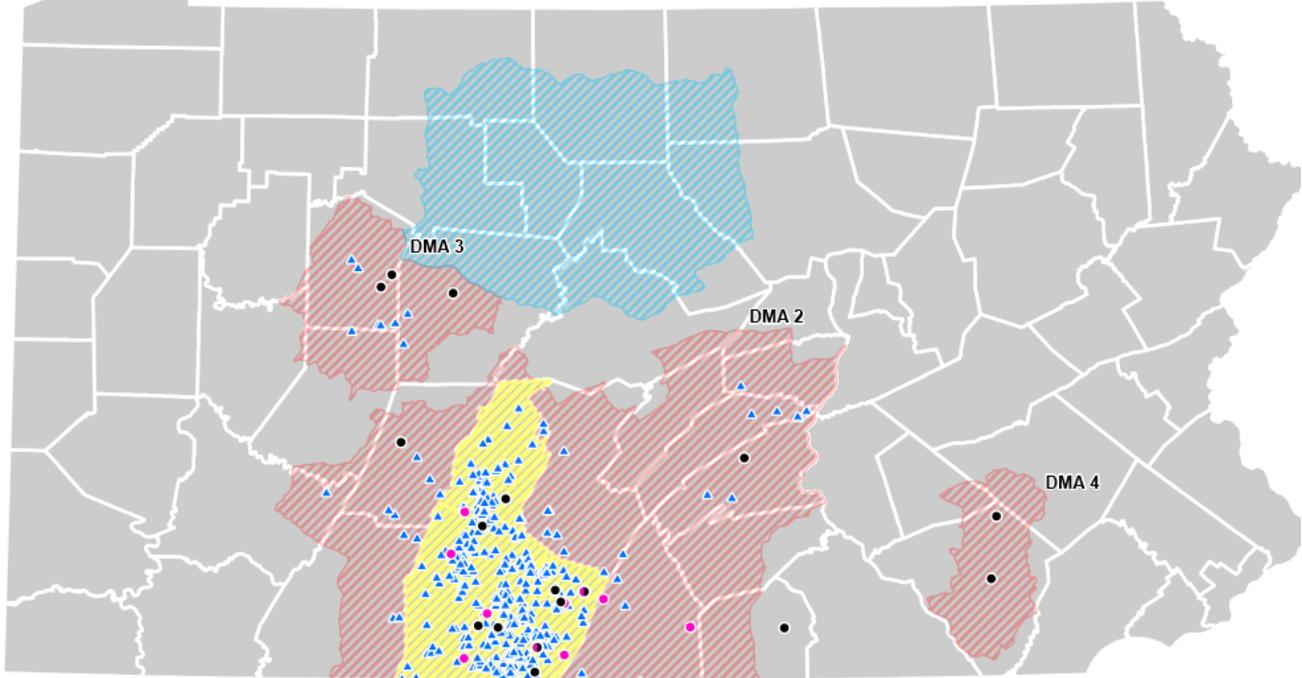
PENNSYLVANIA CHRONIC WASTING DISEASE TASK FORCE



Photo credit: Jacob Dingel



CWD Positive Cases (as of October 2020)



Source: [Pennsylvania Department of Agriculture](https://www.pennsylvania.gov/agriculture)

ABOUT THE CWD TASK FORCE

In 2003, the CWD Interagency Task Force was established to develop a strategic program for the prevention and early detection of CWD in wild and captive cervids. The Task Force developed its first CWD response plan in 2003 and the plan was subsequently updated in 2005 and 2011. In 2012, CWD was first detected in Pennsylvania. Since then, the agencies represented on the Task Force have worked collaboratively to prevent further spread. The CWD Task Force meets throughout the year to share data and information; collaborate on communications and outreach; and advance legislative and policy initiatives to combat CWD.

The following agencies are represented on the Task Force:

- [Department of Agriculture](https://www.pennsylvania.gov/agriculture)
- [Department of Conservation and Natural Resources](https://www.pennsylvania.gov/natural-resources)
- [Department of Environmental Protection](https://www.pennsylvania.gov/environmental-protection)
- [Department of Health](https://www.pennsylvania.gov/health)
- [Pennsylvania Game Commission](https://www.pennsylvania.gov/game-commission)
- [United State Department of Agriculture, Animal and Plant Health Inspection Service](https://www.usda.gov/animal-plant-health-inspection-service)

ABOUT THE DISEASE

Chronic Wasting Disease (CWD) was first identified in 1967 by the Colorado Division of Wildlife. It is a fatal infectious prion disease that targets neurologic tissue affecting cervid species, including North American elk, red deer, mule deer, black-tailed deer, white-tailed deer, Sika deer, caribou, and moose.

CWD-infected cervids may not show clinical signs of disease for up to two years. Clinical signs of CWD can include emaciation, stumbling, drooling, and a general lack of fear of humans. Studies have shown infected cervids are more likely to die from predation, vehicle collisions, or hunter harvest rather from the CWD infection itself.

Research has shown CWD prions may remain infectious after passing through the digestive tract of scavengers and predators¹; plants can uptake infectious CWD prions²; soils may bind and retain infectious CWD prions for years; and water sources can be contaminated. All these factors make it extremely difficult to manage and eliminate CWD.

Despite ongoing efforts, there is no known treatment for CWD infection, no successful vaccine against this disease, and no reliable diagnostic test for live animals. Research regarding live animal testing and genetic resistance to CWD in individual animals is ongoing and hopefully will provide some keys for mitigating CWD in the future.

Thus far CWD has not been shown to infect humans. According to the CDC and World Health Organization (WHO), there have been no reported cases of CWD infection in people or other domesticated livestock species. However, there is still much that is unknown about CWD and limiting exposure to CWD prions is prudent.

CWD IN PENNSYLVANIA

Members of the wild cervid family in Pennsylvania include white-tailed deer and elk.

CWD was first detected in Pennsylvania in 2012 in a captive cervid facility in Adams County. Several months later, it was detected in 3 free-ranging deer in Blair and Bedford counties. As a result of these detections, the Pennsylvania Game Commission established Disease Management Areas (DMAs) to mitigate the risks from human-assisted spread of the disease. Human-assisted spread of CWD occurs by moving infected deer or elk or their parts into unaffected areas. DMAs now cover nearly 9,500 square miles of Pennsylvania.

IMPACTS ON WILD HERDS

According to the Pennsylvania Game Commission, “as of June 30, 2020, more than 95,000 free-ranging deer and 1,400 free-ranging elk have been tested for CWD in the commonwealth; CWD has been detected in a total of 460 deer and zero elk.”³

If CWD continues to spread at the current rate, it could have significant impacts on the future of the commonwealth’s hunting heritage and wild deer and elk populations.

IMPACTS ON CAPTIVE HERDS

Pennsylvania has the second largest captive cervid industry in the country with over 750 facilities including breeding operations, hunting preserves, urine collection facilities and hobby farms. Products produced on deer farms include breeding stock, trophy bucks, semen, embryos, urine products, antlers and velvet.

According to the state’s Department of Agriculture, as of October 2020, 24 deer farms have reported CWD positive cases. Of these, 15 no longer have live deer, and three have culled high-risk animals. All farms are quarantined for five years after a positive detection and must adhere to strict limitations on movements of animals on and off the farm.

¹ Mathiason, C.K. et al. 2009. Infectious prions in pre-clinical deer and transmission of chronic wasting disease solely by environmental exposure. PLoS ONE 4:e5916.

² Rasmussen, J. Et al. 2014. Can plants serve as a vector for prions causing chronic wasting disease? Prion 8:136–142.

³ Pennsylvania Game Commission. “[Pennsylvania Chronic Wasting Disease Response Plan](#).” July 2020.

WHY IS ACTION IMPORTANT?

It is important to understand the connections between CWD, human health, our natural resources, and Pennsylvania's economy.

Human Health

There are still many unknowns regarding CWD and its impacts on humans. It is critical to remain vigilant and minimize human exposure to CWD.

Healthy Forests

Sustainable forestry practices are key in supporting forest regrowth, wildlife habitat, healthy cervid populations, and biodiversity.



Photo courtesy of Jacob Dingel.

Too many deer can lead to an unsustainable ecosystem where natural food supplies are depleted. Unsustainable deer populations can reduce diversity in the forest's understory (important habitat and food supply for a variety of species); increase spread of invasive species; and hinder the next generation of forest from growing to maturity.

Hunting is an important component of maintaining healthy forests for all species and ensuring long-term ecological management. The CWD Task Force recognizes the significant impacts CWD could have on not only the deer population but also on



Photo courtesy of the Pennsylvania Game Commission.

Pennsylvania's hunters and sustainability of our forests. Hunters rely on healthy, bountiful populations of deer and elk. If Pennsylvania's herds are threatened by disease, it could ultimately impact the number of hunters and the number of deer harvested. Therefore, the continued spread of CWD could significantly harm our forest resources and wildlife.

Economic Vitality

Healthy elk and deer populations support a robust hunting and outdoor tourism industry in Pennsylvania.

According to the Quality Deer Management Association, Pennsylvania is one of four states in which hunters harvest over 300,000 white-tailed deer in a given year⁴. Big game hunting generates \$570 million annually. A 2007 Deer Farmers Association study estimated the captive cervid industry contributed \$103 million annually to the state's economy. In addition, wildlife watching expenditures total \$1.3 billion annually.⁵

There is potential for significant economic impact resulting from diseased deer and elk herds in Pennsylvania, affecting the state's outdoor recreation, hunting, and tourism industries, and subsequently reducing funds that support wildlife habitat and conservation efforts.

⁴ Quality Deer Management Association. "[2020 Whitetail Deer Report](#)," 2020.

⁵ Stepstone Management Company. "[The Economic Impact of Pennsylvania's Deer Farms](#)." (February 2007). Prepared for the Pennsylvania Deer Farmer's Association.

AGENCY ROLES

Department of Agriculture

- Manages regulatory oversight of cervid farms through farm inspections, compliance and enforcement of the CWD Order of General Quarantine to ensure active CWD surveillance and early detection
- Publishes General Quarantine Orders, as needed, to mitigate disease threat by mandating fencing requirements, restricting captive cervid movement, requiring official identification, CWD testing and annual herd inventory and 10-day movement reporting
- Imposes Special Order of Quarantine on any premises where CWD is detected as well as any traceback premises where the deer originated from and trace forward premises where deer may have moved to in order to contain and mitigate disease threat
- Actively engages and educates key stakeholders and the public on preventing the spread of CWD
- Collaborates with [USDA's Animal and Plant Health Inspection Service \(APHIS\)](#) to facilitate voluntary herd indemnification and depopulation to mitigate threat of CWD when CWD is found in a herd
- Engages in CWD research, in conjunction with USDA's Cervid Herd Health Team, to validate live-animal testing modalities and explore genetic variations in captive herds that may impact disease susceptibility
- Provides exceptional services to test for CWD through the Pennsylvania Animal Diagnostic Laboratory System. The system provides a cadre of experts and specialized diagnostic equipment to rapidly detect CWD, research novel testing methods and explore genetic underpinnings that may provide hope for the future

Department of Conservation and Natural Resources

- Ensures long-term health, viability, and productivity of the commonwealth's forests and wild plants through sound ecosystem management strategies
- Ensures public access on state park and forest lands for hunting and wildlife viewing
- Actively engages and educates key stakeholders and the public on preventing the spread of CWD

- Supports CWD-related research on DCNR-managed lands

Department of Environmental Protection

- Regulates the disposal of animal carcasses and provides guidance to disposal and waste facilities.
- Administers and oversees departmental programs involving surface and groundwater and soil and water conservation helping to protect forest and Game lands in the commonwealth.

Department of Health

- Serves as a trusted resource on health issues
- Promotes healthy behaviors and prevents disease
- Actively engages and educates key stakeholders and the general public on preventing the spread of CWD

Game Commission

- Manages Pennsylvania's wild mammals and birds and their habitats for current and future generations
- Prevents, detects, and manages CWD within the commonwealth per its constitutional and legal responsibility through its [2020 CWD Response Plan](#)
- Conducts a robust surveillance program for CWD in wild deer and elk populations
- Supports research collaboration on ways to detect and mitigate CWD
- Actively engages and educates key stakeholders and the public on preventing the spread of CWD using a variety of media

USDA – Animal Plant Health Inspection Services

- Serves as support agency to assist Pennsylvania agencies with a variety of field activities regarding captive cervid facilities and wild cervid populations
- Assists with wild cervid surveillance during hunter harvest sampling
- Conducts targeted removals of wild cervids in coordination with the Pennsylvania Game Commission
- Conducts depopulation activities of captive cervids in coordination with PA Department of Agriculture
- Provides supplemental CWD samples from wild cervids taken during Wildlife Services cervid damage management activities.

HOW IS PA ADDRESSING CWD SPREAD?

SURVEILLANCE

The Game Commission devotes significant resources to CWD surveillance annually. In 2019, the Game Commission spent more than \$2 million on CWD surveillance, management, and research. Since 2012, the Game Commission has increased annual testing to more than 15,000 deer and elk samples, funded improvements and increased capacity in testing laboratories, added personnel to process samples and notify hunters of results, provided deer head drop bins to increase sampling of hunter harvested deer within DMAs, and provided free CWD testing for thousands of Pennsylvania hunters within DMAs. As the Game Commission continues to improve the efficiency and effectiveness of CWD surveillance, the Game Commission's [CWD Response Plan](#) identifies specific surveillance objectives to detect CWD disease expansion and to monitor CWD in existing infection areas.

The Department of Agriculture also oversees two programs overseeing the state's deer farming industry. The federal Herd Certified Program (HCP) is voluntary, requires testing of all susceptible cervids, and requires each state to have a qualified certification program. Herds that complete five years of compliance with no detection of CWD are considered certified. The state Herd Monitored Program is mandatory and requires testing of 50% of susceptible cervids and 100% testing of cervid mortalities, no matter the cause. Both programs require proper IDs such as ear tags; record-keeping on all animals moved on or off farms; annual herd inventories; reporting of CWD suspects and animals

that die, escape or are stolen; testing animals over a year old that die for any reason; maintaining a minimum 8-foot high fence; obtaining permits to import animals from out-of-state; and other measures to monitor herds for disease.

WHY IS THIS IMPORTANT? A surveillance system that effectively detects disease expansion will enable the commonwealth to initiate management strategies early to prevent the disease from spreading to other regions of the state.

CERVID MANAGEMENT

The Game Commission has taken steps to increase deer harvests in areas with CWD. Increased harvests can reduce deer populations which is the most effective CWD management technique available. In [wildlife management units](#) (WMU)⁶ where CWD has been detected, 14-day concurrent antlered and antlerless firearms seasons have been established. In these WMUs, antlerless hunting opportunities have been increased to reduce deer populations. At smaller scales, [Enhanced Surveillance Units](#) have been established around CWD detections on the leading edge or in new areas to increase hunting opportunities. By providing more hunting opportunities, the Game Commission is relying on hunters to provide more deer for testing in these areas. Finally, at the smallest scale, Containment Zones (CZs) were created to facilitate focused management strategies and prevent CWD from becoming established or spreading farther on the landscape. A CZ encompasses an approximately 1-mile radius around the location of the new CWD detection. Partnering with landowners, the Commission can

⁶ The PA Game Commission uses wildlife management units to manage all game, except elk, waterfowl, and other migratory game birds. The

large-scale units are based on habitat and human-related land characteristics.

address a new CWD detection to prevent further spread to surrounding areas.

The USDA Pennsylvania Wildlife Services (WS) was recently honored for its work in its extraordinary efforts in assisting APHIS and the Commonwealth of Pennsylvania with helping to manage CWD in Captive and Wild Cervids. WS has assisted state agencies with surveillance, management, and education at the request of the Pennsylvania Game Commission (PGC), Pennsylvania Department of Agriculture (PDA), and USDA-APHIS-Veterinary Services in an effort to help control and manage this disease. Since 2012 requests for assistance have intensified and since 2017 WS has been an integral part of the management of CWD in both wild and captive cervids in the state. WS remains an integral part of the CWD management in Pennsylvania. These activities have all intensified in 2019 and 2020, and the performance of WS has further ingrained their role a critical member of these interagency teams.

WHY IS THIS IMPORTANT? Surveillance provides information on CWD presence, but it does not affect intensity or spread. Reduction of deer numbers is critical to reduce the risk of CWD increasing and spreading to new areas.

LIMITING HUMAN-ASSISTED SPREAD

Minimizing human-assisted spread of CWD is an important part of CWD management.

The Game Commission prohibits the feeding of deer and the use of natural urine-based attractants within [Disease Management Areas](#) (DMAs) to limit human induced congregation of deer in areas where the disease is present.



Photo courtesy of the Pennsylvania Game Commission.

The Game Commission also bans movement of high-risk parts – the head (more specifically the brain, eyes, tonsils, lymph nodes); spinal cord/backbone; spleen; skull plate with attached antlers, if visible brain or spinal cord material is present; cape, if visible brain or spinal cord material is present; upper canine teeth, if root structure or other soft material is present; any object or article containing visible brain or spinal cord material; and brain-tanned hide – beyond DMA boundaries and into Pennsylvania

from other locations where CWD has been found. These actions are taken to prevent human-assisted introduction of CWD to new areas.

WHY IS THIS IMPORTANT? Use of attractants can lead to unnatural congregation of animals, amplifying both direct and indirect disease transmission. Feeding sites harbor and concentrate disease agents deposited by infected animals creating an environmental reservoir of disease.

CWD QUARANTINE ORDERS

The Department of Agriculture established a [CWD Core Captive Management Zone](#) in Bedford, Blair, and Fulton counties to control the disease in the area of the state where it is most prevalent, while allowing captive deer facilities to stay in business. A key component of the order is to provide incentives for captive deer facilities to implement management techniques, such as herd density and age management, genetic selection and other rapidly evolving scientific advancements that make their operations and their herds less susceptible to CWD.

WHY IS THIS IMPORTANT? The goal of implementing such a zone is to slow the spread of

CWD across Pennsylvania while scientists work toward establishing long-term solutions.

RESEARCH

In 2019, the Pennsylvania Game Commission funded the creation of the [Wildlife Futures Program](#) at the University of Pennsylvania, School of Veterinary Medicine. This program is a science-based, wildlife health program that serves to increase disease surveillance, management, and research to better protect wildlife across the commonwealth. This partnership has added CWD testing capabilities to reduce testing times so hunters receive CWD test results sooner. Based out of Penn Vet's New Bolton Center in Kennett Square, Pennsylvania, the WFP integrates comprehensive disease surveillance, research, and mitigation expertise into a single, unified effort to combat the numerous wildlife diseases that pose significant threats to health of people, animals, and the environment.

In addition, the Pennsylvania Game Commission has [funded field research](#) of white-tailed deer movements within Pennsylvania's core CWD area in Bedford and Blair counties. During this study, nearly 300 white-tailed deer were captured and more than 100 were tracked with GPS collars. The GPS collars provided data on movements and survival. Population surveys were conducted to monitor deer abundance in the study area. Finally, a survey of hunter and landowner opinions was completed.

WHY IS THIS IMPORTANT? It is imperative that the commonwealth use science-based solutions in mitigating the impacts of the disease and preventing its spread. Research helps the agencies apply effective strategies that efficiently use commonwealth resources.

PROPER DISPOSAL OF CARCASSES

Department of Environmental Protection is providing guidance to permitted solid waste

facilities regarding the proper management of cervid carcasses; educating the public on the proper disposal of cervid carcasses; and serving as a liaison between the Game Commission, the Department of Agriculture and permitted solid waste facilities, to ensure that proper disposal options are available.

WHY IS THIS IMPORTANT? Ensures that disposal of CWD carcasses is done properly and in a way that does not adversely impact air, soil, or water quality.

REDUCED FEEDING/LURES

Pennsylvania is working to minimize the chances of human-assisted spread of CWD.

The Pennsylvania Game Commission prohibits the feeding of deer and the use of natural urine-based attractants within [Disease Management Areas \(DMAs\)](#). It also enacted regulations banning the movement of high-risk parts – the head (more specifically the brain, eyes, tonsils, lymph nodes); spinal cord/backbone; spleen; skull plate with attached antlers, if visible brain or spinal cord material is present; cape, if visible brain or spinal cord material is present; upper canine teeth, if root structure or other soft material is present; any object or article containing visible brain or spinal cord material; and brain-tanned hide – beyond DMA boundaries. In addition, DCNR has recently informed cabin lessees that the agency would no longer allow feeding on DCNR-managed lands.

WHY IS THIS IMPORTANT? Providing wildlife with food leads to an unnatural congregation of animals, amplifying both direct and indirect disease transmission. Feeding sites harbor and concentrate disease agents deposited by infected animals creating a reservoir of disease.

EDUCATION

Each agency has a responsibility to educate stakeholders on the issue of CWD, strategies to prevent its spread, and practices to keep Pennsylvania's elk and deer herds healthy

The Pennsylvania Game Commission has elevated the importance of CWD communications by hiring a CWD Communications Coordinator within the agency's Bureau of Information and Education. This staff member serves as the communications point-of-contact for CWD communications including news releases, media interviews, and public engagements.

WHY IS THIS IMPORTANT? Education is imperative in reinforcing best practices and achieving mitigation strategies in preventing the spread of CWD.

RECOMMENDATIONS FOR PROCESSING DEER

Department of Agriculture developed voluntary Best Management Practices (BMPs) for hunters and processors to ensure venison entering the human food chain is safe. These BMPs include handling carcasses properly and discarding high risk parts for potential prions – including brain, eyes, tonsils, lymph nodes, backbone, spleen and anything containing visible brain or spinal cord material. More information can be found in the American Association of Meat Processors brochure Chronic Wasting Disease What Hunters and Processors Need to Know and Do.

The Pennsylvania Game Commission also works with hunters and processors in and around CWD areas. Each year, the Game Commission identifies cooperating processors who agree to properly dispose of high-risk parts when processing deer. The Game Commission also provides guidance to hunters and processors on how to avoid spreading CWD to other areas.

WHY IS THIS IMPORTANT? These practices help protect hunters and their families from CWD by following commonsense safe-handling practices to prevent exposure to and the spread of the disease.

COORDINATION AND COMMUNICATION AMONG AGENCIES

The CWD Task Force has enabled better communication and coordination across the agencies in the statewide response to CWD.

Each year, the Pennsylvania Game Commission provides funding for laboratory technicians, and Department of Agriculture personnel to facilitate collection and testing of CWD samples.

The Department of Agriculture reports cervids that have escaped from captive facilities to the Game Commission regardless of the facility's CWD status. Sharing this information allows the agencies to coordinate CWD risk mitigation efforts

The Game Commission and the Department of Conservation and Natural Resources have collaborated on placement of head collection bins within designated DMAs.

USDA-APHIS has also assisted with public outreach, creation of management documents, and implementation of management plans on a regular basis.

WHY IS THIS IMPORTANT? Many agencies are involved in the control and management of CWD, each with different missions and responsibilities. Communication and coordination are essential.

LINKS AND RESOURCES

PENNSYLVANIA DEPARTMENT OF AGRICULTURE

[CWD in Pennsylvania \(Maps\)](#)

[CWD Quarantine Orders](#)

[Herd Certification Programs](#)

[PDA CWD Page](#)

PENNSYLVANIA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

[DCNR CWD Fact Sheet](#)

[Hunting on State Forests and Parks](#)

[DMAP Hunting in State Parks and Forests](#)

[DCNR DMAP Interactive Map](#)

PENNSYLVANIA GAME COMMISSION

[CWD Response Plan](#)

[CWD Management Areas \(2020-21\)](#)

[Deer Head Drop Bin Locations](#)

[CWD Info for Hunters](#)

[CWD in Pennsylvania](#)

[PGC CWD Page](#)

[PGC Interactive Map](#)

OTHER RESOURCES

[Chronic Wasting Disease Alliance](#)

[USDA CWD Page](#)

[Centers for Disease Control CWD Page](#)

[USGS National Wildlife Health Center](#)

[Wildlife Futures Program](#)

[American Association of Meat Processors CWD](#)

[Brochure What Hunters Need to Know and Do](#)

HELP PREVENT THE SPREAD OF CWD

- Participate in testing. FREE testing is available for any deer harvested in any DMA. If you harvest a deer in a Disease Management Area (DMA), please deposit the deer's head, with your completed harvest tag affixed to the deer's ear, at one of the head collection containers.
- If you are hunting within a DMA, before you leave the DMA, deposit high-risk parts from your deer in a high-risk parts disposal dumpster. High-risk parts include the head, lymph nodes, spleen, and spinal column. You may also dispose of any other deer parts not used in these dumpsters.
- Do not shoot, handle or consume an animal that appears sick; report the animal to the Pennsylvania Game Commission.
- Submit harvest tags and samples while hunting in CWD DMAP areas.
- Wear gloves when handling any cervid carcass and follow proper guidelines for processing venison.
- Have dedicated knives and utensils for processing game meats.
- Refrain from consuming high-risk tissues and organs (e.g., brain, heart, etc.)
- Avoid use of natural urine-based lures.
- If unable to deposit in DMA disposal dumpster, double bag high-risk parts and dispose of in an approved landfill.
- Stay informed! Follow the links above to learn more.