**U.S. Department of Agriculture**
**Animal and Plant Health Inspection Service (APHIS)**
**Veterinary Services**
**Annual Update from the Cervid Health Team**
**Fiscal Year (FY) 2017**

## Voluntary Chronic Wasting Disease (CWD) Herd Certification Program

The APHIS National CWD Herd Certification Program (HCP) was implemented in 2014. It is a voluntary Federal-State-industry cooperative program administered by APHIS and implemented by participating States. The program provides uniform national herd certification standards that minimize the risk of spreading CWD in farmed cervid populations. Participating States and herd owners must comply with requirements for animal identification, fencing, recordkeeping, inspections/inventories, as well as animal mortality testing and response to any CWD-exposed, suspect, and positive herds. APHIS monitors the Approved State HCPs to ensure consistency with Federal standards through annual reporting by the States.

With each year of successful surveillance, herds participating in the HCP will advance in status until reaching five years with no evidence of CWD, at which time herds are certified as being low risk for CWD. Only captive cervids from enrolled herds certified as low risk for CWD may move interstate. Currently, 28 States participate in the voluntary CWD Herd Certification Program and have Approved HCPs. FY 2017 marks the fifth year that Approved States have submitted their CWD HCP annual reports to APHIS. In FY 2017 there were 2517 enrolled cervidae herds: 1922 deer, 433 elk and 162 mixed species herds. Of those, there were 2,103 certified cervidae herds: 1646 deer, 364 elk and 93 mixed species herds.

## CWD in Farmed and Wild Cervids

***Summary of CWD detections.*** As of September 2017, CWD has been confirmed in wild deer and elk in 21 U.S. States, and in farmed cervids in 16 States. In total, 24 States have identified CWD in wild and/or farmed cervids. CWD has been reported in 85 farmed cervid herds in the United States.

***FY 2017 CWD Detections in Farmed Cervids:*** Eight newly-identified CWD positive farmed cervid herds were identified in FY 2017 (6 white-tailed deer, 1 mixed herd with white-tailed deer and mule deer, and 1 mixed herd with white - tailed deer and sika deer).

> **Iowa:** The National Veterinary Services Laboratories (NVSL) confirmed CWD in a 2 1/2-year-old, natural addition, white-tail buck in a herd in Buchanan County in December 2016. The herd of 81 white-tail deer was quarantined on December 21, 2016. This herd enrolled in the HCP in September 2014 and was compliant, but not certified, at the time of positive diagnosis. In 2015, the herd was combined with a separate herd that had been released from quarantine as a trace-forward from another CWD-positive herd in Iowa. The herd was depopulated with Federal indemnity on March 28, 2017. Two additional positives (lymph node only), both natural additions, were found (5-year-old GG female, 3-year-old GG male). Samples from 64 adult deer were submitted for codon 96

genotyping: 20 GG, 38 GS, 6 SS. Four other States had received animals from this herd and eight trace-forward animals tested “not detected”. No CWD positive wild or farmed cervids had been found within 50 miles of this herd. Research samples were collected and archived on sixty-nine deer.

**Minnesota:** NVSL confirmed CWD in two, 2 1/2-year-old white-tail doe pen mates from a herd in Crow Wing County in December 2016. The deer were part of a group being slaughtered for meat. One doe was a natural addition and one doe was purchased along with 19 others from another farm in MN in July 2014. The facility had enrolled in the HCP in November 2012. The breeding and hunting operation consists of approximately 100 white-tail and 33 mule deer. The epidemiological investigation identified eleven animals that moved off this premises to four other HCP herds in Minnesota. Of the eleven animals, ten were euthanized (seven with Federal indemnity), and had “not detected” results for CWD testing. The other trace-forward animal died and tested positive in January 2017 (see below). There were no out-of-state trace outs of exposed animals. Seven additional pen mates were sampled by rectal biopsy in April 2017 and CWD was not detected. An additional 14 samples from does that were pen cohorts to the positive does were submitted for post-mortem CWD testing on Monday, September 11, 2017, and all had “not detected” results. CWD has not been found in wild cervids within 50 miles of this premises, but recent sampling has been limited. The herd remains under quarantine and samples will be taken from hunter-killed deer this fall. The producer has not requested indemnity.

A 2 1/2-year-old white-tail doe that had been traced back from the Crow Wing County herd to a Meeker County breeding herd died and was confirmed positive by NVSL in January 2017. This doe had been a pen mate of the Crow Wing County positive does and was part of an exchange of animals between the two herds in December 2014. This CWD-positive herd consisted of 14 white-tailed deer and had been enrolled in the HCP since December 2005. This herd was depopulated with Federal indemnity on April 25, 2017. Four additional positives were found, two were purchased additions and two were natural additions. All four animals tested positive on both obex and lymph node tissues (3 GG, 1 GS). Samples from all 14 deer were submitted for codon 96 genotyping: 7 GG, 5 GS, 2 SS. Eleven trace-forward deer were identified and test results were “not detected” (except one missing). CWD has not been found in wild cervids within 50 miles of this premises, but recent sampling has been limited.

**Michigan:** NVSL confirmed CWD in two white-tail does submitted by a Mecosta County deer farm in January 2017. No live cervids leave this facility. CWD Deer Management Unit (DMU) 359, which consists of 9 townships in Mecosta and Montcalm Counties, was created in response to the detection of CWD. CWD testing is mandatory in all privately owned herds in Michigan. The farm consisted of 54 white-tail deer and 17 Sika deer. The State depopulated the herd on April 14, 2017. No additional positives were found.

**Pennsylvania:** NVSL confirmed CWD in a 4 1/2-year-old white-tail buck on a hunting preserve in Franklin County in January 2017 (positive on lymph node only). The hunting preserve consisted of 50 white-tailed deer and is required to test 50% or more deaths as part of the PA Herd Management Program (HMP). The positive buck had arrived at the hunting preserve August 2016 and was shot November 2016. No live cervids leave this facility. No other positive animals, wild or farmed, have been identified in Franklin County. This animal was born on a HCP-certified breeding facility in Fulton County which had an associated HMP hunting premises that later tested positive (see below).

In February 2017, NVSL confirmed CWD in a 3 1/2-year-old white-tail doe from a premises in Bedford County. The positive doe was a natural addition. This HCP-certified breeding herd consisted of 157 whitetail deer and was depopulated on July 18, 2017 with Federal indemnity. Twenty-seven additional positive animals were found (19 GG, 7 GS, 1 unknown). Samples from 150 adult deer were submitted for codon 96 genotyping: 96 GG, 49 GS, 5 SS. One trace-forward deer moved out-of-state and was reported as "not detected". Research samples were obtained and archived. The closest known wild CWD positive cervids are 2.49 miles away from this herd.

In May 2017, NVSL confirmed CWD in a 5-year-old white-tail doe on a hunting preserve in Fulton County. This combined HCP-certified breeding facility and HMP hunting preserve was previously quarantined as a CWD exposed trace back premises from an earlier 2017 positive in Franklin County. The facilities consist of 234 white-tailed deer. All additions to the HCP breeding facility have been natural since at least 2011. Ten CWD positive wild deer have been identified in Fulton County since 2015. The closest known wild CWD positive deer was found 700 meters away from this farm in March 2017. The HCP breeding facility and the HMP hunting preserve are quarantined.

**Texas:** A CWD positive rectal biopsy was confirmed on May 9, 2017 in a 4-year-old white-tail buck in Medina County. The biopsy had been taken to comply with Texas Park and Wildlife regulations. The buck had been transferred from another breeding facility in November 2014. The herd of 91 adult and 71 fawn white-tail deer is located adjacent to a previously identified CWD-positive premises. This animal was euthanized and post-mortem samples were confirmed positive (both lymph node and obex) by NVSL on July 6, 2017. The white-tail deer herd is not in the HCP and a herd plan for depopulation with Federal indemnity is planned.

**Revisions to the CWD Program Standards**

The CWD Program Standards provide guidance on how to meet CWD Herd Certification Program and interstate movement requirements in 9 CFR parts 55 and 81. In July 2016, VS convened a working group of State and Federal animal health and wildlife officials and representatives from the farmed cervidae industry to review the CWD Program Standards. VS issued a summary of the working group's discussions and VS' recommended changes to the CWD Program Standards at the 2016 USAHA meeting for public comment. We received 35 written comments. VS considered these comments as we revised the Program Standards. The revised CWD Program Standards are currently under review and clearance within the USDA.

Once approved, APHIS will publish the revised CWD Program Standards through the Federal Register for public comment prior to being finalized.

**Guidance Document for Interstate Movement of Wild Caught Cervids**

APHIS published VSG 8000.1 Requirements for Interstate Transport of Wild Caught Cervids in September 2016. This guidance document establishes a recommended minimum standard for testing and a uniform process of disease risk assessment to help prevent the spread of cervid diseases such as chronic wasting disease (CWD), bovine tuberculosis (TB), and brucellosis when wild cervids are captured for interstate movement and release.

APHIS issued VSG 8000.2 in September 2017, in response to several comments we received and a 2016 USAHA resolution. The revision added a requirement that, "Cumulative sampling over the most recent three-year period should be sufficient to detect at least a 1 percent prevalence of CWD in the source population with 95 percent confidence." However, APHIS did not change the guidance document to require ante-mortem testing for CWD. APHIS does not intend to require the rectal biopsy for routine herd surveillance or as a pre-movement test in farmed cervids. In light of this, we retained the ***option*** for State Animal Health Officials to require ante-mortem testing for CWD recognizing that this may help to inform decisions about the risk of CWD in the source population for the wild-caught cervids. APHIS will not pursue changes to the Code of Federal Regulations (CFR) Part 81.3, at this time.

**Live Animal Testing For CWD**

VS continues to support research to develop and validate live animal tests for CWD. A pilot project is in process in Ohio to evaluate the use of whole-herd rectal biopsy as an ante-mortem test in CWD-exposed white-tailed deer herds. The first whole-herd test was performed on 231 exposed white-tailed deer in 6 herds from February through March 2016. The second whole-herd testing was completed in September 2016. Genotyping was used to determine the timing of the second whole-herd test. All biopsy results have been "not detected." Herd agreements are in place to take samples from any available pilot animals for follow-up post-mortem testing.

VS is also evaluating rectal biopsy data from elk to determine the test sensitivity if used in whole herd testing. Unfortunately, the data is not as robust as what was available for white-tailed deer. Specifically, more post-mortem results are needed to compare with the ante-mortem results and genotypes. VS will continue to work with researchers and statisticians to better understand the potential use of this test.

**Cervid Tuberculosis**

In FY 2017, 12,588 cervids were tested serologically for bovine TB using the DPP® Vet TB Assay. A total of 55,205 cervids have been tested since the introduction of the serological tests in 2013. In FY 2017, primary DPP serological testing identified 20 TB suspects; 8 of these animals had negative tests when retested at least 30 days after the primary test, 3 animals have yet to be retested, and 5 euthanized or died without a 2$^{nd}$ DPP and were negative on culture. Four were identified as TB reactors when they tested positive to the secondary DPP test. All four reactors were necropsied and culture results are pending.

The Chembio DPP® Vet TB Assay is the only serological test approved by APHIS for TB testing in cervids. Since October 2016, the NVSL has experienced delays in receiving test kits from the manufacturer. NVSL exhausted its supply of test kits, resulting in a backlog of approximately 5500 samples. After receiving additional test kits, NVSL tested all pending samples by the end of August 2017. NVSL has approximately 14,000 tests on hand to begin fall testing.

The current manufacturer is the sole source for this test. APHIS continues to work closely with the manufacturer to submit orders for DPP test kits as early in the annual production cycle as possible. We also maintain frequent contact with the manufacturer about NVSL's inventory and the status of pending orders for test kits. Despite these actions, NVSL has experienced inventory shortages several times. Producers have the option use single cervical skin tests as an official TB test.