

WYOMING GAME AND FISH DEPARTMENT
CHRONIC WASTING DISEASE MANAGEMENT PLAN
February 17, 2006

EXECUTIVE SUMMARY

- It is the purpose of this plan to provide flexible and adaptable direction for management of Chronic Wasting Disease (CWD) in mule deer (*Odocoileus hemionus*), white-tailed deer (*Odocoileus virginianus*), elk (*Cervus elaphus*) and moose (*Alces alces*).
- The plan will be reviewed and updated as the CWD situation in Wyoming changes and additional information becomes available.
- The plan consists of four components: Disease Management, Applied Research, Public Information and Funding.
- Based upon the known epidemiology of CWD in free-ranging deer, elk and moose, eradication is currently not a realistic disease management objective.
- The Wyoming Game & Fish Department (WGFD) will work to minimize the spread of CWD and coordinate CWD management with other state, federal and tribal agencies.
- The WGFD will conduct surveillance to determine spatial distribution and prevalence of CWD, and coordinate CWD research with other state, federal and tribal agencies.
- The WGFD will provide timely, complete, and accurate information about CWD.
- Although there are concerns or perceptions by some people that CWD could be a livestock or human health threat, there currently is no credible supporting evidence of such a threat; consequently, this plan addresses CWD as a disease of deer, elk and moose.
- The WGFD will continue to work cooperatively with the Wyoming Department of Health and other human health organizations worldwide to monitor current research on CWD and human health and to provide up-to-date information to the public.
- Many very expensive CWD management, research, and public outreach activities are driven by the consideration of CWD as an international disease of concern; therefore, federal funding is appropriate for implementation of this plan.

INTRODUCTION

Chronic wasting disease is a transmissible spongiform encephalopathy (TSE) of deer, elk and moose that may constitute a health threat to mule deer, white-tailed deer, elk and moose populations in Wyoming and elsewhere. CWD is a wildlife disease that has generated tremendous concern, both in Wyoming and throughout North America. The CWD zone in Wyoming is currently defined as those hunt areas where CWD has been found. The CWD Zone, as presented on the WGFD web site (<http://gf.state.wy.us>), will be continually updated as new information becomes available. The WGFD is responsible for managing Wyoming's wildlife. Management of disease in wildlife is an important responsibility of the WGFD. It is the purpose of this plan to provide flexible and adaptable direction for management of CWD in Wyoming. The plan will be reviewed and updated as the CWD situation in Wyoming changes and additional information becomes available. The plan consists of four components:

- I. Disease Management
- II. Applied Research

- III. Public Information
- IV. Funding

COMPONENT I. DISEASE MANAGEMENT

Based upon the current scientific information about CWD in free-ranging deer, elk and moose, eradication is not a realistic disease management objective. Through adoption of this plan, Wyoming has chosen an adaptive management strategy allowing flexibility to alter disease management activities depending on future research results. Currently, the Disease Management component addresses 11 objectives. The WGFD will use the best scientific information available and will take necessary and reasonable steps to achieve these objectives:

1. Manage Dispersal of CWD.

A. Management of New Foci of CWD

Surveillance data indicate that animals infected with CWD are not distributed evenly. Rather, infected animals are often found in groups or clusters. Currently, there is no management action proven to prevent the spread of CWD once established. However, CWD experts have suggested that aggressively culling animals near a newly discovered cluster is a worthwhile management exercise with three main goals. The first goal is to possibly eliminate new infection in a localized area. The second goal is to reduce the prevalence in the new area and slow the spread of the disease. The third goal is to determine prevalence in the immediate area of a new case. Future management actions, if any, would be based on this determined prevalence. Management of CWD will have to be adaptive in nature. In other words, the WGFD will try some management actions and assess the results. These results will determine subsequent management actions.

If a positive animal is found in a hunt area with a low incidence rate or a new hunt area, WGFD personnel will make a decision as to what management actions to take based on the location of the positive animal relative to the CWD zone. If warranted and appropriate, the WGFD will implement the following management actions intended to prevent dispersal of CWD.

Hunter surveillance in the area will be intensified. If hunter samples are unavailable, if warranted and feasible the WGFD will attempt to collect and test up to 50 cervids in a five-mile radius of the index case. For each subsequent cervid that tests positive for CWD, if warranted and feasible the WGFD will attempt to collect and test up to 50 cervids in a five-mile radius of the positive animal. The results of these collections will determine subsequent management actions.

B. Management of CWD via movement of carcasses.

There is a concern that CWD may be moved to new areas by the transport of certain animal parts. To minimize this possibility, the Wyoming Game and Fish Commission (WGFC) regulates what harvested animals and animal parts may be transported from the

CWD zone to other parts of the state or out of the state. Likewise, the WGFC prohibits the importation of animals or animal parts taken from any state, province or country within areas designated by the appropriate jurisdictional agency as positive for CWD in deer, elk or moose.

C. Restrict translocation of deer, elk and moose.

Live deer, elk and moose from the wild will not be moved to other locations within the state without review and prior approval by the WGFD.

2. Remove deer, elk and moose suspected of being affected by CWD.

Removal of deer, elk and moose displaying symptoms of CWD may reduce spread of CWD and will contribute to statewide targeted surveillance and provide necropsy and/or research material. When and where possible WGFD personnel will lethally take and necropsy all animals suspected of having CWD.

3. Discourage private feeding of deer, elk and moose.

Based on experience with captive deer and elk, there is evidence that CWD is more efficiently transmitted when animals are concentrated. Private feeding may lead to localized concentrations of environmental contamination with the CWD agent. The WGFD will seek legislation prohibiting intentional private feeding of big game animals, including deer, elk and moose and will continue to educate the public on the unintended consequences of intentional private feeding through television, press releases, radio, presentations to the public and personal contacts.

4. Appropriate WGFD personnel will participate in intra- and interdepartmental, intra- and interstate CWD coordination meetings.

Sharing research results and coordination among state, federal and tribal agencies is important in the management of CWD. WGFD administrators, managers, veterinarians, and researchers will participate in appropriate meetings on CWD. Information will be shared with WGFD personnel. The WGFD will coordinate and collaborate with state, federal and tribal agencies on all relevant CWD management issues.

5. Maintain the ban on statutory prohibition of captive deer, elk and moose ownership and facilities in Wyoming and the effectiveness of the WGFC Chapter 10 regulation.

WGFC Chapter 10 Regulation, "Regulation for Importation, Possession, Confinement, Transportation, Sale and Disposition of Live Wildlife," addresses CWD in relation to the only privately owned elk facility permitted in Wyoming by statute. Any captive cervid imported into Wyoming must originate from facilities certified to be free of CWD for the five years previous to the requested date of importation. This restriction is intended to prevent spread of CWD. There are no other captive, privately owned deer, elk or moose within Wyoming. Future establishment of captive, commercial native cervid facilities in Wyoming is prohibited by statute.

6. Hunting will continue to be the primary management tool for management of CWD in deer, elk and moose.

The flexibility inherent in Wyoming's hunting regulations allows the WGFD to modify seasons to meet specific needs. This flexibility, combined with the long and rich hunting heritage the State of Wyoming enjoys, makes the use of hunter harvest the preferred tool in managing CWD.

Testing of deer, elk and moose provides two primary benefits. First, testing provides critical data for management and research. Second, when the hunter provides a sample and accurate and legible contact information, testing allows a hunter to choose whether or not to consume an animal that has tested positive for CWD. Both of these are important, yet distinct, benefits.

Hunters who participate in the WGFD's CWD surveillance program by providing deer, elk or moose samples for this research and who provide adequate information, can obtain test results through the WGFD's web site (<http://gf.state.wy.us/services/education/cwd>). If a sample submitted to the WGFD's CWD surveillance program tests positive and adequate contact information is provided, the hunter will be notified of the positive test result via mail.

Other than the WGFD surveillance program, WGFD will not be responsible for the testing of individual hunter's animals. The WGFD will provide information regarding public testing facility locations and costs for hunters who choose to have their animals individually tested at their own expense. If hunters wish to have their results handled individually, they may submit their sample to the Wyoming State Veterinary Diagnostic Laboratory in Laramie for a fee.

The WGFD may donate deer, elk and moose carcasses acquired from the CWD zone to individuals after the animal has been tested with no evidence of CWD being found and the recipient signs an affidavit of informed consent. The WGFD will not donate meat from deer, elk and moose killed within the CWD zone to organizations or entities for redistribution. The WGFD cannot, however, guarantee that no risk exists relative to human consumption of deer, elk and moose.

The State of Wyoming does not guarantee the meat quality of wild animals; therefore, the WGFD will not re-issue a hunting license, issue a refund for any deer, elk or moose license, nor reimburse for processing charges if an animal tests positive for CWD. Hunting licenses provide the holder the opportunity to pursue and take an animal in accordance with state statutes and WGFC regulations. A hunting license is not a guarantee or bill of sale for edible meat.

7. Use WGFD targeted and/or hunter-killed surveillance to identify new foci of CWD.

Surveillance using WGFD targeted and/or random, hunter-harvest methods will be conducted outside the CWD zone to identify any new focus of CWD. A new focus of infection will be considered a location outside the zone where one or more test-positive deer, elk or moose are located.

8. Consideration will be given to efforts to reduce prevalence of CWD.

Large-scale culling to reduce prevalence of CWD could have more severe effects on deer, elk and moose populations than CWD. When and where possible and appropriate, the WGFD will implement management actions intended to reduce or stabilize the prevalence of CWD.

9. Feedgrounds.

Elk have been fed in northwest Wyoming since the early 1900s. Originally, elk feedgrounds were designed to mitigate loss of winter range, reduce human/elk conflicts and maintain a traditional population of elk. More recently, elk feedgrounds have continued to address those issues as well as facilitating separation of elk and cattle to prevent the potential spread of brucellosis. Elk feedgrounds are a complex biological, social, economic and political issue. Wildlife disease adds to this complexity. There has been increased concern CWD will eventually infect elk frequenting the state and federal elk feedgrounds in Lincoln, Sublette and Teton Counties in northwestern Wyoming. Although the prevalence of CWD in free-ranging elk is only 2-3% (approximately an order of magnitude less than that found in deer), the cumulative prevalence of CWD in captive elk has been higher. Elk densities on feedgrounds may result in prevalence levels found in captive elk. It is unknown at this time what impact prevalence's exceeding 2 – 3% will have on free ranging populations. This does not imply that deer, elk and moose in northwestern Wyoming are more important than deer, elk and moose in the rest of the state, only that they may be more at risk due to winter concentration of elk on feedgrounds.

It should be noted that the prevailing opinion of professionals experienced with CWD epidemiology and current methods available to control this disease in the wild is that the spread of CWD, at best, can be slowed but not prevented. With this in mind, the WGFD will implement the following actions for managing CWD, in the event it occurs, in elk herd units E-102, Jackson; E103, Fall Creek; E104, Hoback; E105, Afton; E106, Piney; E107, Green River; and E108, Pinedale; in Lincoln, Sublette and Teton Counties.

A. Intervention

The best way to deal with the concern of CWD reaching feedgrounds is to establish proactive measures elsewhere in the state in an attempt to slow the spread of the disease. If warranted and feasible, the WGFD will deal with any new foci of CWD that is discovered. Management actions outlined in Section 1 of the Disease Management portion of this plan will be implemented in an effort to eradicate CWD from the new area or substantially slow the spread of the disease before it reaches Teton, Sublette or Lincoln Counties.

B. Surveillance

There are two types of CWD surveillance: targeted and hunter harvest. Targeted surveillance is the harvesting and testing of any cervid displaying symptoms consistent with clinical CWD. This surveillance method occasionally detects CWD cases in new areas. Hunter harvest surveillance is a systematic sampling and testing of deer, elk and moose harvested by hunters. This method provides potentially large numbers of samples representing broad geographical areas. Hunter harvest surveillance is a valuable tool for determining disease prevalence as well as finding cases in new geographical areas.

The WGFD will continue to emphasize having its personnel and contract elk feeders look for, remove and sample deer, elk or moose exhibiting signs consistent with CWD. In addition, the WGFD will continue its public information program asking the public to report sick deer, elk and moose to aid in CWD monitoring efforts. Harvesting such animals may identify a new case of CWD and, in doing so will result in the removal of a potential source of infection and decrease the probability of transmission.

Hunter harvest surveillance for cervids will be expanded in NW Wyoming. When possible, elk that die or are killed on any of the 22 WGFD feedgrounds will be tested for CWD. Deer, elk and moose samples will be collected and tested for CWD by WGFD personnel when an opportunity to collect such samples is available during and outside the regular CWD surveillance program in Teton, Sublette and Lincoln Counties. The WGFD will attempt to sample, in two-year intervals, at a level sufficient to have a 95% probability of detecting CWD at 1% prevalence.

C. Feedground Management

If CWD is detected in elk inhabiting state feedgrounds, WGFD personnel will monitor the population intensively and remove any elk showing clinical signs of CWD. The WGFD will attempt to: 1) maximize the area of feeding to decrease animal-to-animal contact; 2) decrease days of feeding to disperse the elk; 3) take any other actions to decrease elk concentration provided such actions are consistent with other necessary wildlife management and feedground practices. Large-scale culling of elk is not anticipated.

The WGFD will communicate and coordinate with the U. S. Fish and Wildlife Service's National Elk Refuge on strategies for surveillance and management of CWD on the National Elk Refuge.

COMPONENT II. APPLIED RESEARCH

Management of CWD will require a more thorough understanding of the disease, how it is spread among cervids, how it affects cervid population dynamics, the relationship between CWD, bovine spongiform encephalopathy (BSE), scrapie and other transmissible spongiform encephalopathies, whether the disease has the capability to penetrate species barriers and other critical components.

The WGFD will support and conduct, on a priority basis, applied research that will facilitate continued expansion of knowledge of CWD. The WGFD will continue monitoring research that is occurring throughout the world on CWD and TSE to ensure the WGFD has the most current and comprehensive data and scientific information available.

In addition to involvement in ongoing collaborative CWD research, the WGFD, in cooperation with the Wyoming Wildlife/Livestock Disease Research Partnership, has identified research priorities and will seek funding to initiate these studies, which may be conducted in collaboration with other researchers. A mechanism has been established, through the Wyoming Wildlife/Livestock Disease Research Partnership, so money specified for CWD research can be

received, matched, and used for collaborative research. The current Applied Research component includes:

1. Determine spatial distribution of CWD in Wyoming.

The WGFD has been monitoring CWD since 1983 using targeted surveillance and hunter harvested game animals to determine distribution and prevalence. Ongoing surveillance will be integrated with expanded studies using GIS technology and intensive sampling to monitor the distribution and prevalence of CWD in Wyoming. Hunter-harvest and/or targeted surveillance statewide will be planned yearly to better define boundaries of the CWD zone and identify new focus areas.

2. Dynamics of CWD in free-ranging white-tailed deer.

The WGFD is financially and materially supporting a multi-year study of the epidemiology of CWD in white-tailed deer. For a variety of reasons, white-tailed deer may be more susceptible to CWD. Movement patterns of white-tailed deer from the CWD zone are being monitored using telemetry. Telemetry will also provide data on survival and, thus, potential impact on the population. These data would be used to estimate the risk of CWD moving into new areas via white-tailed deer, to evaluate the need for different management strategies in mule deer and white-tailed deer and to evaluate strategies to prevent spread of CWD.

3. Appropriate WGFD personnel will participate in intra- and interdepartmental, intra- and interstate CWD research meetings.

Sharing research results among state, federal and tribal agencies is important in understanding and management of CWD. WGFD administrators, managers, veterinarians and researchers will participate in appropriate meetings on CWD. Research information will be prioritized, shared and, where practicable, incorporated into CWD plans.

4. Experimental CWD infection of moose.

The WGFD is conducting research at the Sybille Wildlife Research Unit to assess the susceptibility of moose to CWD infection and to document the pathogenesis of this disease in moose.

5. Predicted population effects on free-ranging elk based on captive elk chronically exposed to the CWD prion.

Forty-three female elk calves were trapped at the National Elk Refuge and transported to Sybille in February 2002. Elk were housed in pens, assumed to be environmentally contaminated with the CWD prion. Elk will be held throughout their lifetimes. Elk dying will be examined and cause of death determined. From these data, it will should be possible to model free-ranging elk mortality and population dynamics under extreme circumstances of CWD prion exposure and transmission. As of December 2005 (46 months post capture), 11 of 43 elk have died due to

CWD. This compares to 100% mortality in less than 25 months in elk orally inoculated with different dosages of the CWD prion.

6. Epidemiology of CWD: detection, shedding, and environmental contamination.

Thirty elk were orally inoculated with elk CWD prion in May 2005. Every six weeks, elk are individually housed in metabolic cages for three days. Feces, urine, saliva, and blood are collected. These samples are used to develop and validate an assay capable of detecting minute concentrations of the CWD prion in a variety of substrates. Additional samples for testing are collected from insects, rabbits, rodents, and soil where the CWD-infected elk are housed. This study could determine: 1) how the CWD prion is shed from infected animals; 2) the temporal pattern of such shedding; and 3) the degree and extent of environmental contamination with the CWD prion.

COMPONENT III. PUBLIC INFORMATION

Chronic Wasting Disease is of interest locally, nationally and internationally. As the public agency charged with managing CWD in Wyoming's wildlife populations, the WGFD has an obligation to provide timely, complete and accurate information about all facets of the disease to the public in Wyoming and throughout the United States. Ongoing and effective communication is paramount to any plan to manage CWD. It is challenging to provide accurate and up-to-date information regarding this rapidly changing issue. The lack of information available, and the incorrect information being distributed by others, creates an increased need for timely and accurate communication from the WGFD. The public receives mixed messages about this issue. Therefore it is incumbent on the WGFD to provide accurate, unbiased information.

A top priority is effective communication with the general public, constituent groups and the media about CWD. The WGFD will use a variety of communication tools to provide timely, complete, and accurate information about CWD.

1. Messages - The main messages the Department will communicate include the following:

A. General information about CWD.

The WGFD will provide general information about the disease, its history, the wildlife it affects, and other basic information.

B. Management of CWD.

The WGFD will provide information about the steps it is taking to manage CWD in Wyoming, including surveillance, various activities to slow the spread of the disease and research to understand more about the disease. The WGFD will also provide updated information about where CWD occurs in the state.

C. Human health issues.

Though there is no evidence that CWD has been transmitted to humans, the WGFD will communicate information to hunters and others provided by disease experts such as the World Health Organization and the Wyoming Department of Health. The WGFD will also provide information on reasonable precautions hunters and others can take when handling game and transporting and disposing of carcasses.

D. Testing.

The WGFD will provide information on how hunters can get their animals tested for CWD.

2. Target Audiences

Target audiences are identified to allow the WGFD to determine the best methods of providing accurate, timely information to interested individuals. The target audience consists of groups and individuals the WGFD believes will be most interested in or potentially impacted by CWD and management of deer, elk and moose herds in Wyoming.

- Those who hunt deer, elk and moose in Wyoming – residents, non-residents, and their families
- Landowners
- Local and national media
- WGFD personnel
- Public health professionals
- Meat processors and taxidermists
- Non-consumptive wildlife users and associated businesses (antler hunters, photographers, license selling agents, landfill operators)
- State and local officials, policy makers, and communities, including WGFD Commissioners, Wyoming Department of Agriculture, the Governor's office
- Wyoming Board of Outfitters and Professional Guides, licensed outfitters and professional guides.
- Other state, federal and tribal agencies

3. Objectives

- A. Inform target audiences of Wyoming's CWD research, management and regulations as well as the availability of testing.

Inform target audiences of a variety of CWD-related issues using brochures, articles, video, paid advertisements and a variety of other communication tools. This could include presenting information to license selling agents at meetings or through a newsletter, public presentations, displays at events where target audiences will be present, direct mail, putting information on the website and other methods identified throughout this process.

- B. Inform hunters, meat processors, taxidermists and others of potential human health issues related to CWD.

Public opinion surveys reveal that human health issues related to CWD are an identified concern among hunters. Many hunters are still unsure about the potential risks of handling carcasses and eating meat from CWD infected animals. Using information from health experts such as the World Health Organization, the Centers for Disease Control and the Wyoming Department of Health, the WGFD will provide accurate information to hunters and others about any potential risks to humans, including meat processing information and recommendations.

- C. Maintain and make information available on peer-reviewed scientific studies related to CWD.

Part of the concern about CWD stems from the unknown aspects of this disease. Maintaining information on accepted scientific studies that can be shared with concerned citizens can increase their knowledge level and decrease their concerns. A synopsis of applicable Wyoming studies will be provided to target audiences via the website and other identified methods. A synopsis of studies from other states will be requested, and provided if possible. A link to official research-oriented websites in addition to our current link with the CWD Alliance website will be used to make sure this information is readily available.

- D. Clarify the details of this complicated issue by making scientific information user friendly for interested publics.

Many times the scientific jargon associated with a disease makes it difficult for those not working in that specific field to comprehend. Relating accurate information in a format that is easily understood by our target audiences will allow us to better reach our communications goals. The media is trained to put technical information in a form the public can understand. If we want the public to come to the WGFD for accurate, complete, and up-to-date information, we must provide it in a format that is useable. Using layman's terms when publishing articles, doing presentations, and communicating with our constituents can accomplish this objective.

- E. Coordinate with other individuals, state, federal and tribal agencies involved in CWD public information efforts.

CWD has been discovered in wild deer, elk and moose populations in other states. Each state is conducting efforts to inform their publics about CWD and the potential effects on wildlife populations. Wyoming, federal and tribal agencies are also involved in some aspects of CWD. Coordinating with other individuals and agencies could prevent the public from getting different messages from different places, further confounding an already complicated issue. The WGFD will participate in multi-agency meetings to share information. We coordinate efforts with other state wildlife agencies through the Association for Conservation Information. We will continue to work with the CWD Alliance to disseminate information and to routinely visit other state websites to monitor what CWD information is available to the public.

F. Provide the media with timely and accurate CWD information.

Providing timely, complete and accurate information lends to the WGFD's credibility and is the mission of most media professionals. Working together to meet the collective goal of providing the public with important information will help build professional relationships. The WGFD will attempt to be the first to publicize any new developments related to CWD. WGFD personnel will also respond to interview requests in a timely fashion. Putting the scientific jargon aside will lead to more accurate news reports. Developing and sharing a consistent message will also be of benefit. Continuing our follow-up on reporting that is not accurate will help media professionals better understand this complicated issue.

COMPONENT IV. FUNDING

Full implementation of this plan will be expensive and will exceed the WGFD's current financial capability.

CWD management, research, and public information activities are expensive, and the WGFD's current financial status will not allow complete implementation of this plan without additional funding. Additional funding specific for CWD will be sought.

ACKNOWLEDGEMENTS

Portions of this plan were liberally copied or patterned after the Colorado Division of Wildlife's "Chronic Wasting Disease in Colorado Deer and Elk: Recommendations for Statewide Monitoring and Experimental Management Planning" by M. W. Miller and R. H. Kahn and the Colorado Wildlife Commission's Policy on Chronic Wasting Disease approved September 13, 2001; we appreciate their generosity and their efforts on CWD. Many elements of this CWD Plan would not be possible without the cooperation of sportsmen, landowners, game meat processors, taxidermists, scientists, and professional wildlife managers; we appreciate their interest and help. Scientists worldwide are conducting research on CWD and other transmissible spongiform encephalopathies that helps to understand CWD and, hopefully, will lead to its future eradication.

Adopted by the Wyoming Game and Fish Commission on February 17, 2006.

Signed: _____
Linda L. Fleming, President