

The Facts on Chronic Wasting Disease

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Chronic Wasting Disease...What is it?

Chronic Wasting Disease (CWD) is a fatal disease of the central nervous system found in Mule Deer, White-tailed Deer, Elk and Moose of North America. CWD is an emerging infectious disease of increasing importance affecting national and international trade, movement and health of wild animals. In 1978 CWD was determined to belong to a group of diseases known as transmissible spongiform encephalopathies (TSEs). Although other diseases in this family include sheep and goat scrapie, bovine spongiform encephalopathy in cattle (BSE or "mad cow disease"), and the human form called Creutzfeld-Jakob disease, TSEs tend to be species specific and are not naturally transmitted between species.

What does CWD look like?

In early stages of the disease the animal may look normal, but in later stages infected animals may show signs of weight loss, drooling, difficulty swallowing, increased drinking and urination, poor coordination or stumbling, trembling or depression. Signs may be present for days, weeks or months before death. Infection is fatal in all cases. After infection with the CWD agent occurs, symptoms may not appear for years. Unfortunately, diagnosis can only be made on dead animals. Microscopic examination of a small area of the base of the brain, the tonsils and lymph nodes of the head is the only method currently available to make a positive diagnosis of CWD.

Where is CWD found?

The origins of CWD are not known but the disease was first described in captive Mule Deer in 1967 (determined to be CWD years later) in Colorado and Wyoming. This was followed by positive diagnoses in their free-ranging populations. The first diagnosis of CWD in Canada was in 1981 in Mule Deer at the Toronto Zoo. In 1996 a positive diagnosis of CWD was found in game farmed Elk in Saskatchewan (SK). A disease control program was initiated in 2000 to eradicate the disease from Canada and surveillance revealed a total of 40 Elk farms in SK and 2 in Alberta (AB) with infected animals. Later that year the first case of CWD in a free-ranging cervid in Canada was reported in a Mule Deer in SK. By the winter of 2005, 78 free-ranging cervids (Mule Deer and White-tailed Deer) were found to be positive for CWD in SK. Between October and December 2005, CWD was diagnosed for the first time in 4 free-ranging Mule Deer in AB. The first free-ranging Moose was diagnosed with CWD in Colorado in 2005 as well. During a 2008 control program 45 free-ranging Mule Deer were found to be positive for CWD in AB and 150 free-ranging Mule Deer and White-tailed Deer in SK. Most CWD infections in game farmed Elk and wild deer in Canada appear to be linked directly or indirectly to contact with infected cervids from CWD-affected areas in the USA. CWD has now been diagnosed in captive and free-ranging cervids in 10 states and 2 provinces.

Is CWD in British Columbia?

Free-ranging cervids are a highly valued natural resource of B.C., and hunters play an important role in the management of cervid populations throughout the province through regulated harvests. B.C. has never permitted captive farming of native cervid species, and all imports of native cervid species into the province have been prohibited since 1991. British Columbia is considered to be at low risk for CWD. Risk still exists with importation of infected materials (carcasses from elsewhere) and natural movement of animals. There does not appear to be any natural barriers inhibit the spread of CWD in Canada. At this time, CWD is not known to occur in British Columbia, however with the recent developments in neighbouring jurisdictions, ongoing surveillance is essential. The Province of British Columbia initiated a CWD Surveillance Program on hunter and road killed cervids in 2001, and all submitted animals have tested negative.

How is CWD transmitted?

An abnormal protein known as a prion is believed to cause CWD, but the exact methods of transmission are not understood. Experimental and circumstantial evidence suggests that infected cervids probably transmit the disease through animal to animal contact and/or and contamination of the environment, feed or water sources via saliva, urine and/or feces.

Is there a risk to humans?

There is no evidence to suggest that CWD can infect humans. As a precaution, the World Health Organization and other human health experts recommend that all products from animals known to be infected with any prion disease should not be used for human food. As a minimum, experts suggest that hunters in areas where CWD has been identified should avoid eating the brain, spinal cord, eyes, tonsils, spleen or lymph nodes of deer and Elk because the infectious agent tends to concentrate in those tissues.

What can you do to help?

Surveillance

Outdoor enthusiasts are encouraged to report the location of live or dead deer, Elk or Moose with CWD-like signs to their local Wildlife or Conservation Officer Service office or to the Wildlife Veterinarian. Any deer, Elk or Moose of 18 months or older that is emaciated and shows any of the following signs: abnormal behaviour, drooling, increased drinking and urination, stumbling, trembling and depression, is of great interest to this program.

Prevention

B.C. hunters leaving the province to hunt Elk, deer or Moose in Saskatchewan, Alberta or the United States are asked to prepare the carcasses in the following manner prior to bringing meat back to B.C.:

- Remove head, hide, hooves, mammary glands, entrails, internal organs and spinal column before moving carcasses
- Remove all tissue from antlers and connecting bone plate, and disinfect.
- Enclose capes in plastic or sealed container and immediately process into a tanned product.

Also, it is encouraged that synthetic attractants and scents be used rather than non-synthetic products containing deer or Elk urine, feces, saliva or scent glands.

Early Detection

B.C. hunters are encouraged to submit their harvested cervid heads to the B.C. CWD Surveillance Program at one of our drop off locations province wide. Heads from the Peace and East Kootenay Regions are of particular interest. See below for more information.

How can you learn more about CWD?

The success of the B.C. CWD Surveillance Program requires that samples from cervids across the province be routinely tested. Our program primarily focuses on surveys of road kills and some hunter killed deer and Elk in areas of the province nearest Alberta. Sick animals showing signs of CWD from around the province are preferentially tested as they are considered to be the most effective indicator of the disease's presence. Regional MOE offices in Cranbrook and Fort St. John are collecting road mortalities and hunters and game cutters are assisting with harvested animal samples to provide brain samples. Results from the CWD Surveillance Program are provided as an annual update on the Wildlife Health website <http://www.env.gov.bc.ca/wld/wldhealth.html#program>.

The following web sites provide further information on CWD:

http://www.env.gov.bc.ca/wld/documents/wldhealth/cwd_0603update_fs.pdf
http://wildlife1.usask.ca/en/cwd/chronic_wasting_disease.php
<http://www.inspection.gc.ca/english/anima/heasan/disemala/cwdmdc/cwdmdce.shtml>
http://www.nwhc.usgs.gov/research/chronic_wasting/chronic_wasting.html
www.scwds.org go to: 'newsletters', then April 2002 issue, vol. 18, no. 1
<http://www3.gov.ab.ca/srd/fw/diseases/>
<http://wildlife.state.co.us/CWD/index.asp>

If you have further questions or need additional information, please contact

- Your local Wildlife Office (<http://www.gov.bc.ca/env/cont/>)
- Dr. Helen Schwantje, Wildlife Veterinarian (Helen.Schwantje@gov.bc.ca)
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