

## Chronic Wasting Disease Surveillance

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First recognized in 1967 as a clinical "wasting" syndrome in mule deer at a wildlife research facility in northern Colorado, Chronic Wasting Disease (CWD) was identified as a transmissible spongiform encephalopathy (TSE) in 1978. There is no known relationship between CWD and any other TSE of animals or people.

In the mid-1980s, CWD was detected in free-ranging deer and elk in contiguous areas of northeastern Colorado and southeastern Wyoming. In May 2001, CWD also was found in free-ranging deer in the southwestern corner of Nebraska (adjacent to Colorado and Wyoming) and later in other areas in western Nebraska. Soon after CWD was classified as a TSE, Colorado and Wyoming wildlife management agencies stopped moving deer and elk from their research facilities; wild cervids have not been translocated from the endemic area. Since 2002, CWD also has been detected in wild deer in south-central Wisconsin, southwestern South Dakota, the western slope of the Rocky Mountains, southern New Mexico, northern Illinois, and eastern and central Utah.

The first CWD-positive farmed elk herd in the United States was detected in 1997 in South Dakota. Since then, 28 additional CWD-positive farmed elk herds and 5 CWD-positive farmed deer herds have been found, for a total of 34 infected farmed cervid herds: 7 in South Dakota, 4 in Nebraska, 12 in Colorado, 1 in Oklahoma, 1 in Kansas, 2 in Minnesota, 1 in Montana, and 6 in Wisconsin. As of December 31, 2004, 3 of these 34 positive herds remained under State quarantine and 30 had been depopulated or slaughtered and tested. The quarantine was lifted from one herd that underwent rigorous surveillance for over 5 years with no further evidence of disease.

In 1998 and 1999, the United States Animal Health Association (USAHA) endorsed the development of a CWD program. A program proposal resulted in 1999 from a series of discussions with State and Federal agriculture and wildlife agencies; State, Federal, and university diagnostic laboratories and research institutions; and industry associations, including the North American Elk Breeders Association, the Exotic Wildlife Association, the American Sheep Institute, and the North American Deer Farmers Association. In October 2000, USAHA endorsed the continued development of an earlier version of this program.

**Current U.S. Program**—Responses to on-farm CWD-positive cases include depopulation or quarantine. Additionally, VS conducts trace-forward and trace-back epidemiologic investigations.

APHIS-VS offers indemnity and pays disposal and testing costs to depopulate positive and exposed farmed herds and animals traced from positive herds. Indemnity is calculated at 95 percent of appraised market value and is capped at \$3,000 per animal. APHIS-VS continues to pay laboratory costs for all surveillance testing of farmed cervids. APHIS-VS and State CWD surveillance in farmed animals began in late 1997 and has increased each year since. More than 12,000 animals were tested in fiscal-year

(FY) 2003, and more than 15,000 animals were tested in FY 2004. At the end of FY 2004, only three farmed herds with a history of CWD infection were known to exist in the United States. Since then, two more positive herds have been identified.

A proposed rule for a CWD herd-certification program for farmed-cervid operations was published for comment in the Federal Register on December 24, 2003. Program goals are to control and eventually eradicate CWD from farmed cervid herds. Doing so will assist the cervid industry and assure our trading partners of the safety of U.S. cervid products as well as protect the health of both farmed and wild cervids. The program proposes to certify herds that demonstrate 5 years of CWD surveillance with no evidence of disease. The proposed program requirements include fencing, identification, inventory, and surveillance of any dead cervids aged more than 16 months. The rule proposes to limit interstate movement of farmed cervids to herds enrolled in the herd-certification program. State programs meeting or exceeding Federal standards will be grandfathered into the Federal program. It is anticipated that this program will be implemented in 2005.

APHIS-VS also has supported CWD surveillance in wildlife since 1997. Since the national “Plan for Assisting States, Federal Agencies, and Tribes in Managing Chronic Wasting Disease in Wild and Captive Cervids” was adopted in June 2002, APHIS-VS has cooperated with the International Association of Fish and Wildlife Agencies to promote uniform, nationwide surveillance, while allowing flexibility to meet individual State situations.

Until FY 2003, APHIS-VS CWD efforts were limited by funding. However, in FY 2003 the CWD program received line-item funding, which allowed APHIS-VS to participate in the development of CWD surveillance plans and to pay testing costs for more than 90,000 samples collected nationwide during the 2002/2003 hunting season. In that same fiscal year, APHIS-VS provided CWD-related funding for the 2003/2004 hunting season through cooperative agreements. Most of the cooperative agreements were with the States’ wildlife agencies, and 50 States received funding. Final reports are being received now, so the total numbers of animals/samples tested have not yet been compiled. In FY 2004, funds were available for similar agreements and, again, all 50 States took advantage of the cooperative agreement funding. APHIS-VS again expects to pay for testing of over 90,000 samples nationwide. APHIS also provided funds to Native American tribes to hire regional tribal biologists and to assist individual tribes with CWD activities.

**Challenges**—Key challenges in managing CWD are the result of the multiple jurisdictions responsible for cervids. In 2002, at the request of Congress, an interagency group was convened to develop a management plan to assist States, Federal agencies, and Native American tribes in managing CWD in captive and wild herds. Currently, this plan is implemented by State and Federal agencies, as budgets permit.

Limited diagnostic tools are available to test animals for the disease. By expanding its contract group of State and university laboratories, NVSL now has 25 laboratories approved to conduct CWD testing. In addition, the Center for Veterinary Biologics

(CVB) has approved four CWD antigen test kits based on enzyme-linked immunosorbent assay (ELISA), allowing faster testing and greater throughput for surveillance testing of wild cervids.