CHRONIC WASTING DISEASE FACT SHEET

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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. CWD belongs 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?

Signs of the disease include gradual weight loss and changes in behaviour. In early stages of the disease the animal may look normal, but in later stages affected animals may show weight loss, drooling and difficulty swallowing, increased drinking and urination, poor coordination or stumbling, trembling or depression. Signs may be present for days, weeks or months before death. Difficulty swallowing can lead to pneumonia and a rapid death if feed is aspirated, or breathed into the lungs. After infection with the CWD agent occurs, symptoms may not appear for years. In captivity, infected animals are usually 2 to 7 years old before symptoms are evident, but there are occasional reports in younger animals. Infection is fatal in all cases. 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?

In 1978, CWD was determined to be a TSE. The origins of CWD are not known but the disease was first described in captive mule deer in 1967 in Colorado and Wyoming, 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. This was followed by a positive diagnosis of CWD in game farmed elk in Saskatchewan (SK) in 1996. 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 two in Alberta (AB) with infected animals. In 2000, the first case of CWD was reported in a free-ranging mule deer in Saskatchewan, and by the fall of 2005, 62 free-ranging white-tailed deer and four free-ranging mule deer were found positive for CWD, with an additional 12 positive diagnoses in December of 2005. Between October and December 2005, CWD was diagnosed for the first time in four positive free-ranging mule deer in AB. In the fall of 2005, the first free-ranging moose was diagnosed with CWD in

Colorado. CWD has now been diagnosed in captive and free-ranging cervids in 10 states and two provinces.

Free-ranging cervids are a highly valued natural resource of BC, and hunters play an important role in the management of cervid populations throughout the province through regulated harvests. Fortunately, British Columbia is considered to be at low risk for CWD. BC has never permitted captive farming of native cervid species, and all imports of native cervid species into the province have been prohibited since 1991. There are substantial geographical and spatial barriers to animal movements between areas in the United States and Canada where deer, elk and moose infected with CWD have been detected.

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 contamination of the environment, or feed or water sources with 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.

Is CWD in British Columbia?

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. The Province of British Columbia initiated a CWD Surveillance Program on deer and elk in 2001, and all submitted animals have tested negative. At this time, CWD is not known to occur in British Columbia, however with the recent developments in neighbouring jurisdictions, ongoing surveillance is essential.

What can you do to help?

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.

Additionally, BC 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 BC:

- 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.

Finally, it is requested that all uses of products (attractants or repellents) containing deer or elk urine, feces, saliva or scent glands be immediately discontinued.

How can we learn more about CWD?

The success of the BC 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://wlapwww.gov.bc.ca/wld/documents/statusrpts/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/) or the Wildlife Veterinarian in Victoria, Dr. Helen Schwantje (Helen.Schwantje@gov.bc.ca).