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## Government Must Acknowledge Health Risk of CWD and Danger of Game Farms

By Shirley Bray

For the third time in five years, the Alberta government is culling hundreds of deer near the Alberta-Saskatchewan border in an effort to limit the advance of Chronic Wasting Disease to wild deer in Alberta. The government refuses to acknowledge that CWD in wild deer in Canada has originated with deer on game farms, which foster and spread the disease. CWD is not an indigenous disease – it was imported.

Instead of shutting down the industry and dealing with CWD once and for all, the government is reopening the border to imports of captive deer and throwing millions of dollars in additional subsidies into an industry they know is dangerous and uneconomic. Over \$100 million has been spent dealing with CWD on Canadian game farms. Thanks to government negligence, our tax dollars are being wasted and our wildlife continues to be put in jeopardy. Although no human form of CWD has been proven yet, experts agree that it's possible and that if it does occur, it could be of far greater risk than mad cow disease (BSE).

Minister of Alberta Agriculture, Food and Rural Development (AAFRD), Doug Horner said in the legislature in March that the government's intent is to encourage and build this "valued" industry in spite of the fact that former Agriculture Minister Shirley McClellan admitted that the game farming industry was uneconomic, game farmers admit it's dead, and world markets are at a low point. Even New Zealand deer farmers, who could out-compete Alberta game farmers any day, are in trouble. Horner thinks that it's irresponsible to be concerned about the health risks of CWD, that it's fear-mongering, and that it's an affront to the "entrepreneurial attitude" of game farmers. But no knowledgeable wildlife scientist would back him up.

The latest cull of deer was prompted by the discovery of four CWD-infected wild deer near the border in Saskatchewan. In that province, 40 game farms have been proven infected with CWD and some 8,000 animals have already been destroyed. In spite of efforts to eradicate it on game farms, CWD has spread to the wild, with at least 57 cases already confirmed. Culling deer on the Alberta side only has raised concerns that infected deer from Saskatchewan will simply migrate to the newly vacated area.

Although the culling strategy has a lot of support, Dr. Charles Southwick, professor emeritus of biology at the University of Colorado, points out that culls also kill healthy animals, some of whom may have genetic resistance to CWD (*High Country News*, June 10/02). He warns that "you're going to be culling deer in perpetuity" because no animal disease like CWD has ever been completely eradicated.

No wild deer in Alberta have been found to be infected yet, but Saskatchewan biologists found that even in an area where the disease is known to be present, they had to examine a lot of brains before discovering one with CWD. Passive surveillance in Alberta includes testing elk and deer from roadkills and hunters, who are encouraged but not required to submit heads, from specific areas.

Only three CWD-infected animals have been found on Alberta game farms so far. Alberta's CWD Surveillance Program for game-farmed animals became mandatory only in 2002 when the first case of CWD was discovered in northern Alberta. The compliance rate for the Mandatory Program for October 2003 to 2004 was 88 per cent for elk and only 57 per cent for deer. Although AAFRD is investigating cervid farms not in compliance, how many cases have gone undetected? How many captive animals, possibly carrying CWD, have escaped into the wild, been released by desperate game farmers, or interacted with wild deer?





Although highly infectious in wildlife populations, especially those in close quarters, CWD is difficult to study and is expensive partly because of the expense of caring for large mammals over the long periods that the disease can incubate and because there is no test for live animals. Although it was first discovered in a Colorado research facility in 1967 and first identified as a one of the transmissible spongiform encephalopathies (TSEs) in 1977 by the late Dr. Beth Williams, much remains to be learned.

It was only in 2003 that Williams and colleague Mike Miller published their results in *Nature* showing that CWD is transmitted horizontally from animal to animal. Her team is investigating the potential for spread through urine and feces. If this is found to be the case, unregulated urine and fecal scent products obtained from captive elk and deer and used by hunters could help spread the prions and bring them in contact with humans. Other research shows that CWD can remain in the environment for years after infected animals and even topsoil have been removed from the area (see *WLA* October 2003).

National Institute of Health scientist and TSE expert Richard Race has found that some species can be carriers for TSEs and can transmit them to susceptible species. He is investigating the molecular species barrier, which may or may not stop CWD from infecting other species, including humans. Williams found no evidence that CWD can cross to cattle from elk and deer, except by direct injection of infected brain tissue into the brains of the cattle. Race would like to see brain tissue from the surviving cattle injected back into uninfected cattle and deer to see if they contract CWD.

Wildlife scientist Dr. Valerius Geist points out that only humans of a specific genetic makeup become infected with BSE and that it is possible that the experimental cattle might have been resistant (*Outdoor Canada*, 2003). Dr. Katherine O'Rourke, a microbiologist with the U.S. Dept. of Agriculture is studying the genetic susceptibility of deer and elk to CWD and has found one gene combination that is particularly resistant (*High Country News*, June 10/02). Nebraska elk researcher Dr. Michael McDonnell believes that a copper deficiency makes animals more susceptible to CWD. He also thinks that organophosphate pesticides might cause mutation of healthy prions into malignant ones.

Prion disease experts at the Center for Disease Control in the U.S. are investigating the case of three Wisconsin hunters in their 50s and 60s who often ate venison and all died of neurological diseases, two of them from Creutzfeldt-Jakob Disease (CJD). But the meat can't be tested, and researchers can only speculate as to the source of the diseases.

It's not likely that volunteers would line up to eat CWD-infected venison for the sake of science. So researchers are stuck using other methods. Researchers at the University of Wisconsin have found that CWD prions are able to convert normal human prions to the abnormal diseased form at about the same rate as BSE prions. Other experiments are using mice with human brain tissue.

Patrick Bosque, an assistant professor of neurology at the University of Colorado Denver Health Hospital, said it could take years to prove whether people are at risk (*Milwaukee Journal Sentinel*, Dec. 2003), just as it took years for scientists to conclude that humans could contract a form of mad cow disease. Until then, he said, it is reasonable to assume that if enough people are exposed to the disease, over time at least a small number will get sick. He said that statements suggesting there is no scientific evidence that CWD can infect humans are deceptive.

A 2000 Health Canada report states that "both animals and humans can be infected by various forms of TSE," and that "the possibility of TSE risk to humans must now be acknowledged." Elk antler food supplements, the main product from elk farms, were identified as a high-risk product. The World Health Organization recommends excluding from the human food chain all products from animals suspected of or infected with any prion disease. Unfortunately, CWD infected animals have entered the food chain. The Canadian Food Inspection Agency admitted in 2004 that as many as 110 CWD-infected elk





carcasses might have entered the food chain. Just recently, a white-tailed deer was donated to the Verona Fire Department in New York and served at its Annual Sportsmen's Feast prior to the health department discovering it had CWD.

"A worst-case scenario can be imagined, and should inform the actions of governments," wrote John Stauber, executive director for the Center for Media and Democracy and co-author of *Mad Cow USA* (*In These Times Magazine*, Jan. 15/05). "For example, mad cow disease does not appear to spread from animal to animal. But the equivalent disease in North American deer and elk, CWD, does appear to be horizontally infectious. One deer can apparently infect another through saliva or feces. The nightmare: the emergence of a fatal human dementia spread through kissing."

If the government is serious about eliminating CWD, it must eliminate game farming as soon as possible and provide funding for proper decontamination procedures and long-term surveillance and monitoring. But so far, decisions on game farming have not been based on rational thought and certainly not on the precautionary principle.

Premier Klein has never followed through on his written promise that he is "fully committed to putting the privatization/commercialization of wildlife issue through a thorough and public assessment." In the legislature in March he said, "That has indeed been done. As a matter of fact, there was a great debate in caucus ... relative to not game farming so much as game shooting of wildlife that is domesticated on game farms." If that's how the premier keeps his promise, be ready to shell out millions more for this boondoggle.

