

### Importance for Wildlife Management

The natural extent and impact of CWD in wild cervids appears to be extremely limited. Mortality of deer and elk does not seem to affect overall productivity in infected populations in the short term, although data suggest that mule deer populations at the heart of affected areas may decline in 40-50 years.

The finding of CWD in wild and farmed white-tailed deer in Wisconsin is causing significant concern for wildlife managers in eastern United States, due to a high density of farms and wild deer.

CWD is often misrepresented as equivalent to bovine spongiform encephalopathy (BSE), the infamous "mad cow disease," a prion disease of cattle. BSE is associated with a similar infection in a few humans and poses worldwide concern for public health and agricultural economics. However, CWD and BSE are not the same.

Because of perceived human health concerns, wildlife managers throughout western Canada and the United States conduct surveillance programs aimed at defining exactly where CWD does or does not occur in the wild.

To date, infections in wild deer and elk populations are well-established in a small area where Wyoming, Colorado, and Nebraska have shared boundaries. Isolated cases have been found in western Saskatchewan in ten wild mule deer and two wild white-tailed deer near previously infected elk farms. In addition, CWD was found in white-tailed deer near deer and elk farms in Wisconsin and Illinois, in 7%-8% of wild white-tails outside a highly contaminated deer farm in Nebraska, a wild white-tail near a previously infected elk farm in South Dakota, a few "wild" deer and elk in western Colorado, a "wild" white-tail in New Mexico, and four "deer" in Utah.

In Alberta, there have been no positive cases of CWD in wild deer or elk from samples tested from five hunting seasons or from special collections. Only three cases (one positive farmed elk and two positive farmed white-tailed deer), from two separate game farms, have been found in Alberta.

Many research projects are underway to better define the host range, method of transmission, diagnostic tests, impact on wild cervids, and risk to the public and livestock.

### Prevention/Control

CWD is a federal reportable disease in Canada. Surveillance and control programs include procedures of ongoing surveillance (testing of slaughtered animals, reporting of clinical signs), quarantine of suspect and confirmed affected premises, detailed traceouts (transported animals likely in contact with infected animals), destruction of infected herds, and compensation of owners. Affected premises are thoroughly cleaned and disinfected before restocking. The U.S. has similar programs.

Additional Information is available at:

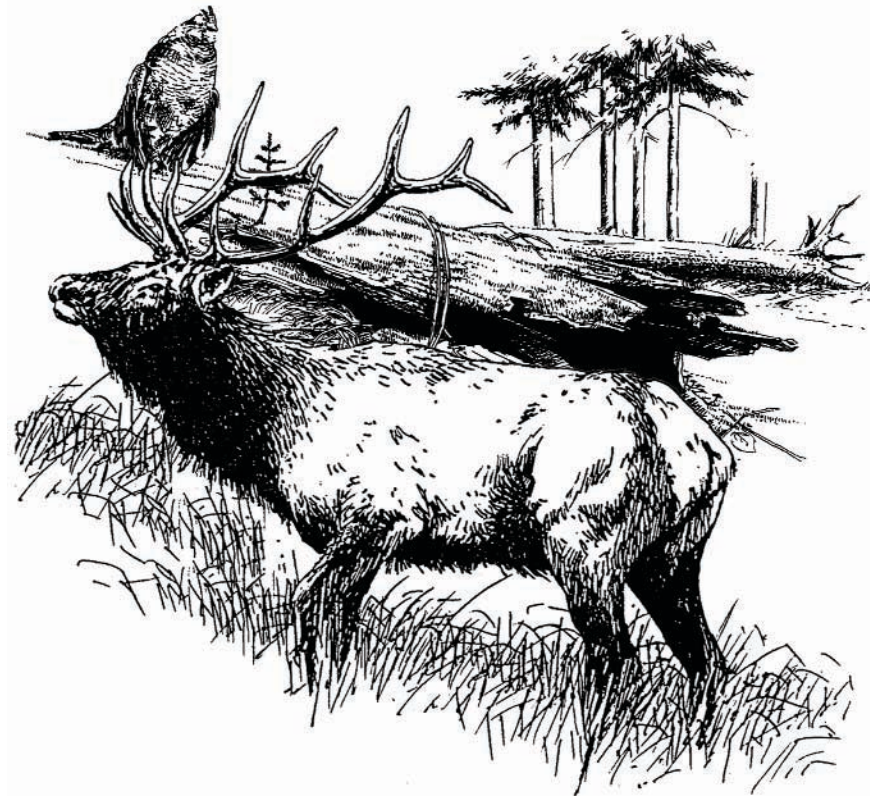
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SUSTAINABLE RESOURCE  
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# Chronic Wasting Disease

## *Surveillance for 2003*



### Disease Overview

Chronic Wasting Disease (CWD) typically affects deer and elk. It is caused by an unusual protein called a prion. This disease is also known as cervid spongiform encephalopathy.

CWD can cause mortality in a variety of cervids (members of the deer family). Infections are known in wild mule deer, elk, and white-tailed deer in a small area of the western U.S. and in Wisconsin/Illinois, as well as from isolated reports in other states and Saskatchewan. Infections have also been reported in game-farmed cervids in various jurisdictions in the U.S. (various states), Canada (Saskatchewan, Alberta) and Korea. There have been no cases of CWD in wild deer or elk from Alberta.

### Background

Although identified in the 1970s and 1980s, CWD has probably occurred in a localized area of Colorado/Wyoming/Nebraska for quite some time. It may be the result of local mutation of a similar agent that causes scrapie in domestic sheep. However, CWD is known to occur only in cervids. Infection appears to be fatal in all cases. Infected deer and elk cannot maintain weight and slowly waste away. Other clinical signs are excessive salivation, lethargy, incoordination, and drooping head and ears.

The nervous system is typically where the prion agent of CWD occurs. Infections cause the brain to look sponge-like owing to open spaces in the brain tissue. These spaces result in changes to behaviour, attitude, and metabolism.

### Life Cycle

To date, we do not know exactly how CWD is transmitted. The disease can pass from one individual to another and occasionally from females to their offspring. Infectious material survives in the environment for an unknown period of time.

### Distribution in Alberta

In response to a report of CWD in wild mule deer in Saskatchewan, the Fish and Wildlife Division collected wild deer along the Alberta/Saskatchewan border in April 2001. **All deer collected were negative for CWD.**

In late March 2002, CWD was detected in a farmed elk in Alberta through the provincial surveillance program. Federal CWD eradication programs were implemented immediately. All farmed cervids that moved on or off the premises in the previous three years as well as the current animals on the farm were killed and tested. **No further CWD was found.**

In early November 2002, CWD was identified in two farmed white-tailed deer on one farm in Alberta. As with the farmed elk, federal control and eradication programs were implemented immediately. **No further cases of CWD were found.**

In response to finding CWD on two game farms in central Alberta, the Fish and Wildlife Division sampled wild deer in the vicinity of the farms in late February/early March 2003. **All deer and elk collected were negative for CWD.**

### Public Significance

This disease poses significant economic problems for farmers of elk and deer. CWD was introduced into captive (farmed) elk populations via live wild elk taken from affected areas in the United States. It was then unintentionally translocated to farms in various states as well as to Alberta, Saskatchewan, and Korea. Trade in live elk and their products (primarily antler velvet) has been seriously affected. Confusion with BSE has resulted in misperceptions about public health concerns.

There is no scientific evidence to suggest that CWD can infect humans and growing evidence shows it is indeed quite different from BSE. However, as a precaution, the World Health Organization (WHO) recommends all products from animals known to be infected with any prion disease should be excluded from the human food chain.

### CWD Surveillance in 2003

Alberta began surveillance of wild deer and elk in 1996. Voluntary submission of heads of hunter-killed animals is the main source of samples. This year we are requesting heads from two areas only:

Central Alberta-WMUs 248 (areas North of Hwy.16), 250, 507, 508 and 349 (areas East of Hwy. 32)  
Eastern Alberta-WMUs 234, 236, 256, and 500 along the Alberta/Saskatchewan border.

Hunters are asked to drop mature deer or elk heads off at any of the 24-hour freezers identified below and shown on the map. Please include, with the head sample, information of species, location of kill (WMU), sex of kill, approximate age (yearling or adult; no fawns or calves please), date of kill, and hunter's WIN number.

Barrhead—Barrhead Foods, 5108-55 St.

Blue Ridge—Blue Ridge General Store

Bon Accord—Winks, Hwy 28

Chauvin—Goodall Motors

Edgerton—Home Hardware

Edmonton—Wholesale Sports, Yellowhead & 97 St.

Ft. Assiniboine—Linda's Motor Inn

Kitscoty—Kitscoty Meats

Lloydminster—Fish and Wildlife Office

Mayerthorpe—Mohawk Gas & Wash, 5012-45 Ave.

Provost—Esso Station

Redwater—Restaurant 28 (Esso Station) Hwy 28

Swan Hills—Nams Gasland

Wainwright—Petrocan, Hwy 16

