



**Chronic Wasting Disease
Response Plan
2016**

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Introduction

Chronic Wasting Disease (CWD) is a transmissible spongiform encephalopathy (TSE) disease known to infect white-tailed deer (*Odocoileus virginianus*), mule deer (*Odocoileus hemionus*), elk (*Cervus elaphus*) and other wild cervids in North America. CWD is related to other TSE diseases that include scrapie in sheep, mad cow disease in cattle, and Creutzfeldt-Jakob (CJD) disease in humans.

Unlike mad cow disease and variant CJD, there is no evidence that humans can contract CWD by consuming or handling deer. Despite a growing understanding of CWD, researchers and public officials continue to err on the side of caution when dealing with the disease and its public safety implications (Appendix I). In the future, ongoing research will provide further insight into the wildlife and human health implications of CWD. Until then, we remain vigilant to ensure local deer populations are well monitored and plans are in place to assess the status of this disease in Maryland.

The Maryland Department of Natural Resources (DNR) Wildlife & Heritage Service (WHS) began sampling sick or injured deer for CWD in 1999. Sampling was expanded to include statewide, randomly selected, hunter-harvested deer beginning in 2002. Until 2010, the sampling regime used in Maryland separated the deer population into a “high-risk” population and a “low-risk” population. The high-risk population was found in those eight northern counties that border Pennsylvania (Garrett, Allegany, Washington, Frederick, Carroll, Harford, Baltimore, and Cecil). This high-risk status was due to the high prevalence of captive deer farms in Pennsylvania which are considered a CWD risk due to the substantial interstate movement of cervids associated with these operations. These counties also contain the majority of the few remaining captive cervid facilities in Maryland. The commercial farming of cervids is prohibited in Maryland and the remaining facilities consist primarily of zoos or backyard pets. The remaining 15 Maryland counties were considered the low-risk population.

Under this sampling regime, a total of 50 random samples were collected from hunter-harvested deer in each of the high-risk counties and 30 samples were collected from each of the remaining counties each year. A total of 6,785 deer were sampled from 2002 through 2009 from all 23 counties and all tested negative for CWD.

Beginning in 2010, we implemented a different sampling protocol (see Section D) and shifted focus to Allegany and western Washington counties (Surveillance Area). This change was in response to the growing incidence of CWD in Hampshire County, West Virginia where the disease had been detected within approximately 6 miles of the Maryland border. West Virginia first discovered CWD in 2005 in Hampshire County, and it has since expanded into Hardy County. CWD was found in Frederick County, Virginia in 2010, and subsequently spread into Shenandoah County, all near the original West Virginia outbreak. CWD has been detected in three locations in Pennsylvania: a captive deer farm in Adams County (fall 2012); free-ranging deer in Blair and Bedford counties (2012 firearms season); and a captive deer farm in Jefferson County (spring 2014).

In February 2011, one of the 360 samples collected in Maryland during the 2010-11 hunting season tested positive for CWD. The infected deer was a yearling male harvested in November 2010 by a hunter in Green Ridge State Forest near the West Virginia outbreak. Upon notification of a positive sample, we implemented and continue to operate under the protocol outlined in Section B below. This included establishing a Chronic Wasting Disease Management Area (CWDMA) in eastern Allegany County that encompassed the location where the first positive deer was harvested. Harvest Management Unit (HMU) 233 was identified as the original CWDMA. DNR promulgated regulations to prohibit the feeding of forest game species in the CWDMA and to restrict the movement of hunter harvested deer carcasses within Allegany County.

We collected and tested 576 samples from the Surveillance Area over the following two years (2011-12 and 2012 -13) with no samples testing positive for CWD. One of 256 samples taken from the Surveillance Area in 2013-14 tested positive for CWD. Four of 228 samples from the same area tested positive in 2015. All of the positive deer were from within the original CWDMA.

During the 2015-16 deer season, we detected CWD in five deer out of the 295 that were tested. Eleven deer carrying CWD have now been detected through Spring 2016. For the first time since its discovery in Maryland, a positive has been identified outside of the original CWDMA. A hunter harvested an adult female deer near Evitts Creek, east of Cumberland in HMU 231. As a result, the CWDMA has been expanded and now includes all of Allegany County and the far western portion of Washington County (HMU 250). The previously enacted carcass transport restrictions will apply to the expanded CWDMA. However, in an effort to keep deer hunters engaged within the CWDMA, the Department is considering lifting the baiting and feeding prohibition. Maintaining adequate hunter effort within the CWDMA is important for maintaining deer densities at lower levels.

This CWD Response Plan outlines the WHS management activities that will be followed to continue to monitor and manage the presence of the disease, communicate that fact to others, determine the magnitude and geographic extent of the infection and to educate the public on how to safely adapt to having this disease in our state.

A. General Response to Detection within Maryland:

While CWD has potentially serious consequences for white-tailed deer, there is no evidence that it can be transmitted to humans or domestic animals. Consequently, it is important that the response to an outbreak of CWD is in proportion to the health risks and economic impact the disease imposes.

1. Upon receiving laboratory confirmation of a CWD positive sample from outside of an established CWDMA and that is determined not to be part of an existing outbreak, WHS will notify the following contacts within DNR: the Office of the Secretary (OOS), WHS staff, the Office of Communications (OC), and the Natural Resources Police (NRP). Concurrently, WHS will notify the appropriate personnel within: the Maryland

Department of Agriculture (MDA), USDA-Wildlife Services (USDA-WS) and the Department of Health and Mental Hygiene (DHMH).

2. WHS will notify key constituency/stakeholder groups, including Wildlife Advisory Commission members, wildlife agencies in the surrounding states, appropriate federal agencies, legislators, and local community officials where the positive case was found, informing them that CWD continues to be identified in Maryland. This may be done via individual contact or a Press Release.
3. Once a final confirmation is received, the media will be advised of the positive CWD case(s) through a Press Release. The Press Release will include a synopsis of Maryland's CWD surveillance efforts, an outline of likely CWD response management actions, and other CWD-related resources deemed needed or appropriate to the particular facts at the time.
4. A CWD response team will be assembled to include the WHS Director or designee(s), the WHS Deer Project staff, the DNR Fish and Wildlife veterinarian, the appropriate WHS regional manager, and the WHS media-relations coordinator. This team will also determine the research and data needs necessary to effectively manage the disease response. Research and data-collection work may be contracted as appropriate.
5. Key WHS staff members and the OC media relations coordinator will be assigned as CWD media contacts. All CWD-related questions from the public and the media will be routed to this team.
6. Upon receiving laboratory confirmation of a CWD positive sample from within an existing CWDMA, or outside of an existing CWDMA but deemed to be part of an already existing outbreak, the WHS will notify the following contacts within DNR: the OOS, local WHS staff, OC, and NRP. Concurrently, WHS will notify the appropriate personnel within: MDA, USDA-WS, and the DHMH. WHS will review the location(s) of any new case(s) and determine the appropriate response (i.e., modifying the CWDMA boundary, expanding carcass transport restrictions, etc.).
7. DNR will place up-to-date information on the DNR Website in order to fully inform citizens on CWD and the DNR Response Plan. The information will be reviewed and updated routinely.

B. Response to Detection in Free-Ranging Deer within Maryland:

The primary objective of the response effort is to determine the prevalence and geographic extent of CWD infection in the free-ranging deer population. Additional positive cases found within an existing CWDMA will be carefully assessed by WHS and an appropriate response will be developed. In the event a CWD infected free-ranging deer is identified outside of an established CWDMA, the following management actions will be implemented as rapidly as possible:

1. A map will be developed showing the location of the new case. A five-mile radius circle will be drawn around the new case. A CWDMA may be established based on existing

WHS management units (i.e., private and public land code units used to check-in deer and turkeys) that encompass the reference circle.

2. If no CWDMA is established, or an existing CWDMA is not expanded in response to detecting a CWD positive deer, the WHS will focus on providing outreach information to citizens, hunters, local officials and other affected parties to enable them to adapt to having CWD in the local deer herd.
3. If a new CWDMA is established, or an existing CWDMA is expanded in response to detecting a CWD positive deer, the deer herd will be assessed within the CWDMA in order to develop a meaningful monitoring program. The CWD Response Team will investigate the need to establish regulations to limit the spread of the disease to other locations. Potential regulations may address carcass transport, restrict the feeding of forest game species and may restrict fawn rehabilitation.
4. A CWD Surveillance Area (SA) will be identified based on existing WHS management units and county boundaries. The size and location of the area will be determined based on proximity to the adjacent state CWD positive location, local geographic features, land use patterns, and deer biology as it relates to movements and dispersal.
5. CWD sampling may occur in the SA primarily using deer taken via hunter harvest, Deer Management Permits, sharpshooting operations and road-killed deer. Targeted sampling (i.e. sharpshooting) by DNR staff may also be used if needed to obtain adequate sample sizes. Initially, if possible, a minimum of 60 samples may be collected from the surveillance area to establish at 95% confidence that CWD does not exist at over a 5% prevalence in the area.
6. Legislation and/or emergency regulations may be enacted to implement appropriate disease surveillance and containment measures. These can include but are not limited to: expanding deer seasons and increasing bag limits, increasing the allocation of deer management permits, requiring mandatory deer check-in at designated WHS check stations, issuing special permits for the harvest of deer by licensed hunters on areas prescribed by WHS, prohibiting fawn rehabilitation, prohibiting or limiting deer feeding or baiting, prohibiting carcass importation or movements, and implementing necessary actions to secure captive cervid facilities.
7. If additional infected deer are detected near the borders of the CWDMA, or as the disease expands, additional area may be added to the CWDMA.
8. If captive deer facilities are present within the CWDMA, WHS and NRP personnel will inspect these facilities immediately following confirmation of CWD in the CWDMA and then on a regular basis thereafter. Per current requirements, all captive deer that die in captivity will be tested for CWD. Facility operators will be required to check the integrity of the perimeter fencing on a regular basis.

9. If no additional positive cases are detected within the CWDMA for a period of five consecutive years, the area will be considered CWD-free. If the disease expanded into Maryland from an adjacent state, the adjacent state must also demonstrate they had no new CWD positives during the five year period within 5 miles of the Maryland border for the CWDMA to be considered CWD-free.
10. An adaptive management approach will be employed to determine how long to continue surveillance if the CWDMA does not remain CWD-free for a period of five consecutive years, or an adjacent state remains CWD-positive within 5 miles of the Maryland border.

C. Response to Detection in Captive Deer within Maryland:

In January 2016, there were 8 individuals or organizations that legally possessed live cervids in Maryland. No additional permits for live cervid possession have been issued since 1984. The conditions for these individuals to possess cervids have been enhanced. Boundary fences must be at least 10 feet high and all captive cervids must be ear tagged. All animals that die must be reported to DNR within one business day and must be submitted to the nearest Maryland Department of Agriculture Animal Health lab for CWD testing within 24 hours of death. DNR will pay for the cost of the CWD test. If warranted, a complete necropsy will be requested. Additionally, live cervids may not be transported into, out of, or within Maryland with the exception of non-stop interstate pass-through transportation authorized by a Letter of Authority. Currently only accredited American Zoological Association facilities may exchange live cervids for the purpose of genetic diversity.

Upon discovery of the disease in a captive herd, the primary objective of the initial CWD response effort will be to eradicate the disease from the captive herd and to determine if the disease is also present in free-ranging deer surrounding the CWD infected captive deer facility. In the event a CWD infected captive deer is identified, the following measures will be implemented as rapidly as possible:

1. Under applicable statutory and regulatory authority, depopulate all cervids from the facility where the infected deer was discovered and test all deer for CWD.
2. Modify or augment the fence surrounding the facility as needed to exclude free-ranging native deer.
3. Decontaminate the facility to the maximum extent possible following the USDA APHIS guidelines.
4. If the facility was legally permitted, revoke the permit.
5. Attempt to trace-back and trace-forward any and all cervids in contact with CWD infected animals to determine the origin and prevent further infection.
6. Implement the management actions described in Section B using the captive facility as the positive case.

D. Response to Detection in Free-Ranging Deer Outside the State:

If CWD is detected in free-ranging deer within 5 miles of a Maryland border, the primary objectives of the response effort will be to 1) initiate CWD surveillance of those areas within Maryland that are nearest the out-of-state endemic area, and 2) communicate and coordinate with the public and other agencies on issues related to CWD and the actions being taken by DNR.

Upon notification from an adjacent state of a CWD positive detection within 5 miles of a Maryland border, the following management actions will be implemented:

1. WHS will review the need to notify appropriate parties using means identified in Section A above. WHS deer biologists will remain apprised of the infected state's status.
2. A CWD Surveillance Area (SA) will be identified based on existing WHS management units and county boundaries. The size and location of the area will be determined based on proximity to the adjacent state CWD positive location, local geographic features, land use patterns, and deer biology as it relates to movements and dispersal.
3. CWD sampling may occur in the SA primarily using deer taken via hunter harvest, Deer Management Permits, sharpshooting operations and road-killed deer. Targeted sampling (i.e. sharpshooting) by DNR staff may also be used if needed to obtain adequate sample sizes. Initially, if possible, a minimum of 60 samples may be collected from the surveillance area to establish at 95% confidence that CWD does not exist at over 5% prevalence in the area.
4. Subsequent sampling intensity and management action will be determined based on the results of sampling by the infected state and by the sampling results in the Maryland border area.
5. If a CWD positive deer is detected during the sampling in Maryland, Section B of this Response Plan will be activated.

E. Response to Detection in Captive Deer Outside the State:

If CWD is detected in captive deer outside the state, but within 5 miles of a Maryland border, the primary objectives of the response effort will be to 1) increase CWD surveillance of those areas within Maryland that are nearest the out-of-state endemic area, and 2) communicate and coordinate with the public and other agencies on issues related to CWD and the actions being taken by DNR.

Upon notification from an adjacent state of a CWD positive sample from a captive herd located within 5 miles of a Maryland border, the following management actions will be implemented:

1. WHS will review the need to notify appropriate parties using means identified in Section A above. WHS deer biologists will remain apprised of the infected state's status.

2. A CWD Surveillance Area (SA) will be identified based on existing WHS management units and county boundaries. The size and location of the area will be determined based on proximity to the adjacent state CWD positive location, local geographic features, land use patterns, and deer biology as it relates to movements and dispersal.
3. CWD sampling may occur in the SA primarily using deer taken via hunter harvest, Deer Management Permits, sharpshooting operations and road-killed deer. Targeted sampling (i.e. sharpshooting) by DNR staff may also be used if needed to obtain adequate sample sizes. Initially, if possible, a minimum of 60 samples may be collected from the surveillance area to establish at 95% confidence that CWD does not exist at over 5% prevalence in the area.
4. Subsequent sampling intensity and management action will be determined based on the results of sampling by the infected state and by the sampling results in the Maryland SA. If the adjacent state adequately demonstrates the CWD infection was contained within the captive facility, WHS may elect to forego additional sampling. If the adjacent state detects CWD in free-ranging deer in proximity to the captive location, WHS will implement Section D of this Response Plan.

F. Public Education for Adapting to CWD:

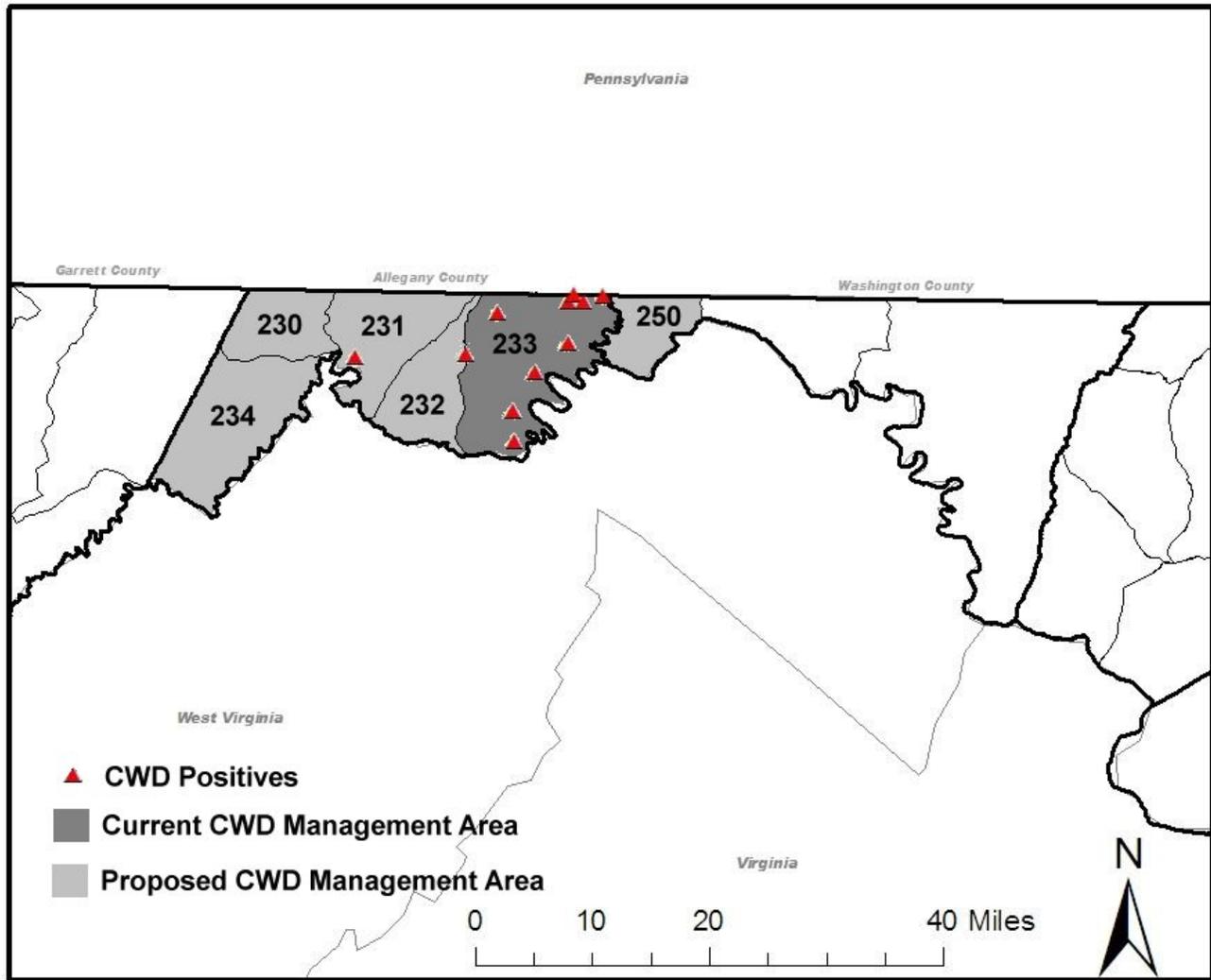
1. Now that CWD has been identified in free-ranging deer in Maryland, the WHS will maintain a comprehensive program to educate citizens on how to adapt to having this disease in the environment on a long term basis.
2. This effort is focused to make the most current information on this disease available to all citizens in a manner that is easily understood and relevant to their daily lives. All common media and social networking outlets may be used to accomplish this objective.
3. Regular updates have been made as new information has become available.

Appendix I. Background Information

Transmissible spongiform encephalopathy (TSE) diseases such as CWD are caused by prions. Prions are abnormal, proteinaceous, infectious particles. Prions are closely related to cell proteins that are typically produced in the tissue of the central nervous system and other body tissues. However, prions or abnormal cell proteins cannot be broken down by the body's enzyme system. Prions collect in the nervous tissue, cause the death of nerve cells and result in loss of normal neurological function. Damage to the brain's nervous system tissue causes spaces (holes) visible under microscopic examination. Initially, CWD was thought to be a nutritional malady in captive mule deer in Colorado. In 1978 CWD was identified as a TSE.

CWD is spread either by direct contact between animals or indirectly through the environment. The long incubation period was once believed to be no less than 15 months, but recent cases put that time frame into doubt. CWD clinical signs only appear as the animal approaches death. Clinical signs include emaciated appearance, excessive thirst and urination, drooling, lack of coordination, and abnormal behavior. Abnormal behavior includes holding the head and ears in a lowered position, remaining in an area with water sources, repetitive walking and standing with a widened stance.

For up to date information on where CWD has been found in free-ranging or captive deer, elk and moose, visit the CWD Alliance Website at www.cwd-info.org.



Positive CWD sample locations in Maryland (2016).